GOLD FIELDS

Investor CDP Information Request

CDP 2014

May 2014

Report compiled by

PROMETHIUM CARBON

Introduction

0. Introduction

This section is not included in CDP 2014, but similar information will be collected on a page of the ORS prior to the start of the CDP 2014 questionnaire.

0.1 Introduction

Please give a general description and introduction to your organization.
You are not required to give an introduction to your corporation, but please do so if you wish.

Gold Fields Limited is an unhedged, globally diversified producer of gold with eight operating mines in Australia, Ghana, Peru and South Africa. In February 2013, Gold Fields unbundled its mature underground Beatrix and KDC mines in South Africa into an independent and separately listed company, Sibanye Gold Limited. It also expanded its presence in Australia, acquiring the Darlot, Granny Smith and Lawlers mines (known as the 'Yilgarn South Assets') from Barrick Gold in October 2013.

Gold Fields has attributable annual gold production of approximately 2.02 million ounces, as well as attributable Mineral Reserves of around 49 million ounces and Mineral Resources of around 113 million ounces. Attributable copper Mineral Reserves total 708 million pounds and Mineral Resources 7,120 million pounds. Gold Fields has a primary listing on the JSE Limited, with secondary listings on the New York Stock Exchange ('NYSE'), NASDAQ Dubai Limited, Euronext in Brussels ('NYX') and the Swiss Exchange ('SWX').

This report does not include the performance of Sibanye Gold Limited or any of 'Yilgarn South Assets'.

0.2 Reporting Year

Please state the start and end date of the year for which you are reporting data.
Please refer to the guidance for more detail if:

- *Different facilities have different reporting dates*
- *If this is the first time the company responds to CDP*
- *If the company has not submitted the three years prior to the current reporting year emission data to CDP in previous responses (not necessary when the company is a SME)*
- *If data from previous years need to be restates*
- *If there is a change in your reporting year from years previously supplied to CDP (e.g. from reporting calendar year to financial year)*
- *If you do not have data to cover the entire reporting year*

Enter Periods that will be disclosed
(01)/(01)/(2013) - (31)/(12)/(2013)

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
Peru
Australia

Introduction

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.

Select currency
US$

Management

1. Governance

Group and Individual Responsibility

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

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 subcommittee of the Gold Fields Limited Board and reports it findings and recommendations to the board for consideration.

Individual Performance

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

Yes

If yes: **1.2a Please provide further details on the incentives provided for the management of climate change issues.**

Disclosure Score: All three columns need to be completed for one or more rows to score disclosure points.
Performance Score: All three columns must be completed for one or more rows to score performance points. Maximum points are available for monetary incentives, performance indicators which incentivize meeting emissions reduction or energy reduction targets, and where the following individuals/groups are entitled to benefit;

- Board chairman
- Board/Executive board
- Director on board
- Corporate executive team
- Chief Executive Officer (CEO)
- Chief Financial Officer (CFO)
- Chief Operating Officer (COO)
- All employees

A company will be scored zero out of the total number of points available where the performance indicator described does not clearly relate to climate change.

Who is entitled to benefit from those incentives?	The type of incentives	Incentivized performance indicator
Executive Vice Presidents of the	Monetary reward	By the end of 2014, each of the regions is required to have an energy and emission reduction target

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Who is entitled to benefit from those incentives?	The type of incentives	Incentivized performance indicator
Regions (who form part of the Group Executive team)		and baseline against which the target will be measured. This target and baseline have to be verified by a third party. Furthermore, a regionalized Energy and Carbon Management Strategy and action plan should be developed in accordance with the group energy and carbon management guidelines. Performance will also be evaluated based on the amount of energy efficiency or renewable energy projects which have been developed and implemented. Apart from the amount of projects, also the impact, in emissions and costs savings, will be taken into account. Emission reductions are encouraged across all the operations and incorporated into the Executive Vice Presidents responsibilities to mitigate climate change. The above described indicators are all part of the Executive Vice Presidents of the Regions scorecards or form part of the expected 'business as usual' activities on which they are required to deliver.
Executive vice president and vice president group sustainability	Monetary reward	The following performance indicators are included in the 'Executive Vice President's' and 'Vice President' Group Sustainability scorecards or are required to be delivered on as part of 'business as usual activities': - Overseeing the development of fit for purpose structures and capabilities in the regions for the delivery of 'Energy and Carbon Management'. - Ensuring regional progress on target setting, strategy and action plan development, as well as actual performance (project implementation) of

Management

Who is entitled to benefit from those incentives?	The type of incentives	Incentivized performance indicator
		energy and carbon management is tracked and reported quarterly to the SH&SD Committee. - Updating the existing target setting guidelines and the development and updating of the Group carbon policy and group energy management guidelines. - Developing, reporting on and obtaining external assurance on key energy, carbon and climate change related performance indicators. - Receiving 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. - Communicating climate change issues effectively (level of publicity created for Gold Fields and its climate change interventions).
Sustainable Development heads of the regions	Monetary reward	The following performance indicators are included in the SD Heads' scorecards or are required as part of their 'business as usual activities': - 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 accordingly). - Development of energy and emission reduction targets, as well as regional strategy and action plan. - Meeting emission and energy reduction targets.

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Who is entitled to benefit from those incentives?	The type of incentives	Incentivized performance indicator
Energy and Carbon Manager	Monetary reward	Every region has appointed a responsible and accountable Energy and Carbon Manager. The following performance indicators have been included in the Energy and Carbon Manager's scorecard or are required as part of their 'business as usual activities': - Development of a regional energy and emission reduction target, as well as the baseline against which this target will be measured. Both the target and baseline have to be verified by a third party; - Development of a regional energy and carbon management strategy and action plan. - Actual energy and emission reductions achieved and costs saved against the baseline

Management

2. Strategy

Risk Management Approach

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 companywide risk management processes

If integrated into multi-disciplinary companywide risk management processes; or a specific climate change risk management process is selected, answer questions 2.1a – 2.1c:

2.1a Please provide further details on your risk management procedures with regards to climate change risks and opportunities (CDP 2013 Q1.2a, amended)

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Dropdown options: **Six-monthly or more frequently** Annually Every two years Sporadically, not defined Never	Dropdown options: **Individual/Sub-set of the Board or committee appointed by the Board** Other committee Senior manager/officer Other manager/officer Nobody	*This is an open text field with a character limit of 500* The geographical areas considered in the risk management process are those countries where Gold Fields either has an operation or a growth project. These currently consist of Peru, Ghana, South Africa, Australia, Chile and the Philippines.	Select from: Up to 1 year 1 to 3 years 3 to 6 years **> 6 years** Unknown	*This is an open text field with a character limit of 1,000*

2.1b Please describe how your risk and opportunity identification processes are applied at both company and asset level (New for CDP 2014)

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This question is asking about the **process** of identifying risks and opportunities related to climate change, and not about the specific risks and opportunities that your organization may face - these are disclosed in questions CC5.1 and CC6.1. However, if you wish, you can use examples to illustrate your process description.

In your answer please cover how risks/opportunities are assessed at a company level (e.g. reputational risk can impact on the full corporation), and how risks/opportunities are assessed at an asset level (e.g. physical impacts can affect individual facilities). Please note that asset level is defined as anything below company level such as individual sites and subsidiaries.

You should respond to this question in the text box provided; your answer should be no more than 2,000 characters in length. Please note that when copying from another document into the ORS, the formatting is not retained.

On a company level, the Group Executive Committee and the Board, via the Audit Committee, are responsible for keeping oversight of the overall system of risk assessment. The Audit Committee is responsible for the identification and mitigation of new and existing risks, including climate change related risks. The Group Risk Manager is responsible for the process of risk management that takes place at a corporate level. Gold Fields' Enterprise Risk Management process is aligned with the ISO 31000 international risk management standard. All risks identified have control measures and mitigating strategies in place.

A 'Group Energy and Carbon Management Guideline', was developed in 2013 to provide guidance to the regions with regard to energy and carbon management. One of the requirements of this Guideline is for the regions to conduct energy and carbon (including climate change) related risk and opportunity assessments as part of the development of regional 'Integrated Energy and Carbon Management Strategies' (IECMS) and 'Integrated Energy and Carbon Management Plans' (IECMP). Risks and opportunities are assessed by regional managers responsible for both energy and carbon and overseen by the regional executive as well as the group executive committee and the relevant board sub-committee.

Gold Fields assets' exposure to climate change related risks and opportunities are assessed in several ways. Firstly, a physical risk management programme is implemented 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. Thirdly, the regional IECMS and IECMP require risk assessments which should also cover the asset level. As part of the Group wide IECMS, developed in 2012, every region went through an intensive screening process to identify any additional climate change related risks and opportunities.

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2.1c How do you prioritise risks and opportunities identified? (New for CDP 2014)

The aim of this question is to identify the criteria for determining priorities with regards to climate change risks and opportunities. In responding to this question, companies should take account of their risk analysis and risk evaluation processes. Your answer should be no more than 2,000 characters in length.

Risks, including climate change related risks, are evaluated for materiality based on a 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. The materiality of a risk is used to prioritize the management of the risk.

When opportunities are identified, they are prioritised as follows:

1. Safety;
2. All-In Costs (AIC); and,
3. Impact on the carbon footprint

If "There are no documented processes for assessing and managing risks and opportunities from climate change" is selected:

2.1d Please explain why you do not have a process in place for assessing and managing risks and opportunities from climate change, and whether you plan to introduce such a process in the future

Not applicable

Business Strategy

2.2 Is climate change integrated into your business strategy?

Yes

If yes: **2.2a Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process (CDP 2013 Q2.2a, amended)**

Please respond to this question in the text box provided, using no more than 7,000 characters. This question asks about the process by which your strategy was influenced, and the outcomes of that process. If you wish, you may provide a description of your business strategy for information.

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However, disclosure and performance points are awarded only to data points that relate to the process and outcomes, as specified below.
This question is intended to focus on the group business strategy, meaning the full corporate body on which you are reporting. However if it is more appropriate, you may wish to comment on divisional (business unit) strategies. Your response should cover the following points:

i. How the business strategy has been influenced, i.e. the internal process for collecting and reporting information to influence the strategy;
ii. What aspects of climate change have influenced the strategy, e.g. need for adaptation, regulatory changes or opportunities to develop green business?
iii. The most important components of the short term strategy that have been influenced by climate change (e.g. changes in operational practices, changing the way business is communicated, etc.). Short term can mean current. If climate change has only affected the long term strategy, this should be stated;
iv. The most important components of the long term strategy that have been influenced by climate change (e.g. changing core business focus, development and incorporation of new technologies, etc.). In the less likely event that climate change has only affected the short term strategy, this should be stated;
v. How this is gaining you strategic advantage over your competitors;
vi. What have been the most substantial business decisions made during the reporting year that have been influenced by the climate change driven aspects of the strategy (e.g. investment, location, procurement, M&A, R&D). Both the business decision and the aspect of climate change that has influenced the business decision must be made clear in the answer. If there are none to report, this should be stated.

i. Gold Fields has incorporated climate change management into its business strategy from as early as 2009, when it developed a Carbon Management Strategy. After a yearly update of this strategy, a group wide Integrated Energy and Carbon Management Strategy (IECMS) was developed in 2012. After the unbundling of the mines now run by Sibanye Gold in 2013 and an increased regional focus, it was decided to develop regional Integrated Energy and Carbon Management Strategies and Plans (IECMP). Guidelines for the development of the strategies and plans were finalized in 2013 and each region is expected to finalize its Strategy and Plan by Q4 2014. This guideline specifically states that, to achieve Gold Field's vision of being the global leader is sustainable gold mining, a key component is to successfully manage energy and carbon through the following actions:

1) Integrating energy and carbon management into the business;
2) Measuring and reporting on performance; and
3) Creating 'shared value' and leaving an enduring, positive legacy.

The strategy should describe, amongst others, performance targets and how these targets will be achieved. Performance on energy and carbon targets is reported bottom up from an operational to a regional level, from there to the SHSD committee for review, which reports findings to the Board.

In the past, energy and carbon pricing was part of operational performance reporting and motivated a change in Gold Fields' business strategy; namely to adapt the company so that it could thrive in a carbon-regulated and energy supply constrained future. Energy accounts for about 18% of Gold Fields operational cost base and thus remains a key business driver in terms of controlling costs.

ii. Climate change aspects that have had the greatest influence on the business strategy, are the risks of:

a. Increased operational costs;
b. Production disruptions due to changed weather patterns;
c. Uncertainty regarding new climate change related regulations; and
d. Potentially reputational damage 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 these risks, but also realise potential opportunities, such as augmenting the positive reputation of the company. Gold Fields IECMS's and IECMP's are supposed to address all identified risks and opportunities. The company's revised 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 2013, the following most important short term strategic components, influenced by climate change, were identified:

- The need to develop regional IECMS and IECMP's. For this purpose a guideline on the approach and required content of these strategies and plans was developed.
- The importance of developing regional emission reduction targets.
- Gold Fields recognizes water management to be a critical issue. Therefore, in 2013 a Guideline was developed to support the content and approach of appropriate regional Water Management Strategies (WMS) and Plans (WMP).

- The increased occurrence of climate change related extreme weather events in 2013 highlighted the importance of implementing emission reduction projects.

iv. The most important intervention in Gold Fields' 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, Gold Fields' development teams are required to calculate the new asset's carbon footprint over its lifetime and to identify energy efficiency and renewable energy opportunities early in the development process. Furthermore, Gold Fields has set a target that all new mining projects must at least have 20% of their energy sourced from alternative sources of energy. For operating mines, the following strategic commitments are in place:

- Review replacement of carbon-intense sources of energy with renewable energy or switching to less intense energy sources (taking security of supply and price demands into account);
- No operation should go backwards to a more carbon-intense source unless security of supply or price demands;
- Identify short, medium and long term energy efficiency or renewable energy initiatives that meet regional and operational internal rate of return requirements;

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 gold mining assets than competitors. Gold Fields has secured a leadership position in the climate change space by winning internationally recognized awards amongst which a shared first place in 2013 in the South African CDLI. 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 as well as attracting Environmental, Social and Governance focused Investors. This is evidenced by the inclusion of Gold Fields in the 'Be Green Exchange Traded Fund' as well as receiving a 'prime rating' from a renowned ESG ratings agency, Oekom.

vi. <u>The most important business decisions during 2013</u> - influenced by climate change driven aspects of the strategy - have been:

a. Regionalization of energy and carbon management, resulting in the requirement that all regions develop an IECMS and IECMP.
b. Regionalization of water management, resulting in the requirement that all regions develop a water management strategy and plan.
c. It was decided to maintain, even in a more difficult economic environment, the requirement that all new mine developments should provide 20% of all energy requirements by renewable energy.
d. Contribute a total of $9.7 Million to the implementation of energy efficiency projects.

The business decisions related to climate change mitigation are mainly informed by Gold Fields' understanding of the physical impacts of climate change and its desire to lead industry in developing and disclosing company specific targets. The group wide and regional IECMS are informed to manage all risks and opportunities linked to climate change.

If no: **2.2b Please explain why climate change is not integrated into your business strategy? (CDP 2013 Q2.2b, amended)**

Not applicable

Engagement with Policy Makers (CDP 2012 Q2.3, amended)

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 with policy makers**
- **Trade associations**
- **Funding research organizations**
- Other
- No

Direct engagement with policy makers:
This includes all activity where companies (or their representatives such as law firms, or public affairs agencies engaged directly by the company) engage with policy makers on the development of law. Examples of such activities include responding to a consultation, sitting on a working group or lobbying activities directed at individuals or groups that are part of the policy making process. Direct engagement can include any stage in the policy development process, from the selection of options to final consultation comments, but does not include compliance with legislation once it has come into force.

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Trade associations:

Trade associations (sometimes also referred to as industry associations) are an association of people or companies in a particular business or trade, organized to promote their common interests. Their relevance in this context is that they present an "industry voice" to governments to influence their policy development. The majority of organizations are members of multiple trade associations, many of which take a position on climate change and actively engage with policy makers on the development of policy and legislation on behalf of their members. It is acknowledged that in many cases companies are passive members of the trade associations and therefore do not actively take part in their work on climate change. This will be investigated in subsequent questions and therefore if you are a member of a trade association that engages on climate change, regardless of your own involvement, you should tick "trade associations" at question CC2.3.

If 'Direct engagement with policy makers' is ticked:

2.3a On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Select from: Mandatory carbon reporting Cap and trade Carbon tax Energy efficiency Clean energy generation Adaptation resiliency Climate finance Other, please specify	Select from: Support Support with minor exceptions Support with major exceptions Neutral Oppose Undecided	Text box (maximum 2400 characters) Use the text field to provide details of how you are engaging (e.g. responding to a consultation, meeting directly with policy makers etc) and the legislation on which you are engaging. Please give the name of the legislation and the geographies to which it applies. Please only give details of the legislation that you have engaged on in the reporting year.	Text box (maximum 2400 characters)
Mandatory carbon reporting	Neutral	In Australia, Gold Fields engages directly with the Department of Industry to ensure compliance with the 'Energy Efficiency Opportunities Act (2006)', Clean Energy Regulator for compliance with the National Greenhouse and Energy Reporting (NGER) Scheme, and the Department of Environment for the National Pollutant Inventory (NPI). Gold	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.

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Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
		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 relevant departments when they have questions or comments.	

If 'Trade associations' is ticked:

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

Yes

Note that this question is not asking about all the trade associations that you are a member of, only those that you have a more significant influence over due to Board membership or through providing funding beyond membership.

***If yes*:**

2.3c Please 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 position?
International Council on Mining & Metals (ICMM)	Consistent	Gold Fields has representatives on the 'Communications', 'Materials Stewardship' and the 'Water' working groups, as well as the CEO representing the company at the CEO Council of the ICMM, The Water Working Group is part of the 'Environment and Climate Change' work programme. This programme aims at improving	Through engagement with policy makers (on international, national and sub-national levels), via the ICMM, Gold Fields aims at achieving an understanding of the actions that need to be taken by industry and the support to be provided by policy makers to allow for

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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 position?
		ICMM members' environmental and climate change performance, as well as to facilitate engagement with the international, national and sub-national levels of policy. This working group is currently developing a water strategy to be used as input by its members in developing its strategy and for engagement with policy makers. Though all committees and working groups meet twice a year in London, regular contact during the year ensures progress on deliverables.	industry to take effective action.
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 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 (amongst which the Gold Fields Renewable Energy Lobby) related to the Minerals and Energy Sector of Australia. Depending on the topic, an industry opinion is voiced and presented to Government.	N.A.

If 'Funding research organizations' is ticked:

2.3d Do you publically disclose a list of all the research organizations that you fund?

No

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2.3e Do you fund any organizations to produce or disseminate public work on climate change? (CDP 2013 Q2.3e, amended)

Yes

2.3f: Please describe the work and how it aligns with your own strategy on climate change

Use the text box provided to give details of the public work that has been funded by you on climate change that has been released in the reporting year. Please give details of the title and topic of the work, its output (i.e. report, film, briefing note, web content etc), which organization it was completed by and how the results align with your own strategy on climate change (for example explaining your own position and how the work produced may support or contradict it). This text box has a character limit of 5000 characters. If you are using the copy from last year functionality please ensure that you review the data to ensure that it remains appropriate.

Description of work:

Gold Fields has provided funding for the pilot testing of two draft standards developed by the World Resource Institute:

- Policy and Action Accounting and Reporting Standard;
- Mitigation Goals Accounting and Reporting Standard;

These standards were drafted to inform regions and sectors as to how they can report on the progress of achieving goals set in the past and how this process can be used to inform a restatement of targets and progress looking forward.

Gold Fields' emission performance data, together with the emission data from other mining companies, was used to evaluate the performance of the South African mining sector against a pre-determined policy and goal. In this way the standard was piloted and the relevance of its proposed way of target setting, accounting and reporting assessed for Gold Fields.

Alignment with Strategy:

The funding provided by Gold Fields for this pilot test supported Gold Fields' energy and carbon management strategy as it focussed on activity specific accounting and investigated a new way of target setting which is important for Gold Fields as it is currently in the process of setting new targets.

The work performed during the pilot study will be included as a case study in the final publication of these standards, due in August 2014.

If 'other' is ticked:

2.3g Please provide details of the other engagement activities that you undertake

Not applicable

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If 'Direct engagement', 'Trade associations', 'funding research organizations' or 'other' is ticked:

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. In 2013, corporate strategy focused on regional responsibility and it was decided that regional IECMS's and IECMP's should be developed. A 'Group Energy and Carbon Management Guideline', was developed in 2013 to provide guidance to all the regions across the group with regard to energy and carbon management. The purpose of this Guideline document is to ensure that Gold Fields' vision and climate change strategy is consistent amongst the different operations and geographical regions, while allowing for different focus areas and specific circumstances. In addition, a standard template is used across the group for reporting progress against the strategy to the group executive committee and the SH&SD Committee (a sub-committee of the Board).

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3. Targets and Initiatives

Targets

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

Comment: we will have to report on last year's targets, as these were ongoing in 2013. In late 2013 these targets were re-evaluated and in 2014 the targets will be revised. We will report on this change, but reporting will be against last year's targets.

You will need to select one of the following options:

- ***Absolute target***
- *Intensity target*
- *Absolute and intensity targets*
- *No*

The following details are requested for targets (in Questions 3.1a and 3.1b) to be inputted in tables in the ORS:

- Scope
- % of emissions in scope
- % reduction from base year
- Metric denominator (intensity targets only)
- Base year
- Base year emissions
- Target year
- Comment

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If you have an absolute target:

3.1a Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base Year	Base Year emissions (metric tonnes CO_2-e)	Target Year	Comment
1	Scope 1 +2	100%	13%	2012	1,234,179	2016	In 2012, Gold Fields set a group wide voluntary target of 13% carbon emission reductions against its 'business as usual' carbon emissions by 2016. Because this target was ongoing during most of 2013, this submission will report on progress against this target. However, in late 2013, it was decided to re-evaluate this Group target due to significant changes to Gold Fields' operations and business model, including: - The unbundling of the energy intensive, deep-level underground Beatrix and KDC mines; - A strategic shift away from production volumes towards cash-flow generation; - The acquisition (on 1 October 2013) of the new Yilgarn South Assets in Australia from Barrick Gold. Instead of applying a Group target as previously planned, the strategy is now being driven by each of our regions, with Group oversight. The regions have established the following

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ID	Scope	% of emissions in scope	% reduction from base year	Base Year	Base Year emissions (metric tonnes CO_2-e)	Target Year	Comment
							provisional energy-efficiency targets, which are projected against future energy cost baselines: - Americas: 8% reduction in energy consumption and carbon emissions by 2016; - Australasia: 11% reduction in energy consumption by 2016. The carbon emission reduction target will be set once strategies for the Yilgarn South Assets have been incorporated. - West Africa: 12% reduction in energy consumption and 22% reduction in carbon emissions by 2016; The South Deep mine has not been included in the Integrated Energy and Carbon Management Strategy as it was increasing its production. From 2014 this operation will be included in the strategy and will determine appropriate energy and carbon reduction targets. The following guidance is applicable to the previous group wide emission reduction target, against which progress will be reported for 2013. Business as usual emission calculations will be expressed both ex-ante as well as ex-post to ensure that any unforeseen

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ID	Scope	% of emissions in scope	% reduction from base year	Base Year	Base Year emissions (metric tonnes CO_2-e)	Target Year	Comment
							changes in operations are accounted for. The target base year is 2012. The emission reduction in every subsequent year will be calculated based on the combined emission savings of the projects implemented in 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'.

If it is an intensity target:

3.1b Please provide details of your intensity target

N.A.

3.1c Please also indicate what change in absolute emissions this intensity targets reflects

N.A.

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For both types of targets, also:

3.1d For all your targets, please provide details on the progress made in the reporting year (CDP 2013 Q3.1d, amended)

% complete (time)	% complete (emissions)	Comment
40%	40.4%	

If you do not have a target:

3.1e Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years (CDP 2013 Q3.1e, amended)

N.A.

Emission Reduction Initiatives

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

No

3.2a Please provide details of how the use of your goods and/or services directly enable GHG emissions to be avoided by a third party (CDP 2013 Q3.2a, amended)

Not applicable

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

Yes

If yes, complete questions 3.3a, 3.3b and 3.3c:

3.3a Please identify the total number of projects at each stage of development, and for use in the implementation stage, estimated CO2-e savings

Stage of development	Number of projects	Total estimated annual CO2e savings (only for rows marked *)
Under investigation	5	16,349 tCO_2/yr
To be implemented*	2	2,330 tCO_2/yr
Implementation commenced*	5	2,453 tCO_2/yr
Implemented*	13	55,912 tCO_2/yr

Management

Not to be implemented	**0**	

Management

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	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period	Estimated lifetime of the initiative, years	Comment
	This is an open text field, with a character limit of 2,400 characters. Please use this column to describe the activity you have undertaken or are planning to undertake. Please identify the nature of the activity; whether it is Scope 1, 2 or 3; and whether it is voluntary or mandatory.						
Energy Efficiency Processes	At the Australian operations energy and emission reductions were achieved through mill processing optimisation. Operational requirements allowed for one mill processing both St Ives and Agnew ore at the beginning of 2013. In October 2013, Gold Fields acquired the Lawlers operation from Barrick and put the Lawlers mill into care and maintenance as the Agnew mill had the spare capacity to process the ore obtained from Lawlers. Optimisations have allowed for a reduction in grind size thus reducing the energy requirement per tonne of ore milled. This process optimization project reduces electricity demand and therefore scope 2 emissions. This is a voluntary project	7,870 tCO2	$25,000,000	$2,000,000	< 1 yr	The lifetime of this project is dependent on production outputs and whether the Lawlers mill would be needed again. Based on current projections, it is estimated that this reduction will be achieved for 5 years.	

Management

Activity Type	Description of activity	Estimated annual CO2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period	Estimated lifetime of the initiative, years	Comment
Energy Efficiency Processes	Improved road maintenance at St Ives and Agnew has reduced diesel consumption of its fleet. Improved road maintenance reduces rolling resistance and thereby energy requirements to obtain the same performance. The annual monetary savings are based on diesel cost savings. This project reduces diesel demand and therefore scope 1 emissions. This is a voluntary project	886 tCO2	$600,000	$150,000	<1 yr	The estimated lifetime of this initiative is 5 years	
Energy Efficiency Processes	A combination of different mining optimisation projects at the Australian operations achieved a total of approximately 7% energy savings. The following types of projects were implemented which have been grouped into this 'mining optimisation project category': - Mill optimisation; leading to a reduction in dilution from between 40% to 50% to less than 5% and optimisation of the mobile equipment fleet. - Pit optimisation; resulting in a reduction in haulage distances to the plant. - Improved generator demand scheduling, by	11,322 tCO2	$8,000,000	0	<1 yr	The estimated lifetime of this initiative is 5 years	It is difficult to quantify the exact investment required, as the costs of these projects have been spread over maintenance and operating budgets in different departments. The additional capital investment over and above the said costs is 0 and is therefore reported as 0.

Management

Activity Type	Description of activity	Estimated annual CO2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period	Estimated lifetime of the initiative, years	Comment
	using software that synchronises generator usage with demand. - Usage of a new, more energy efficient fleet. - Continued use of the Pitram mining solution which is a tool that records, manages and processes mine site data in real-time and allows for optimisations. These projects reduced both diesel and electricity demand and therefore both scope 1 and 2 emissions. This is a voluntary project						
Energy efficiency: building services	At the Ghanaian operations the halogen street lights had been in use for a while and the life span and energy consumption rate has been proven to be on the high side. Therefore, a project was implemented to change from halogen bulbs to LED lamps which are more energy efficient. This project reduces electricity consumption and therefore scope 2 emissions. This is a voluntary project	15.8 tCO2	$ 2,267.6	$ 3,500	1-3 years	The estimated lifetime of this initiative is 5 years	

Management

Activity Type	Description of activity	Estimated annual CO2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period	Estimated lifetime of the initiative, years	Comment
Energy efficiency: processes	Satellite Fuel Farms, electronic fuel management systems, were implemented at both Tarkwa and Damang mines in West Africa. These systems optimise fleet operation and fuel consumption. This project reduces diesel consumption and therefore scope 1 emissions. This is a voluntary project	590 tCO2	$ 2.1 m	$ 4.5m	1-3 years	The estimated lifetime of this initiative is 10 years	
Energy Efficiency Processes	The haul road improvement project was implemented by the Mining Department at the Ghanaian operations to sheet the haul roads. This increases the tyre life of the truck and reduces diesel consumption. This project reduces diesel consumption and therefore scope 1 emissions. This is a voluntary project	3,252 tCO2	$4.8m	$2.1m	< 1 yr	The estimated lifetime of this initiative is 5 years	
Energy Efficiency Processes	At South Deep, a ventilation optimisation project to reduce power demand linked to air circulation and cooling was implemented in 2013. Part of this project addressed the repairs of cooling cars and pipes.	8,640 tCO2	$346,000	0	0	The estimated lifetime of this initiative is estimated to be as long as the life of	It is difficult to quantify the exact investment required, as the costs of these projects have been spread over maintenance and

Management

Activity Type	Description of activity	Estimated annual CO2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period	Estimated lifetime of the initiative, years	Comment
	This project reduces electricity consumption and therefore scope 2 emissions. This is a voluntary project					mine	operating budgets in different departments. The additional capital investment over and above the said costs is 0 and is therefore reported as 0.
Energy Efficiency Processes	At South Deep, bulk air cooling water on 90 Level was diverted into a transfer dam on 87 Level. This water could therefore be reused as mining service water. This has reduced water and electricity demand as the water no longer needs to be pumped up to the surface. This project reduces electricity consumption and therefore scope 2 emissions. This is a voluntary project	2,160 tCO2	$86,000	0	0	The estimated lifetime of this initiative is estimated to be as long as the life of mine	It is difficult to quantify the exact investment required, as the costs of these projects have been spread over maintenance and operating budgets in different departments. The additional capital investment over and above the said costs is 0 and is therefore reported as 0.
Energy Efficiency Processes	A lighting upgrade (saving 200kW), as well as a store lighting upgrade (53kW) with more energy efficient lighting was completed at South Deep. The more energy efficient lighting reduces electricity consumption. This project reduces electricity consumption and	1,017 tCO2	$98,000	$230,000	1-3 years	The estimated lifetime of this initiative is 5 years	

Management

Activity Type	Description of activity	Estimated annual CO2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period	Estimated lifetime of the initiative, years	Comment
	therefore scope 2 emissions. This is a voluntary project						
Energy Efficiency Processes	Optimisation of Air Networks (1 MW) Project. This project reduces compressed air losses through a pressure management system. The system works by more closely matching the air pressure delivery at different times during the production cycle with the air pressure requirements. This project reduces electricity consumption and therefore scope 2 emissions. This is a voluntary project	2,880 tCO2	$ 390,000	$ 143,000	< 1 yr	The estimated lifetime of this initiative is 10 years	
Energy Efficiency Processes	Refrigeration Cooling Auxiliaries (2 MW) - Cooling VSD's Project. The Variable Speed Drives allows for better control of the refrigeration plant which results in lower electricity consumption. This project reduces electricity consumption and therefore scope 2 emissions. This is a voluntary project	17,280 tCO2	$ 780,000	$ 583,000	<1 yr	The estimated lifetime of this initiative is 10 years	

Management

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 carbon credits**

If no: **3.3d If you do not have any emission reduction incentives, please explain why not**

Not applicable

Management

4. Communications

4.1 Have you published information about your organisation'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) (CDP 2013 Q4.1, amended)

Publication	Page/Section reference	Attach the document
In mainstream financial report (complete)	Page 90, Section 4.3.3 Carbon emissions and climate Change. Gold Fields' Integrated Annual Review 2013	**attached**
In voluntary communications (complete)	June 2013 – Energy saving investment pays off. Published in the 'Golden Age', Gold Fields' internal newsletter.	**attached**
In voluntary communications (complete)	September 2013 – Leading sustainability practices. Published in the 'Golden Age', Gold Fields' internal newsletter.	**attached**
In voluntary communications (complete)	April 2014 – Driven from the top: Gold Fields' Energy Management and Carbon Reduction Strategies. Published by 'Energy and Mines'.	**attached**

Risks & Opportunities

5. Climate Change Risk

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) (CDP 2013 Q5.1, amended)

☒ **Risks driven by regulation**
☒ **Risks driven by changes in physical climate parameter**
☒ **Risks driven by changes in other climate-related developments**

Risks & Opportunities

5.1a Please describe your risks driven by changes in regulation

Risk Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Drop down	2400 characters	Drop down	Drop down	Drop down	Drop down	Drop down	500 characters	1500 characters	500 characters
Uncertainty surrounding new regulation	The South African carbon tax remains a risk for Gold Fields due to the uncertainty surrounding the regulation. As more information on the carbon tax becomes available, risks related to the carbon tax can be reduced. More information enables proper planning and adaptation to the regulation. The most recent development on carbon tax in South Africa was published in the February 2014 Budget Speech, in which the implementation of carbon tax is postponed to 2016. The carbon tax has been delayed by one year to ensure alignment between policies in different Government departments. Two issues which remain uncertain pose as risks to Gold Fields if they are not successfully addressed: • **Reducing Eskom's tax liability:** If Eskom's tax liability is not effectively reduced then it is likely that Eskom will pass on that tax to consumers. Gold Fields therefore faces the risk of increased electricity costs. In addition to this tax, Gold Fields is currently paying a non-renewable energy levy. This levy is an instrument already used by the Government to discourage the use of non-renewable energies. • **Uncertainty relating to carbon tax relief mechanisms:** The carbon tax includes several relief measures to protect vulnerable business sectors. In addition the relief mechanisms aim to protect the competitive position of local industry. Gold Field's most significant tax exposure lies in electricity emissions (scope 2). However relief mechanisms are not currently available for these emissions. Gold Fields will be significantly impacted by the carbon tax if National Treasury does not introduce a relief mechanism for electricity emissions (scope 2). The gold price is fixed on global markets. As a	Increased operational costs	1-3 years	Direct	Likely	Low - Medium	As South Deep emits less than 100,000 tCO_2/yr, it will not be liable to pay carbon tax. If however, Eskom will pass through their carbon tax costs in full this would increase Gold Fields' electricity costs and therefore operational costs by US$ 2.7 Million/yr. Currently Gold Fields already pays a non-renewable energy levy of US$ 2 Million/yr on its electricity bill. The final scale of increased operational costs is still to be confirmed based on the relief mechanisms to be allowed.	Management Method 1: Gold Fields engages with Government on carbon tax related issues and advocates amongst others that relief mechanisms should be allowed for electricity related emissions (scope 2). Gold Fields engages directly with Government through their Chamber of Mines membership. Management Method 2: Gold Fields' strategically manages this risk through the development and implementation of a group wide Integrated Energy and Carbon Strategy, in 2012. An Energy and Carbon Management guideline was developed in 2013 to support the operations as they develop and implement a regional energy and carbon management strategy and action plan by the end of 2014. This strategy has the potential to reduce Gold Field's carbon tax liability by focusing on reducing Gold Field's carbon footprint. Management Activity: Gold Field's carbon footprint is reduced through behavioural changes, energy efficiency projects and through the implementation of renewable and alternative energy projects. At each of the regions a review of the renewable energy opportunities is currently being completed. Through the development of	Development and external review of new energy reduction targets at the Peruvian and Ghanaian operations in 2013 cost about $210,000. Development of the group wide IECMS was US$1 Million. Legal review of the 'energy and carbon' and 'water' Guidelines was approximately US$10,000 (2013). Implementation costs of energy efficiency projects were US$ 9.7 Million for the group and US$0.96 Million at South Deep in 2013. Gold Fields' membership fee with the Chamber of Mines in 2013 was US$224,462

Risks & Opportunities

Risk Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	result Gold Fields cannot alter the gold price and may be at a disadvantage with respect to international competitiveness as a result of carbon tax.							carbon offset projects, Gold Fields might further reduce its own carbon tax expenditure and could create additional income. These management methods would potentially decrease the magnitude of the risk over the next year.	
Uncertainty surrounding new regulation	The Australian Carbon Pricing mechanism (CPM) was implemented in July 2012. Gold Fields is indirectly affected by the CPM, due to related pass-through costs from contractors and vendors, as well as an increased diesel price. As of May 2014 the CPM is still legislated. However, the Liberal/National coalition government (recently elected) has committed to repeal the legislation supporting the CPM (which was introduced by the former government). A bill to repeal the tax was rejected by Senate in March 2014. However, in July 2014, a new cadre of senators will be selected which could possibly increase the chance of successfully repealing the CPM. The Liberal/National coalition government has proposed that the Carbon Pricing Mechanism should be replaced with the Direct Action Plan. The Direct Action Plan will provide incentives for polluters to reduce emissions. The Direct Action Plan will include the Emissions Reduction Fund (published in the White Paper, April 2014). The aim of this White Paper is to achieve a "cleaner environment while improving business competitiveness". This fund will request business to submit tenders relating to emission reductions or offsets. The tender process will operate as a reverse auction in which businesses will compete to win the tender contract. Emission reductions can be achieved through a range of projects, such as clean power stations, capturing landfill gas, reforesting marginal lands or improving soil carbon.	Increased operation costs	Up to 1 year	Direct	Very likely	Low - medium	The estimated scale of the financial implications for Gold Fields are not yet known. The Australian Government has not published the cost of the penalty that would need to be paid if business-as-usual emissions are exceeded. However it is expected that this will cause increased operational costs for Gold Fields.	Gold Fields manages the risk related to the possible repealing of the CPM in two ways: 1. Through Government engagement; 2. By strategically focusing on reducing its emission; Management activities: During 2013, Gold Fields attended monthly meetings with the Carbon Policy and Energy Efficiency Reference Group (CPEERG) hosted by The Chamber of Minerals and Energy of Western Australia. The topic of these meetings surrounds all carbon policy and energy efficiency matters relating to the Minerals and Energy Sector of Australia. In addition to this Gold Fields is represented at the Goldfields Renewable Energy Lobby (GREL). A reduced carbon footprint will minimise the risk posed by the penalty aspect of the Emission Reduction Fund. Gold Field's carbon footprint is reduced through behavioural changes, energy efficiency projects and through the	Membership fee with the Chamber of Minerals and Energy of Western Australia was approximately US$ 160,000 in 2013. -The cost of development of the Group Integrated Energy and Carbon Management Strategy was approximately $1 Million (2012). The Regional Strategies and plans are still under development. Implementation costs of energy efficiency projects at the Australian operations were approximately US$ 2 Million in 2013.

Risks & Opportunities

Risk Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	The Emissions Reduction Fund states that if businesses emit carbon emissions that are higher than their business as usual emissions, then they will be subject to pay a penalty. However the definition of business as usual has not yet been provided and the price of the penalty is still unconfirmed. The uncertainty surrounding the Emission Reduction Fund might pose as a risk for Gold Fields.							implementation of renewable energy projects. At each of the regions a review of the renewable energy opportunities is currently being completed. Gold Fields developed and implemented a group wide Integrated Energy and Carbon Strategy, in 2012. An Energy and Carbon Management guideline was developed in 2013 to support the operations as they develop and implement a regional energy and carbon management strategy and action plan by the end of 2014. These management methods would potentially decrease the magnitude of the risk over the next year.	
Other: Renewable Energy Obligation	The Renewable Energy Act for Ghana was passed in December 2011. The object of the Act is to "provide for the development, management, utilisation, sustainability and adequate supply of renewable energy for generation of heat and power." The Renewable Energy Act promotes the use of renewable energy to allow for improved access to electricity through the use of renewable energy sources. Gold Fields Ghanaian operations face the risk of having to "purchase a specified percentage of its total purchase of electricity from renewable energy sources" – Article 26, Renewable Energy Act. If Gold Fields fails to comply then they will have to "pay the Commission a premium as determined by the Commission." -Article 26, Renewable Energy Act. As Gold Fields is a large electricity consuming company, it is expected that it will be impacted by the legislation. It is however unclear what percentages or premiums can be expected. Additionally, the Ghanaian Renewable Energy Act 2011 (Act 832) has been promulgated, but its framework and application are still being established. No regulations have	Increased operation costs	1-5 years	Direct	Very Likely	Low - Medium	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 US$ 0.16/kWh at its Ghanaian operations. This price falls within the suggested tariff range of $0.11 to $0.20 for each kWh. Therefore there might not be a financial impact for Gold Fields by having to purchase renewable energy.	All operations are required to pursue renewable energy solutions, as per the Gold Fields Energy and Carbon Management Guideline. As reported previously, Gold Fields has spent considerable effort and resources into investigating the potential of a biomass fired power plant at Tarkwa. Gold Fields evaluated different bio-energy technology options, but the reality within the current global economic framework found the biomass fired power plant not to be a preferred option. Gold Fields has signed a power purchasing agreement for power generated from a clean coal (Integrated Gasification Combined Cycle) power plant to be constructed and owned by Genser Energy. This plant can also use natural gas as a fuel if this becomes available. During the first two years of	Gold Fields' spending on investigating the potential of the Tarkwa biomass options has up to date been approximately US$ 0.1 Million.

Risks & Opportunities

Risk Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	been passed, neither has any guidance been released. As of September 2013, private producers of renewable energy in Ghana receive fixed amounts for each unit of generated energy; the tariffs vary from $0.11 to $0.20 for each kWh. The introduction of feed-in tariffs (FITs) is expected to provide an incentive for businesses to invest in renewable energy projects. This would comply with the country's goal of achieving 10% renewable energy of the total energy production for Ghana by 2020. This tariff can be used to estimate the impact of the renewable energy act. Gold Fields will have to pay from $0.11 to $0.20 for each kWh for renewable energy, in order to comply with this act.							operation, Genser will supply 26 MW of power; representing 55% of Gold Fields' total electricity demand in Ghana. Though the biomass plant at Tarkwa is no longer a viable option, the development of renewable energy projects is still a strategic commitment by the company. These management methods would potentially decrease the magnitude of the risk over the next year.	
Uncertainty surrounding new regulation	There are several South African Government regulations drafted on reporting and emission reduction requirements: • **National Air Quality Act (2004) Greenhouse Gases as Priority Pollutants (draft regulation released March 2014):** Outlines the specific greenhouse gases that have been identified as priority air pollutants namely, CO_2, CH_4, N_2O, HFCs, PFCs, SF_6. In this Government Gazette it is stated that if a legal entity emits 100 000 tonnes of any of these priority pollutants then they are required to submit a pollution prevention plan under the **National Air Quality Act (2004) National Pollution Prevention Plan (draft regulation released March 2014).** Gold Fields South Deep Facility emits 11,500 tCO_2e, therefore Gold Fields will not have to submit a pollution prevention plan. • **National Energy Act (2008) Regulations 142 on the mandatory provision of energy data** (February 2012): The 'National Energy Act 2008, regulations on the mandatory provision of energy data', states that Government can ask for energy related data and companies are obliged to provide this information. • **National Climate Change Response White Paper** (October 2011): Desired Emission Reduction	Other; reduced growth possibilities Increased operational costs	Current	Direct	About as likely as not	Low	The financial impact might be related to increased reporting costs, increased operational costs due to the management of emission reduction targets and reduced growth possibilities. Exact quantification is dependent on the final requirements of the regulations and is therefore difficult to quantify.	This risk is managed by engaging on a regular basis with Government to communicate the impact of such regulations on the mining sector. Gold Fields' engages on such topics with Government in South Africa via the National Planning Commission and the Chamber of mines. Internationally, engagement with policy makers is done via the ICMM. This management method could potentially decrease the magnitude of the risk over the next year.	These costs are best expressed via the company's membership fees to the following organisation: ICMM membership fee: US$ 132,855 (2013). Chamber of Mines engagement: US$224,462 (2013).

Risks & Opportunities

Risk Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	Outcomes (DERO's) are being developed per sector, subsector and some individual companies. The implications for Gold Fields, as an underground gold mine, thus remain unclear. The risks associated with the above mentioned regulations are multiple: • The risk of costly and time consuming reporting of data is minimal as Gold Fields has low scope 1 emissions, 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 could limit Gold Fields' growth potential; o The risk of increased operational costs due to the management of emission reduction targets.								

Risks & Opportunities

5.1c Please describe your risks driven by change in physical climate parameters

Risk Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Drop down	2400 characters	Drop down	Drop down	Drop down	Drop down	Drop down	500 characters	1500 characters	500 characters
Change in precipitation extremes and droughts	The final draft report from the IPCC Working Group II Fifth Assessment Report was released at the beginning of 2014. This report states that in presently dry regions climate change is likely to result in decreased rainfall and increased frequency of meteorological droughts by the end of this century. This is likely to result in a decrease of surface water and groundwater. Furthermore, the IPCC projections find that variations in flood frequencies will increase as a result of climate change in, amongst others, the regions of tropical Africa and South America. The IPCC report confirms the risk of changes in precipitation extremes and droughts for Gold Fields. Gold Fields has previously reported on this risk which was also confirmed by a study which was conducted in 2010 by the climate modelling experts 'Climate Risk Management (Pty) Ltd' on climate change impacts at Gold Fields' operations. The following impacts have been experienced or identified as possible risks related to increased rainfall and drought: 1. 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 damage of property. 2. Flooding of mines: Precipitation extremes have the potential and have in the past at Gold Fields' operations resulted in the flooding of shafts and pits. The Ghanaian operations experienced	**Reduction or disruption in production capacity**, Increased costs and safety impacts	Current	Direct	Likely	Medium	The potential financial impact of both the flooding of mines as well as operational disruption due to water shortage is provided for in terms of lost revenue per shift missed 2013 performance: Ghana: US$ 1.1 Million Peru: US$ 0.27 Million South Africa: US$ 0.44 Million Australia: US$ 1.15 Million This is likely to cause a loss in revenue for Gold Fields in the event that climate change related operational disruptions occur.	To manage risks, all operations are subject to risk analyses at regular 6 month intervals. Furthermore, the following risk specific relevant management activities were continued during 2013: Compromised tailing dam stability: Gold Fields designs, manages and monitors its tailing dams with the purpose to withstand extreme weather events. At Cerro Corona, the tailing dam is monitored and management practices are regularly reviewed by an independent tailing dam review board. Flooding of mines: Though South Deep is situated in a water scarce area, the mine's water balance is currently positive. The mine's water risk is mostly related to Acid Mine Drainage and process water overflow from containment dams in times of heavy rainfall. For this reason two reverse osmosis plants have been commissioned in 2013 and advanced storm water management measures are being implemented. Disruption / decreased operational capacity due to a lack of water: The Australian operations have put a lot of effort in water source diversification to ensure a reliable source of water supply. Damage to mining infrastructure: During 2014, a storm water management plan will be implemented across all	The cost of the tailing dam review board in Peru was in the region of U$3 Million. During 2013, U$1.4 Million was spent on managing and updating the Liquid Gold Project and water management at South Deep in general. The Water Management Guidelines developed in 2013 cost roughly U$10,000.

Risks & Opportunities

Risk Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	disruption of mining activities due to flooding of pits in 2010 and 2011, no such disruptions occurred in 2012 or 2013. Increased pit dewatering was required at St Ives in 2013 due to increased rainfall. 3. Disruption / decreased operational capacity due to a lack of water: 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). 4. Damage to mining infrastructure. Extreme rainfall events have the potential to cause flooding which can lead to destruction of mining property and infrastructure, water logging and water borne diseases (IPCC 2013).							operations, in accordance with the Water Management Guidelines (2013). The guideline was developed to improve efficiency of water usage and to manage water related risks effectively.	
Higher temperatures	The IPCC (2013) has predicted a mean annual temperature rise of 2 ^{o}C for Africa relative to the late 20th century mean annual temperature. As a result Africa is one of the most vulnerable continents to climate change. Increased temperatures are also expected in Australia and South America (IPCC 2013). These findings confirm results obtained by 'Climate Risk Management (Pty) Ltd', contracted in 2010 by Gold Fields 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. Increased temperatures are expected to impact both open cast as well as underground operations.	Reduction/ disruption in production capacity **Increased operational costs**	Current	Direct	Likely	Medium	The potential financial implications related to this risk are threefold: 1. Work disruptions costs can be expressed as revenue that would normally be generated during a shift, which is between U$0.27 and U$ 1.15 Million. 2. A decreased productivity of 17% (see risk description) would reduce revenue at South Deep by approximately U$0.1 Million/shift. 3. Energy costs currently make up about 18% of Gold Fields' operational costs. An increase in cooling demand will increase this fraction.	To manage this risk, Gold Field's conducted a climate change risk study in 2010 with Climate Risk Management (Pty) Ltd, in order to confirm temperature increases. This lead to the development of methods to manage the implications of warmer working conditions. As a result parameters of new chilling plants have been designed to compensate for the expected increase in temperatures. New mining operations are being designed in line with higher wet-bulb temperatures. This management method would	Gold Fields found chilling capacity demand at its underground operations to have increased by 5-10% to offset increased wet-bulb temperatures experienced over the past few years. Per chilling plant of U$12.5 Million, about U$0.6 Million to U$1.2 Million is expected to be the cost required to offset increased temperatures.

Risks & Opportunities

Risk Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	An increase in ambient temperature has been found to directly impact underground wet-bulb temperature. Wet-bulb temperature is defined as the air's capacity to absorb moisture and thus aid in cooling. 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. If the wet-bulb temperature in the underground mines reaches a certain threshold, companies are legally obliged to stop operations until the wet-bulb temperature drops below that threshold due to cooling. 2) Below the limit, but with relatively high underground temperatures, productivity decreases. This has been supported by historical studies which have shown significant correlation between work place temperatures and productivity on Gold Fields operations. Research has shown that a 1 degree increase in work place temperature of underground mines decreases productivity by as much as 17%. In the open cast operations, an increase in temperature can increase the occurrence of chronic heat fatigue amongst employees and is expected to increase the use of electrical air conditioning units, thereby increasing operational costs. According to the US Environmental Protection Agency, a 1 ^{o}C temperature increase could result in increased energy usage used for cooling by roughly 5-20%. These predictions and impacts were confirmed in 2013, particularly at the Australian operations. During 2013, the western Australian region experienced its warmest year since comparable records in 1910. The hottest day had a temperature of 49 ^{o}C, and the warmest days averaged 36.8 ^{o}C.							potentially decrease the magnitude of the risk over the next year.	

Risks & Opportunities

5.1e Please describe your risks that are driven by changes in other climate-related developments

Risk Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Drop down	2400 characters	Drop down	Drop down	Drop down	Drop down	Drop down	500 characters	1500 characters	500 characters
Other: supply chain risks	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 possible that increased operational costs within the supply chain will be passed through to Gold Fields, who will therefore experience increased operational costs. Some of the supply chain products are at an increased risk due to different climate change related aspects. In the past Gold Fields reported specifically timber to be a commodity subject to increased risk due to climate change. However, Gold Fields no longer purchases timber due to the unbundling of its KDC and Beatrix operations, thereby removing this risk. Purchased water is another commodity where access and security could be impacted due to changed rainfall patterns, increased temperatures and increased drought frequency related to climate change. Cyanide is a product which is water intensive to	**Increased operational costs** & Disruption of operations	1-5 years	Indirect	About as likely as not	Low - Medium	Disruption of the supply chain, causing a disruption of the operations, may result in a revenue loss between US$0.27 and US$ 1.15 Million per shift missed. Assuming a premium of U$5/tonne of cyanide purchased for the Ghanaian operations, this risk has a potential financial implication of U$0.5 Million per annum. To produce electricity with diesel generators is approximately R2/kWh more expensive than conventional grid electricity.	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 suppliers which might cause an increase in the costs of products. As reported last year, Gold Fields South Africa implemented a supplier carbon disclosure system on its supplier portal. On the portal, suppliers are asked whether they measure and report on their carbon emissions. If they report that they do, they are requested to submit this information to Gold Fields. If they don't, they are asked to complete a carbon calculating tool provided to them. Gold Fields aims to actively develop and formalize its supplier engagement process, including a strategy for prioritization, this year. As described above, a formalized type of supplier engagement on carbon exists at the moment at South Deep. Gold Fields aims at rolling out this engagement method to the other regions. Therefore, Gold Fields is planning to develop a 'Guideline for supply chain climate risk management' which can be used by all the regions. In the long term, Gold Fields would like to ask	The cost of supplier engagement is managed in-house.

Risks & Opportunities

Risk Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	produce and which supply could be at risk in the case of a drought. If cyanide production is impacted at one of Gold Fields suppliers, it is expected that cyanide could be obtained from other suppliers at a premium. Electricity supply has been disrupted over the past few years at both the Ghanaian as well as the South African operations, which resulted in production disruptions. The cement industry is an energy intensive sector and is therefore expected to become liable to carbon tax payments in South Africa. Assuming that half the carbon tax paid by the cement company will be passed through to customers, this will increase Gold Fields' operational costs. Gold Fields makes use of cement for underground construction, as well as for stabilizer for back fill support.							their suppliers also to disclose their risks and opportunities related to climate change.	
Other: Unknown risks	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.	Current	**Direct** and Indirect	Unknown	Unknown	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. However it is expected that unknown risks will cause a loss in revenue for Gold Fields, at an unknown scale.	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. In 2013, Gold Fields developed a "Group Energy and Carbon Management Guideline." A requirement of this guideline is for each of the regions to conduct energy, carbon, and climate change related risk and opportunity assessments. These assessments form part of the development of regional "Integrated Energy and Carbon Management Strategies" (IECMS) and "Integrated Energy and Carbon Plans" (IECMP). The risks and	The cost of development of the 'Group Energy and Carbon Strategy' was approximately $1 Million (2012). Development and external review of new energy reduction targets at the South American and Ghanaian operations in 2013 cost approximately $210,000. The Regional Strategies and Management plans approximately are still under development.

Risks & Opportunities

Risk Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								opportunities are assessed by the "Energy and Carbon Managers" and then submitted to 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.	
Reputation	The vision of Gold Fields is *"to be the global leader in sustainable gold mining."* Achieving shared value with its surrounding communities, society and host Governments is of utmost importance to Gold Fields as they aim to achieve their values and vision and manage their impacts and stakeholder perceptions. Its good reputation, achieved through sustainable business practices, is believed to give Gold Fields its "social license to operate." This allows Gold Fields to: • Continue with its current operations (and avoid stoppages) supported by local communities and employees as well as both local and national government. • Obtain new mining licenses. A new mining license will be awarded to a mining company if it is believed that they are benefiting a country on a national and local level. A mining company with a good reputation is believed to have an increased chance of obtaining a new mining license. Gold Fields also realises that performance relating to environmental and carbon emissions is of increasing importance to investors and stakeholders. If the management of carbon emissions and environmental issues is not adequately addressed, it could pose a significant risk to the reputation of Gold Fields and its "social license to operate."	Other: the potential impact is that Gold Fields may lose its social license to operate	Current	Direct	Unlikely	High	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 US$ 0.27 Million at the Peru operation to US$ 1.15 Million at the Australian operations per shift missed. This risk, should it occur, will cause a loss in revenue for Gold Fields.	The first and most important way in which Gold Fields is managing this risk is through responsible, transparent and sustainable management of its operations. 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; • Implemented an advanced emission and water reporting system; • Is in the process of developing regional emission reduction targets. • These emission reduction targets are included in the performance reviews for the Energy and Carbon Mangers and the Sustainable Development heads of regions. • Is in the process of developing regional IECMS and IECMPs. Additionally, Gold Fields' reputation is protected and managed through its legal and environmental due diligence process which takes place once every three years. Secondly, Gold Fields climate change management performance also needs to be communicated to relevant stakeholders. Gold Fields is guided in its stakeholder engagement approach by the internationally adopted AA 1000 Stakeholder Engagement Standard as well	Keeping the internal emission reporting system up to date is estimated to amount to an annual internal cost of approximately US$ 20,000. Extracting, verifying and reporting on carbon emission performance is about US$ 100,000/yr. Development and external review of new energy reduction targets at the South American and Ghanaian operations in 2013 cost approximately $210,000. The development of the Guideline and the Community relations handbook are estimated to have cost US$20,000.

Risks & Opportunities

Risk Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								as its Community Policy, Community Relations and Stakeholder Engagement Guideline and its Community Relations Handbook, which specifically refers to climate change. These management methods would potentially decrease the magnitude of the risk over the next year.	
Other: local communities and workforce impacted by climate change	Gold Fields places high importance on the host communities which surround their mining operations. Their aim is to create shared value with host communities to maintain a social license to operate. Gold Fields feels that resilient communities are better equipped to manage climate change related impacts. Gold Fields view is supported by a recent study of 19 mining companies conducted over 15 years. The study found that investors placed a value of two to three times more on companies' community relations than they did on Net Present Value (NPV) of gold reserves. Climate change has the potential to impact local communities and Gold Fields' workforce in several ways; - A shortage in water and / or food availability can potentially disrupt Gold Fields' operations because the workforce is impacted; - Impact local agricultural productivity; - Increase the occurrence of diseases such as malaria. An increase in temperature due to climate change may affect 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	Reduction / disruption in production capacity	Unknown	Indirect	About as likely as not	High	As a proxy for the financial impact of this risk, the Ghanaian operations strike in 2013 is used; this resulted in a loss of 21,700 ounces. At an average gold price of US$ 1,386/ounce and average group wide all in costs of US$1,312/ounce (during 2013), the financial implication is estimated at US$ 1.6 Million loss in revenue. Malaria treatment in Ghana costs approximately US$ 150 per person.	Gold Fields has community-focused development initiatives which are aimed at creating sustainable value. The initiatives implemented are funded by socio-economic development spending, and aim to create value for Gold Fields and surrounding communities. Initiatives range from skills development to educational and health investments. Gold Fields has a malaria management programme which implements the following actions: • Spraying of mine accommodation and selected homes in neighbouring communities. • Fitting of anti-mosquito screens in mine accommodation. • Provision of mosquito repellent to all night staff workers. • Education of community members. • Rapid laboratory diagnosis and treatment. The shared value initiatives that Gold Fields is focusing on range from water management to empowerment of community based suppliers, as well as education of the future work force. Gold Fields' works to develop strong	In 2013, a total of US$16 million was spent on a range of Socio-economic development projects. The costs of the malaria management program were approximately US$ 100,000 in 2013.

Risks & Opportunities

Risk Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	to increased medical costs and sick leave of its employees. In 2013, there were 708 cases of malaria at the Damang and Tarkwa operations. - Increase in global food prices can lead 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). Social unrest has the potential to disrupt mine production across all operations. In order to secure their social license to operate, Gold Fields has adopted a concept referred to as 'Shared Value.' This concept primarily focuses on implementing mine-level policies and practices that help drive the value of Gold Fields, while creating economic and social value for the surrounding communities. This is implemented by incorporating community issues and expectations into operational strategies.							relationships of trust between its employees and the company by providing good working conditions, salaries and benefits. Furthermore, best practice stakeholder engagement methods are applied to assure communication is open and satisfactory for all parties. Such management methods implemented by Gold Fields would potentially decrease the magnitude of the risk over the next year.	

Risks & Opportunities

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) (CDP 2013 Q6.1, amended)

- ☒ **Opportunities driven by regulation**
- ☐ **Opportunities driven by changes in physical climate parameter**
- ☒ **Opportunities driven by changes in other climate-related developments**

Risks & Opportunities

6.1a Please describe your opportunities driven by changes in regulation

Opportunity Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Drop down	2400 characters	Drop down	Drop down	Drop down	Drop down	Drop down	500 characters	1500 characters	500 characters
Carbon credits	Although the CDM carbon credit price has considerably fallen (from a low €4/CER in May 2012 to about €0.51/CER mid 2013) and majority of Gold Fields' CDM projects went to Sibanye with the unbundling, Gold Fields continues to perceive carbon credits as an opportunity to its business. Projects registered with the most widely used carbon credit standards CDM or VCS can be sold internationally. Credits from projects that have been registered in the past under CDM can be converted to VCS credits which last year obtained a higher price. Furthermore, there exists the potential for other carbon credit opportunities, such as use for offsets in the Australian Carbon Pricing Mechanism (increased uncertainty due to the plans to replace the Carbon Pricing Mechanism with the Direct Action Plan) and South African carbon tax scheme. 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, potentially contribute to a reduction in operational costs. Gold Fields has one registered CDM project; the in-line fans project, which has been implemented (implementation commenced in 2013). The total emission reductions achieved by this project is approximately 12,000 tCO_2/yr. *Note: In regulatory opportunity 'Carbon credits' and regulatory opportunity 'Carbon offsets', the same projects are being mentioned as examples to quantify*	Increase in capital availability	Current	Direct	Very likely	Low - Medium	The Gold Fields in-line fan project is expected to generate approximately 12,000 carbon credits per year. Assuming a VCU price of $4/VCU the total value from carbon credits of this project will be around $48,000 per year. This will therefore increase Gold Fields' revenue.	This opportunity is managed through the development of carbon credit projects (management activity) and strategically communicating the importance of developing emission reduction projects (management method). Gold Fields has currently one registered carbon credit project; the in-line fans project. Previously Gold Fields developed the Beatrix methane flaring project and started development of the KDC West Renewable energy project and Tarkwa bio-energy project under the CDM. The Beatrix methane flaring and KDC West Renewable energy project are now part of Sibanye Gold. Despite the considerable effort invested into the Tarkwa bio-energy project, this project required considerable capital investment which in the current economic framework was not a viable option. Therefore it was decided to enter into a power purchasing agreement with Genser, who will put up a 'clean coal' power plant (Integrated Gasification Combined Cycle) which has the capacity to switch to natural gas, should this become available. Gold Fields is however still committed to renewable energy and maintains the target that new mining developments should on average obtain 20% of its energy requirements from renewable energy.	In 2013, costs related to managing this opportunity are based on the development of the Energy and Carbon Management Guideline which was $10,000. This guideline gives a framework on how renewable energy opportunities, for which carbon credits can be applied for, should be pursued.

Risks & Opportunities

Opportunity Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	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.							Furthermore, the regions are required to assess new opportunities related to the implementation of renewable energy projects as per the Energy and Carbon Management Guideline developed in 2013.	
Other: energy efficiency and certified emission reduction taxes	Within South Africa, sections 12K and 12L of the Income Tax Act present an opportunity to Gold Fields: • 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 has recently been implemented (1 November 2013) and provides a tax benefit of R0.45 / kWh based on energy savings. These regulations provide an opportunity to Gold Fields as 12K has the potential to increase capital availability and 12L has the potential to reduce operational costs.	Increase in capital availability & Reduced operational costs	Current	Direct	Very likely	Low	To demonstrate the potential financial impact of Section 12K, the tax saving of Gold Fields previously owned 'Beatrix Methane Capture and Flaring project' is shown. The emission reduction purchase agreement on this project was originally valued at an NPV of R200 million. Under section 12K a tax of approximately $0.56 Million is saved. Under Section 12L, Gold Fields could obtain a financial incentive of $0.047/kWh of energy saved, for projects eligible under this regulation.	Both these opportunities will be applied for when required, i.e. when energy efficiency projects eligible for 12L and CDM projects are implemented.	This opportunity is managed in-house.
Other: ESCO financing	In South Africa, Energy Supply Companies (ESCO's) provide an alternative option for financing of energy efficiency projects. Previously, the Demand Side Management (DSM) programme run by Eskom provided partial capital funding for energy efficiency and load shift projects. The budget for this programme has been reduced and access to the fund has become increasingly difficult. During the time that the DSM programme was	Reduced capital expenditure required Reduced operational costs	Current	Direct	Very likely	Medium	As an example of the financial implication of ESCO available financing, the total Gold Fields South Africa capital expenditure for energy efficiency projects in 2013 was approximately $0.9 Million.	To manage this opportunity, Gold Fields has communicated with its staff the importance of developing and implementing energy efficiency 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	This opportunity is managed in-house.

Risks & Opportunities

Opportunity Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	operational ESCO's played an important role with regard to the development and implementation of such projects. Recently, ESCO's started playing a different role. ESCO's are still developing and implementing projects, but instead of obtaining (part of) the capital funding from Eskom, they provide funding themselves. This funding is paid back by the obtained energy reductions. This opportunity reduces the need for capital expenditure by Gold Fields, while reducing its operational expenditure once the projects have been paid back.						Would the financing for these projects be provided in full by ESCO's, than this amount of money would be available for Gold Fields to develop other projects. In turn this would have the potential to increase Gold Fields' cost savings.	the score-cards of managers or as part of business as usual activities. The Energy and Carbon Management Guideline, to be used as the framework for developing the regional Integrated Energy and Carbon Management Strategies and Plan, requires the identification and development of energy efficiency projects. The company's mine and 'energy and carbon managers' work together with ESCO's to develop energy efficiency projects.	
Other: generation of carbon offsets	As per the regulatory risk section, a carbon tax of *R120 per ton of* CO_2e with a 60% tax free threshold is expected to be implemented in South Africa from the 1st of January 2016. A maximum of 10% offset ability will be allowed. The tax is expected to be increased annually by 10% until 2019/20. Only companies which emit more than 100,000 tCO_2/yr of direct emissions (this does not include electricity use related emissions), are liable to pay carbon tax. As per the recently released Government Carbon Offsets Paper (April 2014) emission reduction projects developed by companies outside of the tax net, are expected to be liable as offset projects. Another criterion which projects should comply with is to have been registered under either the CDM or VCS Standard. Apart from the risk to Gold Fields' operational (increased electricity costs) costs of the proposed tax, opportunities are foreseen arising in the development and sale of offsets. Offset projects are expected to obtain a price of approximately R100/tCO_2 ($10/$tCO_2$) as this would make it viable for companies liable for carbon tax to purchase these emission reductions as offsets. Gold Fields is not liable to pay carbon tax, falls outside of the carbon tax net, and has a registered CDM project. The allowance of offsets under the carbon tax scheme presents an opportunity to Gold Fields in several ways:	Create additional income	1-5 years	Indirect	More likely than not	Low-Medium	Gold Fields has currently one registered CDM project. Using these credits as offsets would generate additional income for Gold Fields. Assuming that a price of $10/$tCO_2$ can be obtained would create an additional income of $120,000/yr. However, by developing other projects which qualify as offsets, it is expected that significantly more revenue can be generated.	Gold Fields is managing this opportunity in two ways; 1. By engaging with Government about the importance of allowing offsets to be on both direct (scope 1) and indirect – electricity use (scope 2) emissions (see regulatory risk section for a more detailed explanation on the importance of the offset allowance being extended to scope 2 (electricity use related) emissions). 2. Through its commitment to renewable energy and energy efficiency projects which could potentially be used as offset projects. The development of these types of projects is addressed in the Group Energy and Carbon Management Guideline and should be incorporated by each region in its Integrated Energy and Carbon Management Strategy and Plan. These management methods are aimed at allowing Gold Fields to exploit the opportunity of carbon offsets over the next	Engagement with Government is done via the Chamber of Mines, which membership fee was US$224,462 in 2013. The development of the Energy and Carbon Management Guideline was $10,000.

Risks & Opportunities

Opportunity Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	- While the future international carbon price is currently highly uncertain, the fixed value of carbon tax and therefore offsets will reduce the risk of developing emission reduction projects. - 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: • Create additional income when sold to other companies; • Mitigate emissions while generating co-benefits such as job creation and energy independence;							year.	
Other regulatory driver: Direct Action Plan in Australia	As mentioned under the 'regulatory risk' section, the Australian Carbon Pricing mechanism (CPM) was implemented in July 2012. As of May 2014 the CPM is still legislated. However, the recently elected Liberal/National coalition government has committed to repeal the legislation supporting the CPM. A bill to repeal the tax was rejected by Senate in March 2014. However, in July 2014, new senators will be selected who could possibly increase the chance of successfully repealing the CPM. The Liberal/National coalition government has proposed that the Carbon Pricing Mechanism should be replaced with the Direct Action Plan. The Direct Action Plan will provide incentives for polluters to reduce emissions. The Direct Action Plan will include the Emissions Reduction Fund (published in the White Paper, April 2014). The aim of this White Paper is to achieve a "cleaner environment while improving business competitiveness". This fund will request business to submit tenders relating to emission reductions or offsets. The tender process will operate as a reverse auction in which businesses will compete to win the tender contract. Emission reductions can be achieved through a range of projects, such as clean power stations, upgrading vehicles, capturing landfill gas, reforesting marginal lands or improving soil carbon. This is an opportunity for Gold Fields as it might provide the company with funding for its renewable energy, energy efficiency and land rehabilitation projects. More	Reduced capital expenditure	1-5 years	Direct	About as likely as not	Low - Medium	Due to the recent release of the Direct Action Plan Fund White Paper (April, 2014), no quantification of this opportunity has been conducted yet.	This opportunity is managed through investigating and where possible development of renewable energy and energy efficiency projects. Furthermore, engagement with Government, via the Chamber of Minerals and Energy of Western Australia, aims at supporting the implementation of the Direct Action Plan.	This opportunity of developing energy efficiency or renewable energy projects is managed in-house; therefore no specific costs are available. Membership fee to the Chamber of Minerals and Energy of Western Australia was approximately US$ 160,000.

Risks & Opportunities

Opportunity Driver	Description	Potential Impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	specifically, the following types of projects at Gold Fields Australia might benefit from the Direct Action Plan: - Wind based power generation: wind speed monitoring was conducted over the past few years to investigate the potential of such project. - Improving soil carbon as part of its rehabilitation plans. Such a project could achieve the objective of the Direct Action Plan, while reducing the company's mine closure liability through enhanced rehabilitation practices. - Upgrading mining vehicles is again a project that would fit both the Direct Action Plan and Gold Fields' objectives. Gold Fields opportunity is based on obtaining funding for these projects, thereby reducing its capital expenditure. Furthermore, these projects will have beneficial environmental and possible social implications.								

Risks & Opportunities

6.1e Please describe the opportunities that are driven by changes in other climate-related developments

Opportunity Driver	Description	Potential Impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Drop down	2400 characters	Drop down	Drop down	Drop down	Drop down	Drop down	500 characters	1500 characters	500 characters
Reputation	Gold Fields has identified two potential opportunities resulting from increased positive perceptions, created through its corporate carbon and climate change performance, namely: • New and existing investor attractiveness and therefore potential increase in share price and increased access to capital; and • Strengthening its 'social license to operate'. **New Investor Attractiveness** Environmental, social and governance (ESG) indicators are increasingly used by investors to evaluate investment decisions. Gold Fields has been tracking ESG investor interest since 2010 and found that many of its largest investors are ESG investors. A recent study (Northern Trust, Emerging Markets, ESG Investing, 2014) found that: - At least $13.6 Trillion of assets – 22% of the available total – is now invested incorporating ESG principles. - 44% of European institutions include ESG considerations in their investment strategy. - Investors equate good ESG performance with financial success. 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 amongst the best disclosers and the strongest performers in responding to climate change. By being included in the BBG-ETF, Gold Fields has had additional exposure and attractiveness to investors, thereby supporting the stock price. **Strengthening Social License to Operate** Gold Fields' leadership in climate change and sustainable	Increased stock price	Current	Indirect	Certain	Medium	The financial implication of increased investor interest can be illustrated through the Nedbank 'BettaBeta Green Exchange Traded Fund', which by December 2013 bought a total worth of $0.32 Million of Gold Fields shares. The lawsuit by members of the indigenous community at Barrick Gold's Pascua-Lama project resulted in a drop in the share price of 8.3% in one day. The class action lawsuit filed by the purchasers of Barrick Gold's common stock was for a total of $US 6 billion.	Gold Fields manages its reputation and relationships with local communities through its 'Shared Value' concept through which it pursues mine-level business strategies that not only enhance the value of Gold Fields, but also generates positive social impacts. Gold Fields is currently undertaking three Shared Value pilot projects across the Group, which will help define how to apply this concept in future. These include, for example, multilateral water management projects in Cerro Corona and the promotion of maths and science teaching among South Deep's host communities. Apart from its overall reputation and relationships, Gold Fields' believes it will maintain its reputation as a leader in carbon performance, through strategic interventions, 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	The cost of development of the 'Group Energy and Carbon Strategy' was approximately $1 Million (2012). The Regional Strategies and Management plans are still under development. Gold Fields' contribution to the development and implementation of energy efficiency projects, to assure progress on its emission reduction targets, in 2013 was $9.7 Million. Communication and reporting are managed in-house and are part of the company's fixed expenditure.

Risks & Opportunities

Opportunity Driver	Description	Potential Impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	gold mining gives it a competitive advantage over peers. A good reputation, based on sustainable operations, strong relationships of trust with local communities and the regulator can increase Gold Fields' chances when applying for new mining or exploration permits. Furthermore, it reduces the risk of disrupted operations through either employee strikes or through complaints by local communities. The impact of losing its social license to operate can be illustrated through Barrick Gold's Pascua-Lama gold/silver project. A lawsuit by members of the indigenous community halted construction until water management issues were addressed. Furthermore, the company was fined for environmental violations and purchasers of Barrick Gold's common stock filed a class action lawsuit related to the company's development of the mine.							energy and carbon management strategy. In 2013, it was decided to develop regional integrated energy and carbon management strategies and plans. Gold Fields effort to maintain its carbon and climate change leadership position has resulted in the following recognition in 2013: • A+ performance in the Global Reporting Initiative; • Joint 1st place in the Carbon Disclosure Leadership Index and a score of A- in the Carbon Performance Leadership Index; • In the Top 5 in the Dow Jones Sustainability Index;	
Changing consumer behaviour	As reported over the last few 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	1-5 years	Indirect	About as likely as not	Unknown	The financial implication of this opportunity lies in a positive influence on the price of gold. An increase in gold price directly influences Gold Fields profits. An increase of 1% on the gold price in 2013 (based on the amount of gold mined and all in costs in 2013) would increase Gold Fields income by $28 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.	As this opportunity is not actively managed, no expenses are made.

Risks & Opportunities

Opportunity Driver	Description	Potential Impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other: new market opportunities	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. Such a demand for uranium is expected to increase the financial viability of tailings reprocessing, or a tailings treatment project and is therefore seen as an opportunity for Gold Fields. A high level estimate, based on an average of 60 grams of uranium per ton of tailing and a total of 53 million tons of tailing contained in tailing dams at South Deep, gives a total of 3,000 tons of uranium. 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, additional studies were completed and the project found to be potentially viable from a financial perspective. After the unbundling of Sibanye Gold in 2012, the project was put on hold while Gold Fields and Sibanye discussed the terms and conditions of entering into a Joint Venture to continue together with the project. The Joint Venture was agreed on in 2013 and both companies are reviewing internally the options to, in cooperation, pursue this project.	New products/business services	1-5 years	Direct	More likely than not	Medium	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 of 3000 tons could be extracted and sold at a price of US$75 per kg, this would create an additional income stream of approximately US$225 Million.	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 Gold, Gold One and Gold Fields entered into a Joint Venture to pursue this project.	The cost of the detailed feasibility study performed in 2010 was $6 Million. Environmental authorization applications were managed by an external council, but are difficult to quantify, as it forms part of a larger budget.
Other: new market opportunities	The development of clean energy technologies, driven by the need to reduce climate change impact, could possibly open up a new market for gold. Research into the potential of gold utilization in new low carbon technologies is being conducted and gold seems to have several applications. Currently, gold is believed to be a critical element for use in the following highly efficient technologies; - Fuel cells - Catalytic converters - Solar cells (stretchable solar panels that can be integrated into clothing); - Lithium air batteries.	Increased demand for existing product	6-10 years	Indirect	About as likely as not	Medium	An increase of 1% on the group average gold price in 2013 and assuming the amount of gold mined in 2013 would increase Gold Fields income by $28 Million.	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.	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 $1.2 Million in 2013.

Risks & Opportunities

Opportunity Driver	Description	Potential Impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	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 laboratory conditions. This catalyst was tested in a field trial in 2013. These products, if commercialized successfully, have the potential to increase gold demand which in turn will increase the gold price. Any increase in the price of gold will directly impact on Gold Fields financial performance.								

Risks & Opportunities

CC6.1e: Please explain why you do not consider your company to be exposed to opportunities driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

Please respond to this question in the text box provided in the ORS using no more than 2,400 characters. If no opportunities have been identified, you should state this unambiguously and explain why this is the case.
If opportunities have been identified, you should explain why the opportunities are not considered to have the potential to generate a substantive change in your business operations, revenue or expenditure. Possible reasons might be because the potential market or cost savings or advantage over competitors is considered small, or is likely to occur very far into the future.
While information that relates to your company's sector in general is useful, information specific to your company is preferred. If your company is completely typical of its sector in relation to this category of opportunities and therefore it is not possible to give company-specific information, this should be clearly stated.
If you consider that you do face opportunities with the potential to generate substantive changes in your business operations, revenue or expenditure but have taken action to manage them, then you should tick the box in question CC6.1 and answer the subsequent questions on those opportunities rather than this question.

Over the past 2 years Gold Fields has reported the opportunity that its Liquid Gold project in South Africa offers in the face of changing physical climate parameters. As water becomes scarcer as a result of climate change Gold Fields believed that this project will produce potable water to secure its own water supply and generate an additional income from water sold to the local municipality.

Climate change has been recognized to increase precipitation extremes and droughts thereby impacting water access reliability. This physical impact remains a risk even when a company works to mitigate this risk by securing its own water supply. The most difficult impact to manage due to climate change is the high level of uncertainty with regard to predicting changes. For this reason, Gold Fields saw the liquid gold project as a way of managing this risk as far as possible, but the risk of water supply disruption due to climate change remains due to the high uncertainty associated with climate change.

For several reasons, Gold Fields no longer sees this project as an opportunity that has a substantive impact on its business operations, revenue or expenditure:

- The Liquid Gold project was originally initiated to improve water management practices at Gold Fields' South African operations South Deep, Kloof and Driefontein. With the unbundling of Kloof, Driefontein and Beatrix, the only Gold Fields operation remaining as part of the Liquid Gold project is South Deep. The scope of the Liquid Gold project was therefore revised to meet South Deeps specific water related needs and challenges.
- The feasibility study of the Liquid Gold project (at South Deep) was finalised in 2013 and one important change to the project design was made. The project no longer aims at selling potable water, but rather to reuse the water at its own facilities and to focus on the management of storm water. The two Reverse Osmosis plants which treat process water to a potable standard have been commissioned and reduce water costs by approximately 7%. This design change results in the project impacting the business operation less than originally expected.

Risks & Opportunities

The following physical changes were also considered for other potential opportunities:
- Average temperature increases;
- Changing rainfall patterns;

No benefit could be found due to these physical, climate change driven changes.

Emissions

7. Emissions Methodology

Base Year

7.1 Please provide your base year and base year emissions (Scope 1 and 2)

Base Year	Scope 1 Base year emissions (metric tonnes CO2e)	Scope 2 Base year emissions (metric tonnes CO2e)
2007	**359,875**	**672,744**

Comment: restated in 2013 due to divestment of Sibanye Gold operations. The 'Yilgarn South Assets' (which were purchased from Barrick Gold in October 2013) are not included.

Methodology

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

- ISO 146064-1
- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised edition)

If you have selected "Other":

7.2a **If you have selected "Other" in 7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions (CDP 2013 Q7.2a, amended)**

Not applicable

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

The global warming potential used for carbon dioxide has a value of 1 as per the IPCC guidelines.

7.4 Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page (CDP 2013 Q7.4, amended)

Fuel/Material/Energy	Emissions Factor	Unit	Reference

Emission factors to be submitted as excel spreadsheet

Emissions

8. Emissions Data

Boundary

8.1 Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory (CDP 2012 Q8.1, amended)

Select from

- *Financial control*
- ***Operational control***
- *Equity share*
- *Other*

Scope 1 and 2 Emission Data

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

420,296

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

814,968

8.4 Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in you disclosure? (CDP 2013 Q5.1, amended)

No

If yes: **8.4a Please provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure (CDP 2013 Q8.4a, amended)**

Not applicable

Emissions

Data Accuracy

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%. **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%.	Less than or equal to 2%	Metering / measurement constraints	Based on a review of the reliability of electricity meters, it was found that high quality meters (as used at Gold Fields) are typically below a 2% uncertainty range.

Emissions

External Verification or Assurance

8.6 Please indicate the verification/assurance status that applies to your reported Scope 1 emissions (CDP 2013 Q8.6, amended)

Complete

If Scope 1 emissions have been subject to third party verification or assurance (complete or underway):

8.6a Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements (CDP 2013 Q8.6a and 8.6b, amended and combined)

Type of verification or assurance	Attach the document	Page/Section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Reasonable assurance	Attached	Dedicated verification statement	ISAE 3000	More than 90% but less than or equal to 100%

If "No third party verification or assurance – regulatory CEMS required" selected:

Q8.6b Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emissions Monitoring Systems (CEMS) (CDP 2013 was Q8.6c, no change)

Not applicable

8.7 Please indicate the verification/assurance status that applies to your reported Scope 2 emissions (CDP 2013 Q8.7, amended)

Complete

If Scope 2 emissions have been subject to third party verification or assurance (complete or underway):

8.7a Please provide further details of the verification/assurance undertaken for your Scope 2 emissions, and attach the relevant statements (CDP 2013 Q8.7a and Q8.7b, amended and combined)

Emissions

Type of verification or assurance	Attach the document	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Reasonable assurance	Attached	Dedicated verification statement	ISAE 3000	More than 90% but less than or equal to 100%

8.8 Please identify if any data points other than emissions figures have been verified as part of the third party verification work undertaken (New for CDP 2014)

Additional data points verified	Comment
Select from: • Year on year change in emissions (Scope 1) • Year on year change in emissions (Scope 2) • Year on year change in emissions (Scope 1 and 2) • Year on year change in emissions (Scope 3) • Year on year emissions intensity figure • Progress against emission reduction target • Change in Scope 1 emissions against a base year (not target related) • Change in Scope 2 emissions against a base year (not target related) • Change in Scope 3 emissions against a base year (not target related) • Product footprint verification • Emissions reduction activities • **No additional data verified** • Don't know • Other, please specify	

Disclosure Score: Disclosure points are awarded for this question. Points are awarded for completing column 1. Performance Score: There are no performance points for this question.

Carbon Dioxide Emissions from Biologically Sequestered Carbon

8.9 Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization? (CDP 2013 was Q8.8, no change)

No

If yes: **8.9a Please provide the emissions from biologically sequestered carbon relevant to your organisation in metric tonnes CO2e (CDP 2013 Q8.8a, amended)**

Not applicable

Emissions

9. Scope 1 Emissions Breakdown

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

Yes

If yes: **9.1a Please break down your total gross global Scope 1 emissions by country/region (CDP 2013 Q9.1a, amended)**

Country/Region	Scope 1 metric tonnes CO2e
South Africa	11,708
West Africa	283,040
Australia	89,307
South America	36,241

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

☒ **By business division (9.2a)**

☒ **By facility (9.2b)**

☒ **By GHG type (9.2c)**

☒ **By activity (9.2d)**

☐ **By legal structure (9.2e) (New for CDP 2013)**

A facility is defined as '*all buildings, equipment, structures and other stationary items which are located on a single site or on contiguous or adjacent sites and which are operated by the same person or entity*'. **As none of the main regional offices are situated nearby to the operations, they are reported on separately.**

9.2a Please break down your total global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)
Head Offices	214
Ghana	282,871
Peru	36,196
South Africa	11,708
Australia	89,307

9.2b Please break down your total global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)
South Deep	11,708
Sandton Main	-
Tarkwa	211,257
Damang	71,613
Accra Main	170

Emissions

St Ives	73,859
Agnew	15,448
Perth Main	-
Cerro Corona	36,196
Lima Main	45

9.2c Please break down your total global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
CO_2	420,296

9.2d Please break down your total global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)
Head Offices	214
Mining Facilities	420,082

9.2e Please break down your total global Scope 1 emissions by legal structure

Legal structure	Scope 1 emissions (metric tonnes CO2e)

Emissions

10. Scope 2 Emissions Breakdown

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

Yes

If yes: **10.1a Please break down your total gross global Scope 2 emissions and energy consumption by country/region (CDP 2013 was Q10.1a, amended)**

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 accounted for in Q8.3(MWh)
South Africa	548,043	550,244	
West Africa	98,914	449,608	
Australia	133,845	232,636	
South America	34,166	148,290	

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

- ☒ **By business division (10.2a)**
- ☒ **By facility (10.2b)**
- ☒ **By activity (10.2c)**
- ☐ **By legal structure (10.2d) (new for CDP 2013)**

10.2a Please break down your total global Scope 2 emissions by business division

Business division	Scope 2 emissions (metric tonnes CO2e)
Head Offices	570
Ghana	98,887
Peru	34,149
South Africa	547,589
Australia	133,773

10.2b Please break down your total global Scope 2 emissions by facility

Facility	Scope 2 emissions (metric tonnes CO2e)
South Deep	547,589
Tarkwa	73,477
Damang	25,410
St Ives	101,320
Agnew	32,453
Cerro Corona	34,149
Sandton Main	454

Accra Main	27
Perth Main	72
Lima Main	17

10.2c Please break down your total global Scope 2 emissions by activity

Activity	Scope 2 emissions (metric tonnes CO2e)
Head Offices	570
Mining Facilities	814,398

10.2d Please break down your total global Scope 2 emissions by legal structure

Legal structure	Scope 2 emissions (metric tonnes CO2e)

11. Energy

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

18%: Dropdown option of 'More than 15% but less than or equal to 20%'

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

Energy Type	MWh
Fuel	1,571,686
Electricity	1,380,778
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	1,531,282
Petrol	1,887
LPG	17,769
Oxyacetylene	20,748

11.4 Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the Scope 2 figure reported in Q8.3 (CDP 2013 Q11.4, amended)

Emissions

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 accounted with a low carbon emissions factor Non-grid connected low carbon heat, steam or cooling, generation owned by company Non-grid connected low carbon electricity generation owned by company, no instruments created Non-grid connected low carbon electricity not owned by company, no instruments created Grid connected low carbon electricity generation owned by company, no instruments created Grid connected low carbon electricity generation owned by company, instruments created and retired by company Tracking instruments, Guarantees of Origin Tracking instruments, RECS (USA) Power Purchase Agreements (PPA) not backed by instruments Supplier specific, backed by instruments Supplier specific, not backed by instruments Other		

Disclosure Score: Column 1 "Basis for applying a low carbon emission factor" completed. If "no purchases or generation of low carbon electricity, heat, steam or cooling" is filled in, this is sufficient for full points. If any other selection from column 1 is made, column 2 "MWh associated with low carbon electricity, heat, steam or cooling" must also be completed (non-zero numerical figure provided). Performance Score: There are no performance points awarded for this question

Emissions

12. Emissions Performance

Emissions History

12.1 How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year? (CDP 2013 Q12.1, amended)

Increased

If emissions have increased, decreased or remained the same overall:

12.1a Please identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year (CDP 2013 Q12.1a, amended)

Reason	Emissions value (percentage)	Direction of change	Comment
Emissions reduction activities	3%	Decrease	Due to the implementation of emission reduction activities, 3% of the overall emissions were reduced.
Divestment	/	/	Though Gold Fields divested its KDC (East and West) and Beatrix operations, no change in emission values due to divestments is reported as the previous year was restated. This was done in accordance with the Greenhouse Gas Protocol guidance on restatement in the case of a structural change to the company, such as a divestment.
Acquisitions	/	/	The Yilgarn assets were acquired in October 2013 and will be accounted for in 2014 as integration into Gold Fields operations (including the reporting systems) takes several months.
Mergers	/	/	/
Change in output	0.27%	Decrease	A reduction in output due to a strike at the Ghanaian operations, reduced energy usage and therefore emissions. The strike results in the plant operating at 70% and not full capacity, in order to keep the mine ready for operation. The change in output has been corrected for this.
Change in methodology	/	/	/
Change in boundary	/	/	/

Emissions

Change in physical operating conditions	3.32%	Increase	The most important changes in physical operating conditions which increased energy demand were at the Ghanaian operations and St Ives. At the Ghanaian operations stripping ratio's increased. At St Ives, a start was made with the stripping of a new pit (Neptune) which increased waste mined and energy demand.
Unidentified	/	/	/
Other	/	/	/

Emissions Intensity

12.2 Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue (CDP 2013 Q12.2, amended)

Intensity Figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.0004483699	Metric tonnes CO2e	Unit total revenue	28.3	Increase	Gold Fields' revenue decreased in 2013 compared to 2012 (restated). Even though emission reductions activities were implemented, the absolute scope 1 and 2 emissions increased slightly due to a change in the physical operating conditions. Due to the decrease in revenue, this intensity figure increased by 21.3%.

12.3 Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per full time equivalent (FTE) employee (CDP 2013 Q12.3, amended)

Intensity	Metric	Metric	% change	Direction of	Reason for change

Emissions

Figure	numerator	denominator	from previous year	change from previous year	
134.06	Metric tonnes CO2e	FTE Employee	5.2	Increase	The number of employees decreased from 2012 (restated) to 2013. Even though emission reductions activities were implemented, the absolute scope 1 and 2 emissions increased slightly due to a change in the physical operating conditions.

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
0.4753	Metric tonnes CO2e	Ounce of gold mined	20.97	Increased	Ounces of gold mined decreased slightly. While the intensity per ounce of gold mined increased due to an increase in waste stripping and haulage distances. The intensity figure was corrected for the ore grade mined.

Emissions

13. Emissions Trading

13.1 Do you participate in any emissions trading schemes?

No, we don't participate nor do we currently anticipate participating in any emissions trading scheme within the next two years.

If yes: **13.1a Please complete the following table for each of the emission trading schemes in which you participate**

Not applicable

Gold Fields operations are not geographically located in areas subject to emissions trading schemes.

And if "yes" or "we don't currently, but we anticipate doing so within the next 2 years":
13.1b What is your strategy for complying with the schemes in which you participate or anticipate participating?

Not applicable

13.2 Has your organisation originated any project-based carbon credits or purchased any within the reporting period? (CDP 2013 Q13.2, amended)

No

If yes: **13.2a Please provide details on the project-based carbon credits originated or purchased by your organisation in the reporting period (CDP 2013 Q13.2a, amended)**

Not applicable

Emissions

14. Scope 3 Emissions

14.1 Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions (CDP 2012 Q15.1, amended)

Guidance

Every row (15 categories) should be answered, apart from 'other'. Only get disclosure points for 'relevant-calculated', 'not relevant-calculated' or 'not relevant – explanation given'. If select 'not relevant-calculated' (which implies 0), it should have been verified. Then, a metric tonnes CO2e should also be provided as well as a description of the methodology. No performance points for this question.

Under 'Methodology', the following should be reported:

(i) A description of the types and sources of data used to calculate emissions (e.g. activity data, emission factors and GWP)

(ii) A description of the methodologies, assumptions and allocation methods used to calculate emissions

Please use no more than 2400 characters to complete this response.

Primary data is that gained directly from suppliers or other partners in the value chain. This data may take the form of primary activity data, or emissions data calculated by suppliers that are specific to suppliers' activities. Only the activity data or emissions factor in a calculation method needs to be primary data for the calculated emissions to be considered primary data. However, a quantity of goods used or purchased is not considered primary activity data.

The primary data definition is unclear (We have discussed it thoroughly, will be discussed in the next business process meeting. Karolina will draft an email to send to the CDP querying the purpose of this definition and will request examples.

Percentage of emissions calculated using primary data is not scored, it is viewed as an optional column.

Emissions

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**	**257,465**	(i.)	Gold Fields has the following purchased goods and services (major items): Lime, Cement, Caustic Soda, Purchased Water and Cyanide. This data is collated from invoices and receipts as activity data from the relevant supplier. The collated data is then uploaded onto the GRI portal (a non-financial data capture and management system). The emission factors for Blasting Agents and Caustic Soda are obtained from the C Calc (Carbon Calculations over the Life Cycle of Industrial Activities Organisation) carbon foot printing tool. The emission factors for Lime and Cement were obtained from the Inventory of Carbon and Energy document (University of Bath, 2008). The cyanide emission factor was obtained from an unregistered CDM project, titled: “Increase in hydrogen	0%	Question 14.1 was answered in accordance with the GHG Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard. The data used in this category was classified as secondary data due to the fact that industry average material consumed from life cycle inventory databases emission factors were used.

			cyanide production by the Andrussow process instead of by the Acrylonitrile sub route process in Candeias, Brazil". Lastly the emission factor for purchased water was obtained from the Rand Water Board of South Africa (2012). (ii.) 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 activity data (obtained from the GRI portal) was multiplied with emission factors. Data quality is influenced by two factors; the quality of the consumption data reported on in the GRI Portal, 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. 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. For example the water purchased by the operation South Deep is allocated a specific emission factor as obtained from the Rand Water Board in South Africa.		
Capital goods	**Not relevant, explanation provided.**	N.A.	N.A.	N.A	It was decided during 2013 to limit inclusion of capital goods to capital goods purchased during the start-up of a new mine, until it reaches stable production output. The reason for this is that, 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**	**214,089**	(i.)	Gold Fields has the following life cycle emissions associated with Fuel-and-energy related activities (not reported in scope 1 or 2): Diesel, Petrol, contractor fuel, LPG, Blasting Agents, and Oxyacetylene. In addition to this life cycle emissions of transmission and distribution losses were also included. This consumption data is recorded by the Gold Fields operations and uploaded onto the GRI portal. The transmission and distribution losses data is a percentage of the electricity use and is obtained from Eskom for the South African operation, South Deep. The emission factor for the transmission and distribution losses for the South African operation, was	0%	The data used was classified as secondary data due to the fact that a National average Transmission and Distribution loss rate was used.

				obtained directly from the Eskom 2013 Annual Report. 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. The emission factors for Diesel, Petrol, LPG and Blasting Agents were obtained from the DEFRA Emission Factors for 2012. While the emission factor for Oxyacetylene was obtained from the Engineering Toolbox. (ii.) 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**	**8,678**	(i.)	In this category Gold Fields includes the transportation of the goods and services, as well as fuel and energy related products as described in categories 3.1	**0%**	The data was classified as secondary data due to the fact that an industry average emission factor was used in the calculation.

			and 3.3. The tonnes of goods transported from the supplier are collated from receipts and invoices provided by the supplier. This data is then uploaded onto the GRI portal. 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. The road freight emission factor used for this category is obtained from the DEFRA Emission Factors for 2012. The DEFRA emission factors were used as an international representative for the four geographic regions in which Gold Fields operates. (ii.) 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. The assumed average transportation distances were internally reviewed and are expected to be a fair representation		

			of the actual emissions.		
Waste generated in operations	**Relevant, Calculated**	**474**	(i.) The landfilled waste generated in each of the Gold Fields operations was recorded. The consumption data was then uploaded onto 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). A generic emission factor for waste was used, and obtained from an internationally recognized organisation, namely the USA Environmental Protection Agency and is expected to be reliable and applicable as an international average for Gold Field's operations. (ii.) 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	**100%**	The data used was classified as primary data. The primary data used included company-specific metric tons of waste generated.

				applied, as waste data (obtained from the GRI portal) was multiplied with the applicable emission factor.		
Business travel	**Relevant, Calculated**	**5,346**	(i.)	The business travel category for Gold Fields includes air travel and car hire emissions. The primary activity data for air travel and car hire is obtained from the travel agents that Gold Fields' makes use of. Employee business travel using privately owned cars and distances travelled is obtained from the internal SAP system. Gold Fields engages with the travel agent, regarding the template in which the flight and car rental data must be added. The activity data is then uploaded onto 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 for air travel, were used according to km travelled, classifying each flight as either domestic (785 km), short-haul	**100%**	The data used was classified as primary data as it included activity-specific data from transportation suppliers.

				(<3700 km) or long-haul (>3700 km) was obtained from the DEFRA Emission Factors for 2012. The emission factor used for car hire is linked to the fuel use, and uses the scope 1 petrol emission factor obtained from the DEFRA Emission Factors for 2012. (ii.) 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**	**4,523**	(i.)	Gold Fields employee commuting covers the transportation of employees between their homes and worksites during the reporting year (in vehicles not owned or operated by Gold Fields, excluding contractors). The total number of employees is captured by the internal SAP system. The emission factors associated with employee commuting are linked to the fuel use, and uses the scope	**0%**	The data used was classified as 100% secondary data, due to the fact that the data used included an estimated distance travelled based on industry-average data.

			1 petrol and diesel emission factors obtained from the DEFRA Emission Factors for 2012. The total km travelled were multiplied by the petrol or diesel emission factor. An average petrol consumption is assumed for employee commuting, of 11km/litre; and average diesel consumption of 14km/litre. (ii.) 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 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 by an independent third party (please refer to attached verification statement for procedures performed). 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.		
Upstream leased assets	**Not relevant, explanation provided**	**N.A.**	**N.A.**	**N.A.**	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, explanation provided**	**N.A.**	**N.A.**	**N.A.**	Investments in which Gold Fields' has a minority share are not included in the carbon footprint as Gold Fields does not have an influence on the

						operational aspects of these companies and therefore its emissions.
Downstream transportation and distribution	**Relevant, Calculated**	**4,609**	(i.)	Downstream transportation and distribution for Gold Fields covers the emissions related to the transportation of produced gold to the refineries. The activity data for the South African operation South Deep was recorded in time (hours) taken for transportation. The activity data for the South American, West African and Australian operations was recorded by each operation in amount of tonnes transported and the distance travelled for the transportation. This activity data was then uploaded onto 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 South African operation transport and distribution is completed using aviation. The emission factor for	**100%**	The data used was classified as primary data due to the fact that activity-specific distance travelled was obtained per operation.

				aviation turbine fuel is obtained from the DEFRA Emission Factors for 2012. The average aviation fuel efficiency was obtained from Universal Helicopters. The emission factors for domestic and international flights for the international operations are obtained from the DEFRA Emission Factors for 2012. (ii.) 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.		
Processing of sold products	**Relevant, Calculated**	**296**	(i.)	Processing of sold products for Gold Fields covers the emissions associated with the refining and smelting of gold produced. The gold production in ounces is reported per operation as primary data and uploaded onto the GRI portal. The data reported on in the GRI Portal is subject to strict internal review procedures and forms part of an annual	**0%**	The data used was classified as 100% secondary data. This was due to the fact that the secondary data used included an estimated energy use based on industry-average data.

			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 amount of energy required to refine and smelt a tonne of gold was obtained from literature (National Resources Canada: www.nrcan.gc.ca, 2013) after which the emission factor (tCO_2/tonne of gold) for each country was calculated based on the relevant national grid emission factor. (ii.) 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. 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).		
Use of sold products	**Not relevant, explanation provided**	**N.A.**	**N.A.**		**N.A.**	The emissions associated with the use of sold gold products are estimated to be insignificant.
End of life treatment of sold products	**Relevant, Calculated**	**592**	(i.)	End of life treatment of sold products for Gold Fields relates to the gold produced, which is assumed to be recycled twice. 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. This emission factor is calculated by Gold Fields using the relevant national grid emission factor and multiplying this by the energy required to refine and smelt gold (National Resources Canada). The amount of gold produced primary data was obtained from the GRI portal. The amount of gold produced by Gold Fields in 2013 is expected to be highly reliable due to the importance of this data. However, assumptions had to be	**0%**	The data used was classified as 100% secondary data. This was due to the fact that the data used included estimated disposal rates and estimated emissions use based on international average statistics.

			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). (ii.) 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**	**N.A.**	**N.A.**	**N.A.**	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**	**N.A.**	**N.A.**	**N.A.**	Gold Fields' does not have any franchises; this category is therefore not applicable to the company.

Emissions

Other (upstream)		**0**			
Other (downstream)		**0**			

Emissions

14.2 Please indicate the verification/assurance status that applies to your reported Scope 3 emissions (CDP 2013 Q14.2, amended)

Please respond to this question by selecting one of the options from the list below, which will available as a drop down menu in the ORS.

- *No emissions data provided*
- *Not verified or assured*
- *Verification or assurance underway but not yet complete- first year it has taken place*
- *Verification or assurance underway but not yet complete- last year's certificate attached*
- ***Verification or assurance complete***

If Scope 3 emissions have been verified or assured (complete or underway):
14.2a Please provide further details of the verification/assurance undertaken, and attach the relevant statements (CDP 2013 Q14.2a and 14.2b, amended and combined)

Type of verification or assurance	Attach the document	Page/Section reference	Relevant standard	Proportion of reported Scope 3 emissions verified (%)
Reasonable Assurance	Attached	Dedicated verification statement	ISAE 3000	More than 90% but less than 100%

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

Emissions

If yes: **14.3a Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year (CDP 2013 Q14.3a, amended)**

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Purchased Goods and Services	Other: Purchased Goods and Services decreased due to business stream lining and optimization.	-25%	**Decrease**	
Fuel and Energy related Activities	Emission reduction activities	-17%	**Decrease**	Primarily due to reduction in fuels purchased on a group level due to emission reduction activities as well as business stream lining and optimization. Though there was an increase in electricity use, Transmission and Distribution losses are only included for South Africa, as no other reliable emission factors for T&D are available. Therefore this increase in Transmission and Distribution losses (which should have increased due to increased electricity use) was not fully accounted for in this category.
Upstream transportation and	Other: Purchased Goods and	-16%	**Decrease**	

distribution	Services decreased due to business stream lining and optimization, therefore transportation and distribution of these goods and services reduced and the associated emissions reduced.			
Waste generated	**Change in boundary**: last year the Australian operations did not report on their waste generated, while this year their waste and associated emissions were included.	22%	**Increase**	
Business travel	**Other:** Reduced amount of employees, as well as companywide cost savings contributed to a decrease in business travel and emissions associated with this category.	-20%	**Decrease**	
Employee commuting	**Other:** Reduction in employees (after restatement of 2012 amount of employees)	-28%	**Decrease**	
Downstream transportation and distribution	**Unidentified**	0.09%	**Increase**	**Negligible change**

Emissions

Processing of sold products	**Unidentified**	-0.47%	**Decrease**	**Negligible change**
End of life treatment of sold products	**Unidentified**	-0.47%	**Decrease**	**Negligible change**

Emissions

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) (New for CDP 2013)

☒ **Yes, our suppliers**
☐ **Yes, our customers**
☐ **Yes, other partners in the value chain**
☐ **No, we do not engage**

If, 'yes, our suppliers', 'yes, our customers', or 'yes, other partners in the value chain' is ticked:

14.4a Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

As reported last year, Gold Fields South Africa implemented a supplier carbon disclosure system on its supplier portal. On the portal, suppliers are asked whether they measure and report on their carbon emissions. If they report that they do, they are requested to submit this information to Gold Fields. If they don't, they are asked to complete a carbon calculating tool provided to them.

Due to the unbundling of Sibanye, the group wide restructuring and the operational changes that came with it, additional activities, such as monitoring responses on the portal, explaining the importance of reporting on carbon on 'supplier information function days' and follow ups were not managed actively. Therefore, relatively little information was obtained and no information has been processed and analysed up to now. Gold Fields aims to more actively develop and formalize its supplier engagement process, including a strategy for prioritization, this year.

As described above, a formalized type of supplier engagement on carbon exists at the moment at South Deep. Gold Fields aims at rolling out this engagement method to the other regions. Therefore, Gold Fields is planning to develop a 'Guideline for supply chain climate risk management' which can be used by all the regions.

In the long term, Gold Fields would like to ask their suppliers also to disclose their risks and opportunities related to climate change. It is however only once suppliers have insight into their company and product carbon footprints that their risks can be actively managed. Therefore, to start off with, Gold Fields will ask suppliers to report on their carbon footprint.

Two additional examples of Gold Fields' engagement with suppliers on carbon can be reported:

- In 2012, Gold Fields engaged with Bedrock Mining Support about conducting a product carbon footprint. Bedrock Mining Support supplies Gold Fields with mining timber as support in its underground operations. Bedrock Mining had its company and product carbon footprint calculated which data they shared with Gold Fields which could use it as an emission factor.

Emissions

- In 2013 Gold Fields Australia engaged with the diesel powered generator vendors at the Cave Rocks (St Ives) power station, to upgrade the generators to a more efficient model and to improve the generator demand scheduling. Software that synchronizes generator usage with demand was implemented. A decision on the upgrading of the generators to a more efficient model is still pending.

And if 'yes, our suppliers' is ticked, complete questions 14.4b and 14.4c

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
1035	20%	This is the South Deep supplier expenditure as a fraction of Gold Fields' Group wide supplier spend.

14.4c If you have data an 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	Gold Fields would like to obtain its supplier's company and product carbon footprints to: - Be able to calculate its own carbon footprint using the emission factors obtained from its suppliers. - Identifying GHG sources to potentially prioritize for reduction actions In the long term, Gold Fields would like its suppliers to disclose its risks related to climate change to be able to: • Manage physical risks in the supply chain • Manage the impact of regulations in the supply chain on Gold Fields business

END (Date Completed: 28-05-2014)