

Module: Introduction**Page: Introduction**

CC0.1**Introduction**

Please give a general description and introduction to your organization.

AngloGold Ashanti is a global gold mining company with a geographically diverse, world-class portfolio of operations and projects. Headquartered in Johannesburg, South Africa, AngloGold Ashanti is the third largest gold mining company in the world, measured by production. AngloGold Ashanti produced 3.7 million ounces of gold in 2016 - an estimated 3.5% of global production - making it the third largest gold producer in the world. AngloGold Ashanti operates 18 gold-producing operations located in 8 countries on three continents, and a group of greenfield projects in Colombia is supported by a focused exploration programme. These comprise mid to long-life, relatively low-cost assets with differing ore body types located in key gold-producing regions. AngloGold Ashanti currently operates in South Africa, Argentina, Australia, Brazil, Ghana, the Republic of Guinea, Mali and Tanzania. Several of these assets are strongly leveraged to energy costs and currencies. In addition, AngloGold Ashanti holds a material interest in 2 non-managed mines which are operated by Randgold Resources. We work across the full spectrum of the mining value chain and are concerned with the impact of our activities on the varied and many communities and environments in which we operate. Our goal is to create sustainable value for our shareholders, employees, and social partners through safe and responsible mining practices and capital discipline. Headquartered in Johannesburg, South Africa, AngloGold Ashanti's primary listing is on the Johannesburg Stock Exchange (ANG). It is also listed on the following securities exchanges: New York (AU), Australia (AGG) and Ghana (AGA).

CC0.2**Reporting Year**

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

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

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

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

Enter Periods that will be disclosed
Fri 01 Jan 2016 - Sat 31 Dec 2016

CC0.3

Country list configuration

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country
Argentina
Australia
Brazil
Ghana
Guinea
Mali
South Africa
Tanzania

CC0.4

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.

USD(\$)

CC0.6**Modules**

As part of the request for information on behalf of investors, companies in the electric utility sector, companies in the automobile and auto component manufacturing sector, companies in the oil and gas sector, companies in the information and communications technology sector (ICT) and companies in the food, beverage and tobacco sector (FBT) should complete supplementary questions in addition to the core questionnaire.

If you are in these sector groupings, the corresponding sector modules will not appear among the options of question CC0.6 but will automatically appear in the ORS navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.

If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below in CC0.6.

Further Information

Module: Management

Page: CC1. Governance

CC1.1

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

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a

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

The Board Social, Ethics and Sustainability Committee has this responsibility. It has an overview of sustainability policy and strategy, including Climate Change.

The committee is one of five committees that assist the Board in discharging its responsibilities. The functioning of the committees is guided by their terms of reference which are approved by the Board and reviewed annually or as required. During 2016 all Board committees were chaired by independent non-executive

directors.

CC1.2

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

Yes

CC1.2a

Please provide further details on the incentives provided for the management of climate change issues

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Corporate executive team	Recognition (non-monetary)	Emissions reduction target Energy reduction target Other: Energy costs	The executive team is responsible for focusing strategic attention of all business units on improving energy efficiency and resultant GHG emissions performance.
Energy managers	Monetary reward	Energy reduction project Energy reduction target Efficiency project	Energy and Efficiency targets focus attention on GHG emissions because our GHG emissions are directly proportional to our fossil energy consumption..
All employees	Monetary reward	Energy reduction project Efficiency project Efficiency target Environmental criteria included in purchases Supply chain engagement Other: Performance bonus linked to	Energy consumption accounts for a significant proportion of cost to the business at approximately 19% of direct costs. Although energy consumption, due to the associated cost impact, has been a constant focus area in the company's bonus systems across all organisational levels given the gold price collapse since 2013, this has been further emphasised. Supply chain engagement on the impact and minimisation of the South African Carbon Tax is a Key performance area for relevant commodity managers.

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
		achievement of cost targets.	

Further Information

Page: **CC2. Strategy**

CC2.1

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

Integrated into multi-disciplinary company wide risk management processes

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Six-monthly or more frequently	Board or individual/sub-set of the Board or committee appointed by the Board	All operating countries: South Africa, Ghana, Australia, Brazil, Mali, Guinea, Tanzania and Argentina and for 2015 the United States of America.	> 6 years	The Board committee concerned is the Social, Ethics and Sustainability Committee.

CC2.1b**Please describe how your risk and opportunity identification processes are applied at both company and asset level**

AGA's risk and opportunity system applies to all levels of the organisation. It uses a 6 x 6 matrix of consequence and likelihood factors to classify each risk and opportunity, resulting in a range of potential risk index ratings from 1 to 36.

Once identified, risks are entered onto a software tool that spans the whole organisation. They are captured at the level at which they manifest and can be most effectively managed, including; individual mine, country/regional or at the group level. Pertinent information on progress with risks rated above an index of 31 are typically communicated to the relevant Board Subcommittees on a quarterly.

Downside risks or upside risks (opportunities) are identified through a variety of processes that include: business improvement projects, regulatory compliance tracking, major project development processes and corporate governance reviews led by regional or group functional specialists.

In the system, risks are organised by function and subcategory such as regulatory, financial, community, environmental, business interruption and security of resource supply (which includes energy and water). E.g.; the 2009 work on assessing the business case for the company's response to climate change was captured and managed by the Environmental function at the corporate level. Opportunities arising from that study's findings e.g. the compressed air project for underground mines, were then continued by the South African Region Energy managers.

At present, the identification of Climate Change risks and opportunities is integrated into the environmental risk focus areas. For example, the risk of contaminated water release due to inadequately sized pollution control dams considers the projected impact of climate change on the design of those facilities.

CC2.1c**How do you prioritize the risks and opportunities identified?**

Climate change risks and opportunities, which can include influencing the direction of carbon tax legislation, mitigating the risk of increased rainfall, drought or fuel switching projects aimed at improving energy efficiency (with the knock-on benefit of decarbonising energy supplies) are prioritised in the same manner as all the other risk types that the organisation identifies.

The risk management system uses a 6 x 6 matrix of consequence and likelihood factors to classify each risk or opportunity, resulting in a range of potential unmitigated risk/opportunity index ratings from 1 to 36.

The unmitigated risk index ratings are grouped into 4 tiers as a means of prioritising action and tracking responses to threats. The highest of these are those with an index of between 31 and 36, requiring immediate action and oversight by the highest levels in the organisation, including the Executive Committee and the Board. Those in the 2nd highest tier (index of 25-30) require proactive management and oversight by the Executive committee and senior operating officers whilst the 2 lowest tiers, 16-24 and 1-15, respectively require active or routine management by operational level risk owners and risk champions.

In the case of opportunities, the index provides the initial prioritisation, but in order to pursue an opportunity to fruition, the business case needs to be demonstrated through a feasibility assessment.

CC2.1d

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 future

Main reason for not having a process	Do you plan to introduce a process?	Comment
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CC2.2

Is climate change integrated into your business strategy?

Yes

CC2.2a

Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process

i. The company's business strategy is centred on 5 key business objectives. These are: (1) a focus on people, safety and sustainability; (2) ensure financial flexibility is maintained; (3) optimise overhead, costs and capital expenditure; (4) improving the portfolio quality and (5) maintaining long-term optionality of the portfolio of assets. Company and asset-level decisions in support of these key objectives are made annually during aligned cyclical business planning processes such as setting of the annual budget, reviewing life of mine plans for the operational asset portfolio or defining key capital projects which include the construction of new mines or major expansions of existing operations. In each of these decision making processes, short, medium and long term factors likely to impact on the ability to deliver the projected earnings and business objectives are considered by technical and business specialists. These specialists use the knowledge and information collected, including actual or anticipated effects related to climate change, to determine their financial or reputational impact on the company and ultimately influence these strategic decisions-making processes.

ii. An earlier example was the decision in 2012 to reinvest in the uranium recovery and production business which was aided by the anticipated and sustained improvement in uranium price resulting from increased demand for low-carbon baseload electricity. A more recent example is that during the long term asset portfolio planning process for the South African operations, the financial impact of the imminent carbon taxes on Scope 2 energy purchases has resulted in a sufficiently large impact on earnings as to trigger a formal prefeasibility study for assessing the viability of a large scale renewable energy supply installation for these operations.

iii. The most important aspect of climate change influencing the short and long term business strategy to date, is the regulatory impact of increased energy prices through carbon taxes being, or likely to be adopted in multiple countries. Physical climate change risks are considered to a lesser extent and where possible during the design of major new mines or long term expansions and typically result in broadening the range of design tolerances to counter increased uncertainty; e.g. in determining the capacity of pollution containment infrastructure.

iv. In the short term particularly, energy efficiency improvements have been targeted and achieved in South Africa in line with internal energy efficiency targets, and continue to deliver incremental efficiency improvements. We were amongst the first companies in the industry to focus on energy efficiency as a core business risk, long before energy efficiency came into vogue. As a result we were able to negotiate favourable terms with electricity utilities, including security of supply.

v. As part of its strategy to ensure that AngloGold Ashanti can continue to operate deep level mines in South Africa, the company initiated a long-term research programme into safer and more energy efficient underground mining technologies which incorporates a significant reduction in energy consumption and thus GHG emissions as a primary requirement. Aligned with this long term future, is the need to continually evacuate large volumes of deep underground water cost efficiently. This factor, combined with the financial impact of the SA Carbon tax, impacts the viability of long term deep-level mines and our engineers have commenced exploration of off-grid renewable energy production options.

vi. As mentioned in (ii) above, perhaps the most substantial business decision has been to deepen investment in the uranium recovery business in anticipation of increased demand for low-carbon baseload electricity. The acquisition of the wholly owned subsidiary NUFCOR (Nuclear Fuels Corporation) in South Africa, which processes and packages uranium dioxide mined in South Africa for the European nuclear fuels market assures us an advantage over South African peers.

vii. In reviewing the Prefeasibility of an underground mine life expansion project in South Africa, the cost of continually pumping underground water ingress in from neighbouring mines, was seen to be pivotal in the decision to continue to the next project phase. In particular, the impact of higher electricity prices in South Africa, owing to the SA carbon tax. Continuing with the project into feasibility required the simultaneous acceleration of planned studies into renewable energy for deep underground water pumping, which was only being considered for water pumping post mine's closure.

viii. The Paris Agreement has not yet translated into tangible developments on INDCs in the countries which the company operates. However, it is expected that material INDCs will be declared by the countries in which we operate that ratify the Paris Agreement. This brings the energy source (and cost) for current and future operations into sharper focus when making capital investment choices.

ix. Not at present.

CC2.2b

Please explain why climate change is not integrated into your business strategy

CC2.2c

Does your company use an internal price on carbon?

Yes

CC2.2d

Please provide details and examples of how your company uses an internal price on carbon

In South Africa, where a carbon tax is now expected to be applied from 2018, our business planning and major project evaluation processes incorporate the best information available on the level of the tax and how it will be applied, both as Scope 1 and Scope 2 taxes. Scope 2 electricity purchases have the most material impact on business planning and project evaluations. The South African National Treasury have indicated that the carbon tax will be cost neutral via electricity pricing until 2020, therefore in financial models, the company uses carbon pricing for planning in South Africa beyond 2020. At current exchange rates, the price used is approximately USD9.3/ton of CO₂e.

CC2.3

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

Direct engagement with policy makers
Trade associations

CC2.3a

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

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Mandatory carbon reporting	Support	AngloGold Ashanti's engagement with policy makers takes place in response to public participation requests, as well as on the initiative of the company.	We supported requirements in Australia for mandatory reporting.. Requirements in South Africa are under development and we are engaging on the details to prevent duplication and an unnecessary reporting burden. Government has been receptive to our recommendations.

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Carbon tax	Support with major exceptions	AngloGold Ashanti engages with government authorities at the relevant levels directly to understand government policies as they develop, and to communicate to regulators the company's views on impacts that carbon taxes may impose on companies. Our engagement focuses on addressing unknown factors and proposing constructive solutions.	We support in principle having a price on carbon. We are concerned that the carbon tax proposed in South Africa comes on the back of a period of sustained electricity price increases which have already resulted in decreased electricity consumption and therefore emissions. The country is ahead of its emissions targets. The electricity price already incorporates substantial funding for renewable energy as well as a levy on electricity produced from fossil fuels. Thus we argue that a carbon tax is already effectively in place.

CC2.3b

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

Yes

CC2.3c

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 of Mining and Metals (ICMM)	Consistent	In 2010, ICMM members established a program of policy principles, leading practice and company commitments to contribute to working towards a low carbon economy: 1) an integrated set of seven principles for climate change policy design that build on those contained in the 2009 policy: •provide clear policies for a predictable, measured transition to a long term price on greenhouse gas emissions •apply climate change	AngloGold Ashanti argued for the need to have a proactive position on climate change and made extensive input into its design. This was done at Council and technical levels. We have supported moves to update the association's position in 2015 and continuing to address climate change proactively. Over 2016, we influenced the ICMM membership to consider engaging as a collecting with OEMs in the heavy mining

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?
		<p>related revenues to manage a transition to a low carbon future</p> <ul style="list-style-type: none"> •facilitate trade competitiveness across sectors •seek broad-based application •be predictable and gradual •be simple and effective •support low-emission base-load generation technology development. <p>2) three focus areas which address the climate change issues which are important to mining and metals companies:</p> <ul style="list-style-type: none"> •national climate policies and competitiveness •land use and adaption to the impacts of climate change •measurement, reporting and verification of net greenhouse gas activities. <p>3) a set of ICMM member company commitments. As a minimum, ICMM members accept their responsibility to:</p> <ul style="list-style-type: none"> •develop greenhouse gas emission reduction strategies and implement economic emissions reductions opportunities •ensure efficient use of natural resources •support research and development of low greenhouse gas emission technologies that are appropriate to the industry •measure progress and report results. 	<p>equipment and energy generation equipment industry towards decarbonising the equipment's energy supply.</p>
Industry Task Team on Climate Change (ITTCC)	Consistent	<p>Principles of climate policy:</p> <ul style="list-style-type: none"> •Predictable and gradual: Be set out well in advance and the pace and progress of introduction of policies and abatement targets should be clearly laid out to reduce investment uncertainty and maximise the effectiveness of each policy by allowing businesses to transition efficiently to a low carbon economy. •Development focused: Be part of a coherent set of policies covering energy policy, industrial policy, economic growth policy and social welfare policies that reinforce South African development priorities: creating decent work, economic and social transformation and maintaining sustainable energy supply. •Broad based: Include a diverse selection of policy levers to effectively target the multiple, complex market failures within climate change thereby lowering the overall cost of emissions reduction. •Sending a clear price signal: Ensure that any carbon price signal is consistent, transparent and designed in a manner so that it influences producers and consumers, such that emissions and carbon 	<p>AngloGold Ashanti was a founder member of the organisation and has been an active member of the ITTCC, albeit less active in 2016. We argued successfully for a position consistent with the ICMM position.</p>

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?
		<p>consumption is reduced and the incentive to develop low carbon technologies is increased. •Revenue neutral: Focus on changing behaviour, not raising revenues – it must be a priority of government to return revenues raised by a carbon price to households and businesses through lump sum payments or tax reductions to reduce the negative impacts of climate change policies. •Trade competitive: Ensure local industries retain their international competitiveness in the absence of a global response to maintain environmental integrity, avoid carbon leakage, loss of competitiveness and adverse economic and welfare impacts. •Simple and effective: Include measures which effectively reduce emissions and are simple to implement and administer. Simple policies increase transparency; reducing opportunities to exploit loopholes and reducing administration costs. •Supportive of technology: Encourage investment in low carbon choices directly (e.g. with innovation incentives), to accelerate the development of new technologies, reducing the cost of abatement and promoting the growth of a 'green' sector. •Climate ready: Include adaptation measures to mitigate the adverse physical impacts of climate change such as severe weather, drought and floods and rising sea levels.</p>	
Minerals Council of Australia	Consistent	<p>The minerals industry acknowledges that sustained global action is required to reduce the scale of human induced climate change. A measured transition to a low emissions global economy will require the alignment of three key policy pillars: • a global agreement for greenhouse gas emission abatement that includes emissions reduction commitments from all major emitting nations; • market-based policy measures that promote the abatement of greenhouse gas emissions at the lowest cost, while minimising adverse social and economic impacts, including on the competitiveness of the internationally traded sector; • substantial investment in a broad range of low emissions technologies and adaptation measures. In the absence of a global agreement in the near term, the imperative</p>	The company is a member of the association's board.

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?
		for all nations is to sustainably reduce the production and consumption of greenhouse gas emissions without compromising international competitiveness, energy security and economic growth, improved living standards and poverty alleviation.	
Energy Intensive Users Group of Southern Africa	Consistent	The EIUG seeks to influence the shape of the South African energy industry to ensure that reasonable and economically sound solutions are developed. The country must transition to a lower-carbon future; the EIUG aims to ensure that this is done in a manner and within a time-frame that protects and maintains the competitiveness of our economy.	AngloGold Ashanti advocates transition to a low carbon future, but in a manner and pace that ensuring protection of the fragile SA economy.

CC2.3d

Do you publicly disclose a list of all the research organizations that you fund?

CC2.3e

Please provide details of the other engagement activities that you undertake

CC2.3f

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

The company climate change strategy was developed collaboratively, involving all parts of the business and all regions, ensuring their buy-in. It was approved by what is now the Board Social, Ethics and Sustainability Committee. There is regular communication between climate change lead people at the national and corporate levels to ensure that there is a common understanding of new developments and approaches to them. The primary forum is the Environmental Steering Committee (ESC). Corporate and regional sustainability leaders, including those tasked with climate change, meet at a biennial Sustainability Workshop, at which common challenges, including climate change are discussed and action plans agreed.

Most of the national mining associations of which AGA is a member are members of the International Council on Mining and Metals (ICMM) and support its Climate Change Principles, which helps to ensure coherence between country positions. AGA has advocated inclusion of the Principles into national legislation, further supporting policy coherence.

The company's position on key policy issues, such as the South African carbon tax, has been endorsed by the Board Social, Ethics and Sustainability Committee and communicated to employees who interact with government and trade associations.

CC2.3g

Please explain why you do not engage with policy makers

Further Information

Page: CC3. Targets and Initiatives

CC3.1

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

Intensity target

CC3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
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CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
Int1	Scope 1+2 (location-based)	100%	30%	Metric tonnes CO2e per tonne of ore processed	2007	58.96	2022	No, but we anticipate setting one in the next 2 years	The company's greenhouse gas emission target was set in 2007 as a 30 percent improvement in carbon intensity off 2007 performance. It was framed using ounces of gold produced as a denominator on the assumption that gold production would remain a suitable proxy for mining production activity levels. However, the effect of reducing gold grades in the ore mined has undermined this assumption. This is because the primary drivers of energy consumption (and concomitant GHG emissions) in AngloGold Ashanti operations are the volume of rock mined, trammed and hoisted, distances trucked and tonnages milled in processing plants. In addition, our underground mines commonly use significant amounts of energy to ventilate and cool the underground workings. As a result, in its internal and external reporting on GHG performance, since 2013, the company has adopted a per tonne of ore processed denominator, replacing gold ounces

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
									produced. This is considered a more relevant indicator of mining activity levels and is also more consistent with broad practice in industry. In this table, the originally declared base year, target year and targeted percentage reduction has been maintained while the base year's intensity measure has been updated to reflect tonnes of GHG emissions per metric tonne of ore processed

CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
Int1	Decrease	15	No change	0	This is an order of magnitude estimate based on performance to date. There is significant uncertainty forecasting the anticipated absolute Scope 1 and Scope 2 emissions reductions based on intensity targets. The mix of underground to surface mining assets can greatly affect the level of absolute emissions. Economic factors influencing asset disposals and acquisitions, as well as the commencement of new mining projects are influenced are largely outside of the company's control.

CC3.1d

Please provide details of your renewable energy consumption and/or production target

ID	Energy types covered by target	Base year	Base year energy for energy type covered (MWh)	% renewable energy in base year	Target year	% renewable energy in target year	Comment
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CC3.1e

For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions or renewable energy)	Comment
Int1	67%	67%	A 20.31% reduction in GHG intensity per tonne treated had been achieved as at the end of 2016 (or 46.98 tonnes of GHG per tonne of ore treated). This is not adjusted for changes in the asset of the portfolio business from the 2007 base year.

CC3.1f

Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

CC3.2

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

Yes

CC3.2a

Please provide details of your products and/or services that you classify as low carbon products or that enable a third party to avoid GHG emissions

Level of aggregation	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
Product	AngloGold Ashanti produces uranium oxide as a by-product which is sold to nuclear energy producers in developed countries. By producing electricity using uranium rather than fossil fuels such as coal, GHG emissions are avoided. Applying the World Nuclear Association methodology for calculating the CO ₂ e emissions saved using uranium rather than coal one calculates that AngloGold Ashanti's 2016 uranium oxide sales into the nuclear energy industry avoided 14 Mt of CO ₂ e emissions. This is approximately 3.5 times the company's combined scope 1 and 2 emissions for 2016.	Avoided emissions	Other: World Nuclear Association	0.3%	Less than or equal to 10%	In 2016, AGA produced 0.8 Mlb of uranium oxide concentrate (U ₃ O ₈). 0.8 Mlb = 408 t of uranium oxide concentrate. 363 t uranium oxide concentrate comprises 363*0.848 = 308 t uranium. 308 t uranium saves 308/22 = 14 Mt CO ₂ generated from coal. The assumptions used are provided on The World Nuclear Association at: http://www.world-nuclear.org/info/Energy-and-Environment/Uranium,-Electricity-and-Climate-Change/ . In summary, A 1,000 megawatt electrical (MWe) coal-fired power station burning coal has a typical fuel requirement of almost 3.2 million tonnes* of black coal a year, assuming coal yielding 24 MJ/kg and plant operating at 80% capacity. A nuclear power reactor of the same capacity

Level of aggregation	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
	Calculations and further references are provided in the comments section.					(after its initial fuel loading of uranium) has an annual requirement of around 27 tonnes of fuel. Producing this amount of uranium fuel requires the mining of 45-70,000 tonnes of typical Australian uranium ore. This yields about 200 tonnes of uranium oxide concentrate. The uranium oxide is enriched to yield the 27 tonnes of actual fuel. Each year the 1000 MWe coal-fired power station produces about 7 million tonnes of carbon dioxide. Every 22 tonnes of uranium used avoids the emission of one million tonnes of carbon dioxide, relative to coal.

CC3.3

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

CC3.3a

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

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	93	
To be implemented*	16	157816
Implementation commenced*	27	202743
Implemented*	7	28224
Not to be implemented	0	

CC3.3b

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

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Energy efficiency: Processes	Mponeng Mine – In 2016, focus remained on Mponeng air consumption and their air production efficiency. Reductions were achieved by reducing wastage and improving control in low demand periods together with the installation of in-stope valves. These savings came into effect in 2016 Q4.	6700.9	Scope 2 (location-based)	Voluntary	299804	0	<1 year	Ongoing	Note that the project is funded by the local power utility's Demand Side Management programme at zero financial cost to AngloGold Ashanti.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Energy efficiency: Processes	Vaal River Compressed Air Ring - Stoppage of Kopanang Compressor. Air consumption has reduced in recent years, therefore the 15MW compressor was not needed within the Vaal River region. It was also making overall compressed air ring control difficult and inefficient. However, the compressor heated water for the shaft and residence change houses and thus alternative heating had to be installed before the compressor could be stopped. Heat Pumps were installed after relocating them from Mponeng mine. The overall savings consider the effect of the heat pumps together with the energy saved with the machine offline.	22711	Scope 2 (location-based)	Voluntary	953436	0	<1 year	Ongoing	Note that the project involved relocation of existing equipment with existing labour, thereby incurring immaterial cost.

CC3.3c

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

Method	Comment
Compliance with regulatory requirements/standards	All of AngloGold Ashanti's operating standards require regulatory compliance as a minimum. Regular internal and external reviews ensure that regulatory compliance is maintained.
Dedicated budget for energy efficiency	All of AngloGold Ashanti's operations have dedicated energy efficiency budgets. At our South African mines, which accounted for 37% of our total global energy consumption in 2016 but was responsible for 70% of our global carbon emissions, annual absolute and energy efficiency performance improvement targets are set and a dedicated budget provided.
Marginal abatement cost curve	In both Australia and South Africa, where carbon pricing is or was in place, we have constructed marginal abatement cost curves for each affected mine and use these curves to prioritise emissions reduction activities. These are updated annually.
Other	The Technology Innovation Consortium for our deep underground mines in South Africa is investigating opportunities for significantly improved energy efficiency, with a concomitant impact on GHG emissions.
Internal price on carbon	All planning at our South African operations uses the latest information on the proposed carbon tax.

CC3.3d

If you do not have any emissions reduction initiatives, please explain why not

Further Information

Page: CC4. Communication

CC4.1

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

Publication	Status	Page/Section reference	Attach the document	Comment
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	16/Impacts, 19-20, 24, 63, 75, 87, 91, 94, 115-116	https://www.cdp.net/sites/2017/79/779/Climate Change 2017/Shared Documents/Attachments/CC4.1/AGA-IR-2016.pdf	
In other regulatory filings	Complete	18, 27, 79	https://www.cdp.net/sites/2017/79/779/Climate Change 2017/Shared Documents/Attachments/CC4.1/2016 20F.pdf	
In voluntary communications	Underway - previous year attached	Section 2.3.2, 2.3.3 and 2.5.	https://www.cdp.net/sites/2017/79/779/Climate Change 2017/Shared Documents/Attachments/CC4.1/Sustainability Assessment - DJSI Sustainability Assessment 2016 - AngloGold Ashanti Ltd.pdf	
In voluntary communications	Complete	41, 42- 45, 69, 77, 90, 91	https://www.cdp.net/sites/2017/79/779/Climate Change 2017/Shared Documents/Attachments/CC4.1/AGA-SD-2016.pdf	

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

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

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

CC5.1a

Please describe your inherent risks that are 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
International agreements	AngloGold Ashanti (AGA) emits greenhouse gases (GHGs) directly by its operations, and indirectly via the external utilities from which it purchases power. Currently, a major international measure to address or limit GHG emissions, is the 2015 Paris Agreement. For the first time, developed and developing countries have committed to reduce their GHG Emissions in an effort to cap warming at 1.5 Degrees Celsius. The Agreement translates into nationally determined commitments which are to start in 2020 and signals the end	Increased operational cost	>6 years	Indirect (Supply chain)	Virtually certain	Medium-high	Indirect carbon taxes of up to US\$7 million per annum from 2020 onwards in South Africa.	Management is focused on 2 primary activities: reducing GHG emissions and engaging with the international negotiations through industry associations. In all countries in which it operates, the company is focussed on reducing its greenhouse gas emissions footprint. Because more than 95% of the company's emissions are derived from fossil fuel use, reducing energy costs has an immediate and direct impact both on our bottom line and on our GHG emissions profile. AngloGold Ashanti engages with the international	Our expenditure to influence policy and regulation on a multinational scale approached US\$ 20,000 during 2016.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	of Business as Usual for the energy industry. As countries define and roll out their commitments in future, this could require AngloGold Ashanti to reduce its direct GHG emissions or energy use or to incur significant costs for GHG emissions permits or taxes or have these costs passed on by electricity utilities which supply the company.							negotiations via government agencies and through international and national industry associations to advocate regulatory provisions that are not detrimental to business and the mining industry in particular. These associations also keep the company updated on policy and regulatory trends.	
Carbon taxes	During November 2015, a draft Carbon Tax Bill was issued that confirmed a proposed tax rate of R120 per tonne of CO2 equivalent. The South African Finance Ministry has twice delayed the introduction of the expected Carbon Tax, the latest	Increased operational cost	3 to 6 years	Indirect (Supply chain)	Virtually certain	Medium-high	Indirect carbon taxes of up to US\$ 9 million per annum through increased electricity and supply chain costs after full implementation of the Carbon Tax in its current form (post 2020). This estimate has been adjusted downwards based	Management is focused on 2 primary activities: reducing GHG emissions and engaging with the national-level negotiations through industry associations. Because more than 95% of the company's emissions are derived from fossil	Our expenditure to influence Carbon tax policy and regulation in South Africa approached US\$ 7,000 during 2016.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>commencement date being 1 January 2018. Engagements via an industry association has indicated National Treasury's intention to ensure that carbon tax through electricity pricing is cost neutral until 2020 (during Phase 1). This will be achieved through a series of exemptions and removal of existing levies on the electricity price. The material impact of the Carbon tax through electricity pricing is therefore going to manifest after 2020. Latest information indicates that the effective carbon tax rate through electricity pricing will actually vary from R6/ton to R48/ton, owing to a system of rebates. South African-</p>						<p>on the latest information regarding the highest likely effective carbon tax rate of R48/ton. The potential increase in the cost of major consumables was assessed for our South African operations, based on the information available from the government. The impact of the proposed carbon tax on goods purchased in South Africa is estimated to be USD2 million during Phase 2.</p>	<p>fuel use, reducing energy costs has an immediate and direct impact both on our bottom line and on our GHG emissions profile. Energy efficiency improvements of over 30% have been achieved in South Africa as at 2016 compared to a 2007 base year. AngloGold Ashanti engages with the government agencies and through national industry associations to advocate regulatory provisions that are not detrimental to business and the mining industry in particular. These associations also keep the company updated on policy and regulatory trends.</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	based suppliers are expected to increase their prices to offset carbon taxes and other carbon pricing mechanisms and to pass on other costs associated with mitigating risks associated with climate change.								
Fuel/energy taxes and regulations	In all jurisdictions where we operate, fuel taxes apply. Other energy taxes and regulations apply in Australia, Brazil and South Africa already. The possibility of increased regulation poses the risk of the unknown cost and economic impact on our business and on individual national economies. Government tax regimes could also impact on fuel and energy availability and supply chains.	Increased operational cost	Up to 1 year	Direct	Virtually certain	Low-medium	In South Africa, the National Treasury applied had advised of a direct Carbon tax to be imposed on fossil fuels from 1 January 2017, however given the delay in promulgation of the Act, this is likely to commence from 1 January 2018. This will increase the fuel cost by approximately 1 percent in South Africa. In other countries of operation, the risks relates to uncertainty in	AngloGold Ashanti engages with governments agencies directly and through industry associations to advocate regulatory provisions that are not detrimental to business and the mining industry in particular, or to limit their effect. These associations also keep the company updated on policy and regulatory trends. The impact of fossil fuels energy taxes	Our expenditure to influence policy and regulation on a multinational scale approached US\$ 20,000 during 2016.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
							regard to potential legislation and to changes to existing legislation. The financial implications of these uncertainties cannot be determined.	are managed through energy efficiency improvement programmes. These are also supported by cost reduction and efficiency drives in remuneration systems.	
Other regulatory drivers	In Australia, the government introduced the carbon emissions safeguard mechanism, aimed at limiting future growth in greenhouse gas (GHG) emissions after setting baseline emission thresholds, the safeguard mechanism requires that companies submit carbon credits or potentially pay penalties for excess emissions.	Increased operational cost	1 to 3 years	Direct	Unlikely	Unknown	The potential financial implications cannot be determined at present as the potential civil penalties sought through courts would be on a case by case basis.	Our Sunrise Dam mine applied for a baseline emissions in accordance with the regulatory scheme's default mechanism. Our Tropicana mine will apply for a baseline emission level using the alternative calculated baseline method during 2017.	At present, no additional operational costs are being incurred in relation to the Australian Safeguard Mechanism. Baselines have and are being calculated using internal staff.

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

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in mean (average) temperature	Increased temperatures can cause adverse operating impacts on our underground mining operations in Ghana and South Africa during peak heat periods in the summer months. These operations require air cooling plant and mine ventilation equipment to be operated in order to maintain safe and productive underground working environments. In extreme cases, ambient temperatures may exceed cooling equipment	Increased operational cost	>6 years	Direct	Very likely	Medium-high	Increased temperatures impacting on underground productivity and safe work environments will require increased underground cooling capacity. The cost of upgrading or adding additional refrigeration capacity could be significant running into the tens of millions of US dollars. Higher temperatures may affect the effectiveness of mine site rehabilitation programmes. Rectification and additional research could amount to between USD 1 million and USD 5 million for	Mines are long-term investments, with the result that mine planning, operation, and closure processes already incorporate management of extreme climate events. We have assessed the climate exposure risks for all of our operations in a detailed study carried out in 2008/9 using external consultants. We are progressively assessing the adaptation requirements for those operations identified as being at	Where necessary, the adaptation interventions would be defined, budgeted for and implemented at the operational level. Development and access to the MiCa tool has not incurred material cost beyond our annual ICMM membership fees.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>operating parameters, requiring them to be replaced or additional units to be installed. Higher temperatures can also hinder rehabilitation efforts and result in a number of health and safety risks, including an increased risk of wildfires.</p>						<p>worst affected operations.</p>	<p>greatest risk. Additionally, through our international industry association the ICMM, during 2016 the membership developed a web-based Mining Climate Assessment tool in partnership with the consultancy Acclimatise. The tool projects climate and water stress data for any geographical location over land using the latest global climate projections (CMIP5). Our operations are able to test predicted changes in mean temperatures using the tool</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								at a 20 year future period, spanning 2025 to 2045, but centred on 2035 and decide whether intervention is warranted..	
Change in precipitation extremes and droughts	Extreme weather events have the potential to cause significant damage to livelihoods and property, and thus be costly to the company. In the recent past, floods and droughts have disrupted the operations at some of AngloGold Ashanti's mines. For example, unprecedented heavy rains in February and March 2011 in Australia flooded the Sunrise Dam Gold Mine and forced a	Reduction/disruption in production capacity	Up to 1 year	Direct	More likely than not	Low-medium	High rainfall events can lead to flooding and disruption of mining and transport operations, amongst other consequences. Droughts have longer-lasting impacts and are more difficult to prepare for. The anticipated impact of generally reduced water availability in Brazil is that production may be directly constrained. It was anticipated that reducing gold production by up to 5%	Mines are long-term investments, with the result that mine planning, operation, and closure processes already incorporate management of extreme climate events. We have assessed the climate exposure risks for all of our operations. We are progressively assessing the adaptation requirements for those operations	The scoping study is expected to cost ~ZAR350k. Where necessary, the adaptation interventions would be defined, budgeted for and implemented at the operational level. Development and access to the MiCa tool has not incurred material cost beyond our annual ICMM membership fees

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>temporary shutdown of operations. The flood event reduced underground production for four months and open-pit production for six months, and full costs were incurred despite the shutdown and slow-down. In Brazil, severe water shortages from low rainfall have been experienced in 2014 and 2015, adversely affecting hydro-electrical power generation. Droughts and high intensity rainfall events can also hamper or damage concurrent rehabilitation efforts, increasing the costs of mine closure.</p>						<p>during peak dry periods in 2014 and 2015 could have resulted in reduced income by up to USD 6 million.</p>	<p>identified as being at greatest risk. Additionally, through our international industry association the ICMM, during 2016 the membership developed a web-based Mining Climate Assessment tool in partnership with the consultancy Acclimatise. The tool projects climate and water stress data for any geographical location over land using the latest global climate projections (CMIP5). Our operations are able to test predicted changes in precipitation</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								extremes using the tool at a 20 year future period, spanning 2025 to 2045, but centred on 2035 and decide whether intervention is warranted.	
Induced changes in natural resources	The potential adverse impacts of climate change on communities in close proximity to AngloGold Ashanti's operations could cause significant distress, especially in developing countries and particularly the poorest countries in which AngloGold Ashanti operates. Specifically, competition for scarce water resources could mean further	Wider social disadvantages	3 to 6 years	Indirect (Client)	About as likely as not	Low-medium	Adverse climate change impacts are likely to impact severely on adjacent communities, especially in developing countries. In particular, competition for scarce water resources could require extensive investment in infrastructure. We are still investigating likely impacts on specific communities and expected costs of adaptation	Mines are long-term investments, with the result that mine planning, operation, and closure processes already incorporate management of extreme climate events. We have assessed the climate exposure risks for all of our operations. We are progressively assessing the adaptation needs for those	Development and access to the MiCa tool has not incurred material cost beyond our annual ICMM membership fees

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>emphasis on providing water to communities and even on the company's ability to access sufficient water. Food and energy security are likely to be increasing challenges as well. Risk exposure due to increased disease prevalence in communities is not necessarily limited to a specific population, and has the potential to have a direct bearing on the wellbeing of company workforce, site staff and their families.</p>						<p>and remediation activities.</p>	<p>operations identified as being at greatest risk. Additionally, through our international industry association the ICMM, during 2016 the membership developed a web-based Mining Climate Assessment tool in partnership with the consultancy Acclimatise. The tool projects climate and water stress data for any geographical location over land using the latest global climate projections (CMIP5). Our operations are able to test predicted changes in</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								Water stress using the tool at a 20 year future period, spanning 2025 to 2045, but centred on 2035 and decide whether intervention is warranted.	
Change in mean (average) precipitation	In Ghana, AGA's operations depend on power supplied by the state-controlled Volta River Authority (VRA), a large proportion of which is hydropower. During periods of below average inflows from the Volta reservoir, electricity supplies from the Akosombo Dam, the VRA's primary generation source, are curtailed. This has occurred in	Increased operational cost	1 to 3 years	Indirect (Supply chain)	Likely	Low-medium	Increased power prices negatively impact operating costs and cash flow. Since first experienced in 2006 and 2007 and due to lowered hydropower generation capacity, the VRA has since developed 2 tariff, a cheaper hydropower tariff for communities and a higher, thermal power-based tariff for industry.	Mines are long-term investments, with the result that mine planning, operation, and closure processes already incorporate management of extreme climate events. We have assessed the climate exposure risks for all of our operations. We are progressively assessing the adaptation requirements	The scoping study is expected to cost ~ZAR350k. Where necessary, the adaptation interventions would be defined, budgeted for and implemented at the operational level. Development and access to the MiCa tool has not incurred material cost beyond our annual ICMM

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>previous years (2006 and the first half of 2007). This can result in intermittent or no electricity supply and increased costs, either as a result of the VRA seeking additional, more costly sources, or AGA generating its own power.</p>							<p>for those operations identified as being at greatest risk. Through our international industry association the ICMM, during 2016 the membership developed a web-based Mining Climate Assessment tool in partnership with the consultancy Acclimatise. The tool projects climate and water stress data for any geographical location over land using the latest global climate projections (CMIP5). Our operations are therefore able to test predicted</p>	<p>membership fees</p>

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								changes in average precipitation using the tool at a 20 year future period, spanning 2025 to 2045, but centred on 2035 and thereby decide whether exploring interventions with respect to alternatives to hydropower in Ghana may be warranted.	

CC5.1c

Please describe your inherent 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
Reputation	If the company is perceived to be ignoring climate change	Reduced stock price (market valuation)	1 to 3 years	Direct	About as likely as not	Medium	AGA has worked hard over many years to build a reputation as being	A major project was carried out during 2008/9 to identify and, where	The estimated cumulative cost of the work undertaken to

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	risks this is likely to impact its reputation. If the mining industry as a whole is perceived to be a poor performer, the company's reputation will be also be affected, though to a lesser extent.						a proactive, constructive contributor to the climate change response debate, pushing for ambitious yet realistic targets. This is expected to stand its reputation in good stead. Increasingly Environmental, Social and Governance focused investors require that AGA demonstrates its response to Climate changes in order to qualify being listed in their investment baskets. This helps underpin the company share price for its investors, however it is not practicable to reasonably estimate the US\$ value protected or enhanced.	possible, quantify, all of the company's climate change-related risks. This has helped the company to understand the risks it faces, as well as the opportunities it has, and these are now being communicated and addressed as the opportunity arises. Detailed footprint data is being published in the interests of transparency and to demonstrate that the company has a good understanding of the drivers of its contribution to climate change. AGA has been reporting on climate change issues through the CDP since 2008 and in Annual and Sustainability reports since before then.	study the company's exposure to climate change, the management time taken to implement GHG emissions accounting systems and periodically respond to investor submissions amounts to approximately US\$2 million over the past 10 years.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other drivers	There is pressure from investors and lenders to reduce the company's exposure to regulatory measures and to reduce its direct and indirect carbon emissions. It is possible that the company's market valuation or cost of capital could be impacted based on its perceived exposure to climate change-related risks.	Reduction in capital availability	Unknown	Direct	Very unlikely	Medium-high	Investor and project lender interest in climate change is growing and broadening. If this translates to pressure to make operational changes, or results in higher borrowing costs, the cost impact is considered potentially medium-high but not easily quantifiable.	In all countries in which it operates, AGA is focussed on reducing its greenhouse gas emissions footprint as possible and improving energy efficiency. Because more than 95% of the company's emissions are derived from fossil fuel use, reducing energy costs has an immediate and direct impact both on our bottom line and on our GHG emissions profile. The energy efficiency focus was initially in South Africa, but has in recent years spread to other jurisdictions in which we operate. Increasingly detailed footprint data is being published in the interests of transparency and to demonstrate that the company	We have not yet costed management action associated with addressing these risks.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								has a good understanding of its contribution to climate change.	
Increasing humanitarian demands	Increased pressure for financial support from neighbouring communities struggling with floods, droughts, disease, crop failure and the depletion of natural resources.	Increased operational cost	>6 years	Direct	About as likely as not	Low	A changing climate is likely to impact severely on adjacent communities, especially in developing countries. Our mines are often the major source of income over a very large area. In particular, competition for scarce water resources could require extensive investment in infrastructure. We are periodically assessing likely impacts on specific communities and expected costs of adaptation and remediation activities.	AngloGold Ashanti developed in 2013 a new Sustainability Strategy that has a core requirement to work together with host communities to jointly build sustainable futures. A major project was carried out during 2008/9 to identify and, where possible, quantify, all of the company's climate change-related risks. This has helped the company to understand the risks it faces, as well as the opportunities it has, and these are now being communicated as the opportunity arises. Increasingly detailed footprint	We have not yet costed management action associated with addressing these risks.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								data is being published in the interests of transparency and to demonstrate that the company has a good understanding of its contribution to global climate change	

CC5.1d

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1e

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1f

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Page: CC6. Climate Change Opportunities

CC6.1

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

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

CC6.1a

Please describe your inherent opportunities that are 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
Carbon taxes	Carbon offsets may present an opportunity to AngloGold Ashanti with the anticipated introduction of	Investment opportunities	1 to 3 years	Direct	About as likely as not	Medium	We were anticipating that energy efficiency initiatives or the adoption of renewables at	Opportunities to generate carbon credits will be investigated once the requirements	The cost to the company of exploring carbon credit generation options has been less than

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	a carbon tax to South Africa. AGA could generate offsets. Alternatively, the introduction of these taxes may accelerate the company's exploration and development of renewable energy solutions.						our operations in South Africa or from other operations in Africa would, in addition to reducing the carbon tax bill, provide potential offset opportunities but these are excluded from the current proposal published by South African National Treasury. As currently proposed, offsets would probably be too expensive to develop.	have been finalised. If an identified project has potential to reduce the carbon tax bill or to earn carbon credits, it will be investigated further. Owing to the complexity of the proposals as drafted, this component will be outsourced to specialist consultants.	ZAR10M to date.
Fuel/energy taxes and regulations	In 2010 AngloGold Ashanti commenced a large technology innovation project that aimed at safer, more productive and	Reduced operational costs	>6 years	Direct	Likely	High	The potential energy savings are substantial. With electricity prices in South Africa rising at well above the inflation rate, the benefits are compounded. A 5% reduction in	The company is partnering with a consortium of worldwide development partners with global reach, who will mutually benefit from project success. The	The Technology Innovation Consortium project cost USD8m in 2014 but has tapered off in the last 2 years as some technologies are operationalized.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	energy efficient deep underground mining, in particular new drilling and narrow ore extraction methods for narrow gold-vein underground mines. This project is expected to provide extensive energy and cost benefits (these will be quantified as the projects are specified in more detail).						annual energy needs translates to approximately US\$9 million per year, before consideration of carbon tax savings.	project is staged to ensure that progress can be measured and benefits accrued.	

CC6.1b

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

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in mean (average) temperature	AngloGold Ashanti has operations in the southern part of Argentina, where the average annual temperature at its operations is below 10 degrees Celcius. The predicted increase in temperature in Argentine Patagonia will reduce heating costs at the company's mine operations.	Reduced operational costs	3 to 6 years	Direct	Likely	Low	The predicted temperature increase will reduce the energy required for heating and hence operational costs. The cost savings will increase as average temperatures increase but will depend on the extent of the rise. The reduction in heating energy requirements although small, are anticipated to total US\$ 10,000 to US\$ 50,000 per annum.	The opportunity is managed by adapting equipment operating protocols on the basis of prevailing weather conditions.	No additional costs would be incurred, except for minor control system adjustments.
Change in mean (average) precipitation	AngloGold Ashanti's operations in water positive areas such as Brazil and Ghana require active treatment and release of excess water from process systems. This is achieved using costly water treatment systems. Reduced average precipitation in these regions will reduce the volume of water	Reduced operational costs	>6 years	Direct	Likely	Medium	Operating cost savings from treating lower volumes of excess water ahead of release its to the environment, can be realised.	The opportunity is managed by adapting equipment operating protocols (operating throughput) to lower precipitation cycles.	No additional costs would be incurred.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	required to be treated and consequently the associated total cost of water treatment.								

CC6.1c

Please describe your inherent 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
Other drivers	Uranium is a by-product of some of AngloGold Ashanti's operations in South Africa. Increased demand for nuclear power as a substitute for carbon-based electricity presents an opportunity. AngloGold Ashanti produces uranium oxide concentrates as a by-product. The company considers that	Increased demand for existing products/services	3 to 6 years	Direct	Very likely	Medium-high	Uranium income represented ~US\$23 million in 2016..	AngloGold Ashanti is the largest uranium producer in South Africa and because of the expected demand for nuclear fuel, AGA will explore opportunities to increase its uranium production, especially in South Africa. This strategy includes acquisition of refining assets	The 2011 transaction cost US\$30M. The 2012 transaction cost US\$335M.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	nuclear power has a good outlook in the medium- to long-term and the financial implication of this opportunity lies in a positive influence that uranium prices will rise. In 2011, AGA invested in a company with significant uranium production potential, and acquired the company completely in 2012.							and other production opportunities.	

CC6.1d

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1e

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

CC6.1f

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

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

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	Mon 01 Jan 2007 - Mon 31 Dec 2007	1088000
Scope 2 (location-based)	Mon 01 Jan 2007 - Mon 31 Dec 2007	3423000

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 2 (market-based)	Mon 01 Jan 2007 - Mon 31 Dec 2007	0

CC7.2

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

Please select the published methodologies that you use

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

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

CC7.3

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

Gas	Reference
HFCs	IPCC Fourth Assessment Report (AR4 - 100 year)
Other: CFC-11	IPCC Third Assessment Report (TAR - 100 year)
CO2	IPCC Fourth Assessment Report (AR4 - 100 year)

CC7.4

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

Fuel/Material/Energy	Emission Factor	Unit	Reference
Aviation gasoline	2.54	metric tonnes CO2e per m3	NGA Factors 2008
Bituminous coal	2.47	metric tonnes CO2e per metric tonne	IPCC2006
Distillate fuel oil No 6	3.35	metric tonnes CO2e per m3	IPCC2006
Diesel/Gas oil	2.93	metric tonnes CO2e per m3	IPCC2006
Liquefied petroleum gas (LPG)	2.97	metric tonnes CO2e per metric tonne	NGA Factors 2008
Natural gas	2.56	metric tonnes CO2e per m3	IPCC2006
Lubricants	2.81	metric tonnes CO2e per m3	IPCC2006
Motor gasoline	2.5	metric tonnes CO2e per m3	IPCC2006

Further Information

Page: **CC8. Emissions Data - (1 Jan 2016 - 31 Dec 2016)**

CC8.1

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

Operational control

CC8.2

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

1182010

CC8.3

Please describe your approach to reporting Scope 2 emissions

Scope 2, location-based	Scope 2, market-based	Comment
We are reporting a Scope 2, location-based figure		

CC8.3a

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

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
2879697		

CC8.4

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

Yes

CC8.4a

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

Source	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded
Land Clearance	Emissions are relevant but not yet calculated			Land clearance has been excluded from all operations because of the scientific uncertainty around measurement and the non-material contribution of land clearance to AGA's carbon footprint.
Process Emissions	Emissions are not evaluated			AGA does not have material process emissions.
Scope 2 emissions of some regional offices		Emissions are not evaluated		A detailed assessment of all Scope 1-3 emissions found that emissions from regional offices were not material. Our efforts are focussed on collecting material emissions data.

CC8.5

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	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	More than 2% but less than or equal to 5%	Data Gaps Metering/ Measurement Constraints	With several operations in, remote locations, it is difficult to ensure that full disclosure is occurring. However, a rigorous internal audit program is progressively removing shortfalls in approach. There is some uncertainty as to whether the emissions factors used for fuels in the different countries of operation are the most current. Emissions from land clearance and explosives were determined in a comprehensive GHG emissions study carried out in 2008/9 and were found to be immaterial. The quantification of direct emissions from land clearance activities is under review.
Scope 2 (location-based)	Less than or equal to 2%	Data Gaps Assumptions Metering/ Measurement Constraints Other: Published Emission Factors	Where isolated instances of immaterial emissions exist, eg with respect to regional office buildings, these emissions are not included. AGA relies on advice from regulators in countries with national electricity grids to provide conversion factors between quantity of electricity consumed and resultant emissions. AGA reports on a calendar year basis and sometimes, regulators do not provide latest information in time for reporting. (In these instances, data will be restated in subsequent years.) AGA has real time check metering installed at most but not all grid supply points.
Scope 2 (market-based)			

CC8.6

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

Third party verification or assurance process in place

CC8.6a

Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/79/779/Climate Change 2017/Shared Documents/Attachments/CC8.6a/2016 SDR_EY Assurance Statement .pdf	Pgs 9, 10 and 14	ISAE 3410	100

CC8.6b

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emission Monitoring Systems (CEMS)

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission
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CC8.7

Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

Third party verification or assurance process in place

CC8.7a

Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements

Location-based or market-based figure?	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Location-based	Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/79/779/Climate Change 2017/Shared Documents/Attachments/CC8.7a/2016 SDR_EY Assurance Statement .pdf	Pgs 9, 10 and 14	ISAE 3410	100

CC8.8

Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
Year on year emissions intensity figure	Reasonable Assurance provided
Other: Energy consumption	Reasonable Assurance provided
Other: Energy intensity figure	Reasonable Assurance provided

CC8.9

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

No

CC8.9a

Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO2

Further Information

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC9.1

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

Yes

CC9.1a

Please break down your total gross global Scope 1 emissions by country/region

Country/Region	Scope 1 metric tonnes CO2e
Argentina	119732
Australia	335781
Brazil	51728
Ghana	40737
Guinea	194173

Country/Region	Scope 1 metric tonnes CO2e
Mali	111086
South Africa	101264
Tanzania	227509

CC9.2

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

- By business division
- By facility
- By GHG type

CC9.2a

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

Business division	Scope 1 emissions (metric tonnes CO2e)
Americas Region	171460
Australia Region	335781
Continental Africa Region	573504
South Africa Region	101264

CC9.2b

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

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
Vaal River	59266	-26.967366	26.771278
West Wits	41847	-26.338961	27.495003
Mine Waste Solutions	152	-26.96859	26.769562
Obuasi	981	6.192225	-1.670909
Iduapriem	39755	5.309766	-2.005005
Siguiri	194173	11.428374	-9.18457
Sadiola	103632	13.890411	-11.70318
Yatela	7453	14.105944	-11.78421
Geita	227509	-2.880123	15.765638
Sunrise Dam	113023	-29.075375	122.415161
Tropicana	222759	-29.308227	124.698994
Corrego do Sitio Mineração	35629	-19.987304	-43.84635
Mineração Serra Grande	16098	-14.55833	-49.972000
Cerro Vanguardia	119733	-49.30621	-67.729168

CC9.2c

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

GHG type	Scope 1 emissions (metric tonnes CO2e)
CO2	1182010
HFCs	51838
Other: CFC (R11)	0

CC9.2d

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

Activity	Scope 1 emissions (metric tonnes CO2e)
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Further Information

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC10.1

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

Yes

CC10.1a

Please break down your total gross global Scope 2 emissions and energy consumption by country/region

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Brazil	8361			

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Ghana	108727			
South Africa	2762608			

CC10.2

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

By business division

By facility

CC10.2a

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

Business division	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Americas Region	8361	
Continental Africa Region	108727	
South Africa Region	2762608	

CC10.2b

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

Facility	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Vaal River operations	1222845	
West Wits operations	1333402	
Mine Waste Solutions	206362	
Iduapriem Gold Mine	68477	
Obuasi Gold Mine	40251	
Corrego do Sitio Mineracao	5743	
Mineracao Serra Grande	2618	

CC10.2c

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

Activity	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
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Further Information

Page: **CC11. Energy**

CC11.1

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

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

CC11.2

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

Energy type	MWh
Heat	0
Steam	0
Cooling	0

CC11.3

Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year

4464989

CC11.3a

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

Fuels	MWh
Aviation gasoline	5410
Bituminous coal	101192

Fuels	MWh
Diesel/Gas oil	2892936
Distillate fuel oil No 6	298583
Kerosene	1331
Liquefied petroleum gas (LPG)	5516
Natural gas	1155973
Motor gasoline	4048

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Emissions factor (in units of metric tonnes CO2e per MWh)	Comment
No purchases or generation of low carbon electricity, heat, steam or cooling accounted with a low carbon emissions factor			

CC11.5

Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
4253048	3235514	892889	124645	124645	Total Grid Electricity consumed is 3,235,514 MWh and then self-generation facilities totals 892,889 MWh from fossil fuels and 124,645 MWh from renewables to provide a total electricity consumption of 4,253,048 MWh's.

Further Information

Page: CC12. Emissions Performance

CC12.1

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

Decreased

CC12.1a

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

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Emissions reduction activities	0.71	Decrease	Continuous energy improvement studies and investment activities had identified potential opportunities for compressed air reduction at AGA's South African Region Mponeng Mine –Reductions were achieved by reducing wastage and improving control in low demand periods together with the installation of in-stope valves.

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
			<p>These savings came into effect in 2016 Q4. The savings resulted in an 0.161% scope 2 emissions reduction as calculated below: Calculations: 2015 AGA Total Emissions = 4161924 Tons CO₂e, the project resulted in a total reduction in 2016 of 6701 Tons CO₂e thus calculating: $(6701/4161924) = 0.161\%$ Continuous energy improvement studies and investment activities had identified potential opportunities for compressed air reduction at AGA's South African Region Vaal River Compressed Air Ring - Stoppage of Kopanang Compressor. Air consumption has reduced in recent years, therefore the 15MW compressor was not needed within the Vaal River region. It was also making overall compressed air ring control difficult and inefficient. However, the compressor heated water for the shaft and residence change houses and thus alternative heating had to be installed before the compressor could be stopped. Heat Pumps were installed after relocating them from Mponeng mine. The overall savings consider the effect of the heat pumps together with the energy saved with the machine offline. The initiative resulted in a total saving of 0.546% scope 2 emissions as calculated below: Calculations: 2015 AGA Total Emissions = 4161924 Tons CO₂e, the project resulted in a total reduction in 2016 of 22711 Tons CO₂e thus calculating: $(22711/4161924) = 0.546\%$</p>
Divestment	0	No change	
Acquisitions	0	No change	
Mergers	0	No change	
Change in output			
Change in methodology	0	No change	
Change in boundary	0	No change	
Change in physical operating conditions	0	No change	
Unidentified		No change	
Other	1.7	Decrease	<p>Outside the measured savings reduction in the South Africa Region for the mentioned projects that combines to $(0.161 + 0.546) = 0.707\%$. AGA's total emissions has reduced from the 2015 combined scope 1 + 2 emissions of 4161924 TCO₂e to 2016 combined scope 1 + 2 emissions of 4061707 TCO₂e equalling 2.41%. Calculations below therefore indicate other savings of 1.7%. Calculations: Total 2015 scope 1 + 2 TCO₂e = 4161924, Total 2016 scope 1 + 2 TCO₂e = 4061707. Reduction is therefore $((4061707/4161924) - 1) * 100\% =$</p>

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
			2.41% with South African Region reported savings of 0.707% thus other savings calculates to $(2.41 - 0.707) = 1.7\%$

CC12.1b

Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

CC12.2

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

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.000954797	metric tonnes CO ₂ e	4254000000	Location-based	4.2	Decrease	Higher revenue due to higher annual gold price received and lower absolute emissions. Note that the 2015 Absolute GHG emissions value have been corrected in 2016.

CC12.3

Please provide any additional intensity (normalized) metrics that are appropriate to your business operations

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.475	metric tonnes CO2e	tonne of ore processed	85504000	Location-based	6.5	Increase	Despite a 2.4% reduction in absolute emissions, during 2016 there was a materially lower volume of ore processed (8.4% lower). This resulted in a 6.5% increase in the carbon emission intensity per tonne of ore processed. The lower denominator was a overriding driver in the reduced intensity figure.

Further Information

Page: CC13. Emissions Trading

CC13.1

Do you participate in any emissions trading schemes?

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

CC13.1a

Please complete the following table for each of the emission trading schemes in which you participate

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership
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CC13.1b

What is your strategy for complying with the schemes in which you participate or anticipate participating?

CC13.2

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

No

CC13.2a

Please provide details on the project-based carbon credits originated or purchased by your organization in the reporting period

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
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Further Information

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

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Relevant, calculated	543500	During 2016, a 2014 study undertaken to assess the pass-through carbon tax implications in the South African Region was updated. The average data method was used, whereby secondary emission factors for the manufacture of key carbon-intensive process chemicals were used to determine the indirect carbon taxes likely to flow through by virtue purchasing these commodities. Carbon costs in unit of local currency (ZAR per tonne of CO2-e) were determined for each of the commodity, based on the actual 2016 expenditure on these products. Thereafter the product of these carbon costs and the annual value spent on each, provides a good estimate of the total indirect carbon emissions from the purchase of these key commodities.	0.00%	The 2016 assessment included the following key commodities: Ammonia, Soda Ash, Caustic Soda, Activated Carbon, Explosives, Sodium Cyanide, and steel grinding media. The figures reported here are for goods and services procured in South Africa only, which is a material proportion of the AGA spend on similar goods and services. We used industry averages and worked from our extensive knowledge of our suppliers' activities. Given the high carbon footprint of the South African electrical grid (owing to coal-fired power stations), the data cannot be used to calculate equivalent carbon emissions in our other countries of operations, particularly in those countries with a high level of hydropower in the national energy mix, such as Brazil.
Capital goods	Relevant, not yet calculated	0			As the company's Scope 1 and 2 emissions are high (4.1 Mt in 2016), given our 2007 and 2008 carbon footprint exercise, it is expected that the relative scope 3 emissions from capital goods purchases will be very small by comparison and do not justify the effort and expense of

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
					assessing them. However this has not been verified.
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, calculated	2800	These activities comprise motorcycle, petrol and diesel van, heavy goods diesel vehicle and air freight deliveries. A detailed external assessment was carried out in 2009 of 2007 deliveries across the company. Invoices were reviewed to calculate distances travelled. The WBCSD/WRI Protocol was followed. Because at the time, the emissions were small relative to the company's GHG footprint (4.9 Mt), these emissions were deemed to be immaterial and subsequent assessments have not been made. The 2016 figure has been factored off 2007 Scope 1 and Scope emissions relative to 2016 Scope 1 and Scope 2 emissions.	0.00%	Note that the 2007 and 2008 carbon footprint exercise, off which 2016 emissions are factored, utilised value chain partner information. In the factoring, the divestment of 2 mining operations has been ignored).
Upstream transportation and distribution	Not relevant, explanation provided	0			These emissions have been included in the section: Fuel-and-energy-related activities (not included in Scope 1 or 2).
Waste generated in operations	Relevant, calculated	11000	A detailed external assessment was carried out in 2009 of 2007 waste generated across the company. Delivery notes and manifests were inspected and the results tallied. The WBCSD/WRI Protocol was followed. Because the emissions (13.4 kt CO2e) were small relative to the company's GHG footprint, these emissions were deemed to be immaterial and subsequent assessments have not been made. The 2016 figure has been factored off 2007	0.00%	Note that the 2007 and 2008 carbon footprint exercise, off which 2016 emissions are factored, utilised value chain partner information. In the factoring, the divestment of 2 mining operations has been ignored).

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			Scope 1 and Scope emissions relative to 2016 Scope 1 and Scope 2 emissions.		
Business travel	Relevant, calculated	3750	Business travel calculations comprise flights and hotel stays. A detailed external assessment was carried out in 2009 of 2007 business travel across the company. Data on flights and hotel stays was collected from the company's travel agents and analysed to calculate the emissions. Because the emissions (4.7 kt CO2e) were small relative to the company's GHG footprint, these emissions were deemed to be immaterial and subsequent assessments have not been made. The 2016 figure has been factored off 2007 Scope 1 and Scope emissions relative to 2016 Scope 1 and Scope 2 emissions.	0.00%	Note that the 2007 and 2008 carbon footprint exercise, off which 2016 emissions are factored, utilised value chain partner information. In the factoring, the divestment of 2 mining operations has been ignored).
Employee commuting	Relevant, not yet calculated	0			As the company's Scope 1 and 2 emissions are high (4.1 Mt in 2016) it is expected that scope 3 emissions from employee commuting will be very small by comparison and do not justify the effort and expense of assessing them. However this has not been verified.
Upstream leased assets	Not relevant, explanation provided	0			The company's operating model is to own and operate assets. Leased assets are insignificant.
Downstream transportation and distribution	Relevant, not yet calculated	0			Gold is a low volume, high value product. AngloGold Ashanti produced 3.6 Moz of gold, against revenue of \$4.1 bn. Transportation and distribution of this mass of product would result in insignificant emissions compared to our

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
					Scope 1 and 2 emissions of 4.1 Mt and does not justify the effort and expense of assessing them. However this has not been verified.
Processing of sold products	Relevant, not yet calculated	0			Except for our Brazilian operations, the gold dore produced by AngloGold Ashanti is refined by third parties. We refine the dore we produce in Brazil ourselves. Refining of dore and fabrication of jewellery and coins are not energy-intensive, unlike mining, milling and smelting. It is anticipated that GHG emissions from these activities would be very small compared to our Scope 1 and 2 emissions of 4.1 Mt and does not justify the effort and expense of assessing them. However this has not been verified.
Use of sold products	Not relevant, explanation provided	0			Gold produced in 2015 was used in jewellery (47.3%), investment products - bars and coins (24.2%), central bank reserves (8.7%) and technological applications (7.5%). None of these uses demand the consumption of energy for the product itself, so emissions are irrelevant.
End of life treatment of sold products	Not relevant, explanation provided	0			It is estimated that, because of its value, 99% of the world's gold ever produced is still in circulation. Gold is recycled not disposed of. It may be recycled infinitely. Global refined gold production in 2016 was 4.58 kt. Of this, 28.3% was from gold recycling sources. The emissions from this are not material.

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Downstream leased assets	Not relevant, explanation provided	0			The company's operating model is to own and operate assets. Leased assets are insignificant.
Franchises	Not relevant, explanation provided	0			The company does not have any franchises.
Investments	Relevant, calculated	287000	Sourced from CDP 2014 submission.	100.00%	AngloGold Ashanti has 2 joint ventures that it does not operate, Kibali Mine in the DRC and Morila mine in Mali . Randgold Resources, publishes GHG emissions in its at site level in its Sustainability report. The amount given represents the combined GHG emissions of Kibali and Morila mines in 2014.
Other (upstream)					
Other (downstream)					

CC14.2

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

No third party verification or assurance

CC14.2a

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

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 3 emissions verified (%)
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CC14.3

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

Yes

CC14.3a

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

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Change in methodology	20	No change	The changed estimation method for 2016 Scope 3 data involves factoring the 2016 Carbon Scope 3 emissions based on the 2007 Scope 3 emissions and relative Scope 1 and Scope 2 emissions for those years, which are regarded as a proxy for production activity. In contrast, the reported 2015 Scope 3 data was estimated on a basis of conservative year on year escalations off 2008 Carbon footprint data.

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Purchased goods & services	Change in output			
Waste generated in operations	Change in methodology	9	Increase	The changed estimation method for 2016 Scope 3 data involves factoring the 2016 Carbon Scope 3 emissions based on the 2007 Scope 3 emissions and relative Scope 1 and Scope 2 emissions for those years, which are regarded as a proxy for production activity. In contrast, the reported 2015 Scope 3 data was estimated on a basis of conservative year on year escalations off 2008 Carbon footprint data.
Business travel	Change in methodology	41	Decrease	The changed estimation method for 2016 Scope 3 data involves factoring the 2016 Carbon Scope 3 emissions based on the 2007 Scope 3 emissions and relative Scope 1 and Scope 2 emissions for those years, which are regarded as a proxy for production activity. In contrast, the reported 2015 Scope 3 data was estimated on a basis of conservative year on year escalations off 2008 Carbon footprint data.
Investments	Other: Unchanged data source	0	No change	The actual 2016 GHG emissions for investments were not publically available and the latest available data for 2014 was used.

CC14.4

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

Yes, other partners in the value chain

CC14.4a

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

In our engagements with some of our investors and financiers, we provide GHG emissions data and climate change approach information on request, though they often obtain the primary information from our detailed annual Sustainability Reports and CDP reports.

CC14.4b

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

Type of engagement	Number of suppliers	% of total spend (direct and indirect)	Impact of engagement
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CC14.4c

Please explain why you do not engage with any elements of your value chain on GHG emissions and climate change strategies, and any plans you have to develop an engagement strategy in the future

Further Information

Module: Sign Off

Page: CC15. Sign Off

CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
Tony da Cruz		Other: Group Vice President / Head of Discipline

Further Information

CDP