Anglo American - Climate Change 2018

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Anglo American is a global diversified mining company. Our portfolio of world class competitive mining operations and undeveloped resources – spanning diamonds (through De Beers), copper,

platinum and other platinum group metals (PGMs), iron ore, coal and nickel – provides the raw materials to meet the growing consumer-driven demands of the world's developed and maturing economies.

De Beers has the global leadership position in diamonds, producing around a third of the world's rough diamonds, by value.

Anglo American has a world-class asset position in copper, with the potential to establish a leading position built around its interests in two of the world's largest copper mines – Los Bronces (a 50.1% owned subsidiary) and Collahuasi (44% owned joint operation), with Reserve Lives of 23 years and 69 years, respectively.

Amplats (held through a 78% interest in Amplats Limited) is the world's leading PGM producer, extracting and processing around 40% of all newly mined platinum.

Anglo American's iron ore operations provide customers with niche, high iron content ore, a large percentage of which is direct-charge product for blast furnaces. In South Africa, we have a majority share (69.7%) in Kumba Iron Ore, where the Sishen and Kolomela mines produce leading quality lump ore and also a premium fine ore. In Brazil, we have developed the integrated Minas-Rio

operation (100% ownership), consisting of an open pit mine and beneficiation plant in Minas Gerais, which produces a high quality pellet feed product, offering a high iron content

and low levels of contaminants. In manganese, we have a 40% share in Samancor Holdings, with operations based in South Africa and Australia.

We are the world's third largest exporter of metallurgical coal and our coal operations in Australia serve customers throughout Asia and the Indian sub-continent, Europe and South America. In South Africa, we supply thermal coal to both the export and domestic energy markets. From the Richards Bay Coal Terminal, we export throughout the Atlantic, Mediterranean and Asia-Pacific regions. In Colombia, Anglo American, BHP and Glencore each have a one-third shareholding in Cerrejón, one of the country's largest thermal coal exporters.

Our Nickel business is well placed to serve the global stainless steel industry, which depends on nickel and drives demand for it, and to benefit from demand for batteries for

electric vehicles.

We will continue to refine and upgrade our asset portfolio as a matter of course in order to ensure that our capital is deployed effectively to generate enhanced and sustainable

returns for our shareholders. Anglo American has restructured significantly over the last four years and, as a result, upgraded the overall quality of its portfolio of mining assets since 2013, moving from

68 assets to 36 at the end of 2017. During 2017, we completed the disposal of our 83.3% interest in the thermal coal Dartbrook mine (Metallurgical Coal) to Australian Pacific Coal Limited, our 42.5% interest in the Pandora mine (Platinum) and certain Amandelbult resources (Platinum). In February 2018, we completed the disposal of Platinum's 85% interest in Union mine to a subsidiary of Siyanda Resources Proprietary Limited. The Group has ceased, or is ceasing, production at a number of operations. Operations that have been closed or placed onto care and maintenance in recent years include: Snap Lake (De Beers) and Peace River Coal (Metallurgical Coal), both in Canada; and Twickenham platinum mine and Thabazimbi (Iron Ore), both in South Africa. The sale of the

Eskom-tied domestic thermal coal

operations consisting of New Vaal, New Denmark, and Kriel collieries, as well as four closed collieries (together, 'Eskom-tied operations') by Anglo Operations Proprietary Limited and Anglo Inyosi Coal Proprietary Limited to a wholly owned subsidiary of Seriti Resources Holdings Proprietary Limited was announced on 10 April 2017. The transaction was completed on 1 March 2018.

We see climate change as one of the defining challenges of our era. We recognise the science of climate change and acknowledge that we have a role to play in limiting global warming to 2°C. To succeed we will need to be both resilient and innovative. FutureSmart Mining™ is Anglo American's innovation-led approach to responsible and sustainable mining – and it is critical for the future of how we do business. It is about finding new ways to make mining safer, more efficient, more sustainable, more harmonised with the needs of host communities, and with a smaller environmental footprint. Anglo American has taken decisive steps for more than a decade to contribute to the global effort to reduce emissions, while continuing to provide the materials that modern life requires. We are working towards ambitious 2030 targets as part of our roadmap for developing a carbon-neutral mine.

C0.2

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

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

C0.3

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

Australia
Botswana
Brazil
Canada
Chile
Namibia
Peru
South Africa
United Kingdom of Great Britain and Northern Ireland
Zimbabwe
Other, please specify (Rest of World)

C0.4

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

USD

C0.5

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

Operational control

C-CO0.7

(C-CO0.7) Which part of the coal value chain and other areas does your organization operate in?

Row 1

Coal value chain

Underground coal mining

Surface coal mining

Other divisions

Please select

C-MM0.7

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

Row 1

Mining

Copper

Platinum group metals

Iron ore

Nickel

Diamonds

Processing metals

Copper

Platinum group metals

Nickel

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Chief Executive Officer (CEO)	Climate Change is a matter identified as material to our stakeholders and our business requiring Board-level responsibility. Understanding the effects of climate change on our business and how it may impact our value chain is important as we strive to maximise the opportunities associated with the transition to a low carbon future. At Anglo American, climate change is the purview of the Sustainability Committee of the Board (chaired by Jack Thompson, non-executive director)). The Committee oversees, on behalf of the Board, material policies, processes, and strategies designed to manage sustainability risks and opportunities. The Committee meets quarterly and comprises Anglo American's chairman; chief executive; Group technical director; chairman of the Board; and non-executive directors. Business unit CEOs and Group directors of HR and corporate relations also participate in the meetings.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	Matters relating to climate change and energy are included in each quarterly report to the Committee, and also feature periodically as stand-alone items on the agenda. In 2017, the Board and members of the Sustainability Committee visited operations in South Africa, Chile, Brazil, Peru and the UK. In addition to the committee's standing agenda items, the following matters were discussed as they relate to climate change, during 2017: • development of Anglo American's new Sustainability Strategy, including ambitious energy and GHG targets; and • progress on actions to meet disclosure commitments under the 'Aiming for A' shareholder resolution. In addition to the discussions at the Sustainability Committee, the Audit Committee reviews the company's material risks, including climate change, twice a year. The Remuneration Committee takes into account financial as well as sustainability indicators in its decision-making process. Sustainability metrics are included in the annual and long term incentive plans of the Board.

C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Other C-Suite Officer, please specify (Group head of S&SD)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly

C1.2a

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

Climate change is a key strategic issue and falls under the executive responsibility of the Group's technical director, Tony O'Neill, who is an executive member of the Board and the Group Management Committee (GMC). The GMC is comprised of the chief executive, business unit CEOs, Group directors of corporate functions and the Group general counsel. The Group technical director is supported by the Group head of safety and sustainable development, the head of environment and the lead for energy and carbon effectiveness. The Group director of corporate relations, also a member of the Group Management Committee, Anik Michaud, is responsible for the public policy, social performance and engagement aspects of climate change.

The GMC is supported by corporate, operational and investment sub-committees. These committees are responsible, respectively, for: reviewing corporate policies and processes, as well as the financial performance and budgets for business units; driving operational best practices across the Group and the setting of technical standards; and making recommendations to the GMC and chief executive on capital-investment proposals.

The Corporate Committee reviews corporate and ethical policies and processes, and financial performance and budgets at business unit level. Applications for funding related to climate change made by business units are made to this committee. The Operational Committee is responsible for driving climate change best practices across the Group and the setting of technical standards. The Investment Committee is responsible for making recommendations to the GMC and chief executive on capital investment proposals such as those relating to bulk water supply (relevant to our Platinum operations, for example) and clean energy generation (relevant to the mine methane capture and energy generation projects at our Metallurgical Coal operations, for example).

The meetings of the Group Energy/Carbon Forum offer energy and environmental practitioners from across Anglo American an opportunity to share updates on performance, good-practice ideas and policy developments.

Climate change issues are monitored via a central database for quantitative consumption, emissions and savings data. Narrative reports are produced by business units on a quarterly basis. The CEO scorecard includes climate change metrics, which are reported at each Board and Sustainability Committee meeting.

C1.3

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

C1.3a

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

Who is entitled to benefit from these incentives?
Corporate executive team

Types of incentives

Monetary reward

Activity incentivized
Emissions reduction target

Comment
The CEO scorecard is compiled every quarter and is the basis for the CEO's performance reporting to the Board. Each business unit CEO has a scorecard that is aligned with what is in the Group CEO scorecard. These include ECO2MAN (GHG and energy reduction) targets. The Anglo American chief executive and business unit CEO's scorecards include performance on energy and carbon. In 2017, the Board approved the inclusion of our 2020 energy and carbon targets within the executive Long Term Incentive Plan. Anglo American has a target of achieving an 8% improvement in energy use and a 22% saving in GHG emissions by 2020, against our projected 'business as usual' (BAU) consumption. In other words, by 2020 our consumption and emission levels will be 8% and 22% lower than they would have been had we not implemented reduction and efficiency measures.

Who is entitled to benefit from these incentives?
Energy manager

Types of incentives
Monetary reward

Activity incentivized
Energy reduction target

Comment
A portion of energy managers' variable remuneration is linked to quantitative energy and GHG targets developed through the bottom-up ECO2MAN programme and associated targets.

Who is entitled to benefit from these incentives?
Environment/Sustainability manager

Types of incentives
Monetary reward

Activity incentivized
Emissions reduction target

Comment
A portion of environment/sustainable development managers' variable remuneration is linked, where relevant, to quantitative GHG and climate change reductions in line with ECO2MAN targets.

Who is entitled to benefit from these incentives?
Corporate executive team

Types of incentives
Monetary reward

Activity incentivized
Emissions reduction target

Comment
At Amplats, both emission reduction and energy reduction targets are included as individual performance indicators of each corporate executive team member. These indicators form part of the overall deliverables of each executive, which play a part in determining their final performance rating.

Who is entitled to benefit from these incentives?
All employees

Types of incentives
Recognition (non-monetary)

Activity incentivized
Emissions reduction project

Comment
The global recognition programme has three levels – Applaud Now, Applaud Stars and the Applaud Annual Awards – creating both formal and informal ways to acknowledge individuals or teams across the business who have gone above and beyond to complete a task or realise an objective. The awards are linked to our Code of Conduct which is underpinned by our values and the

behaviours that all employees should demonstrate in their daily work. One of the key areas of the Code is 'We protect safety, health and environment', so by recognising people who have done something that helped improve health, safety or protect the environment (through the climate change work for example), through our recognition programme Applaud, we make sure that we are putting our values into action and that we are following our Code.

C2. Risks and opportunities

C2.1

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

	From (years)	To (years)	Comment
Short-term	0	3	
Medium-term	3	5	
Long-term	5	30	

C2.2

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

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

C2.2a

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

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	The Climate Risk and Adaptation (CRA) guideline has been developed in line with the Anglo American Group Integrated Risk Management and Operational Risk Management processes. The CRA guideline is a systematic approach that utilises four layers in order to: identify and analyse climate change associated risks and opportunities; and put measures in place to control those risks. Each business unit submits an annual integrated risk report on the key risks and opportunities (including climate change and adaptation risks) to the corporate centre for review and presentation to the Board. Our approach to adaptation includes building climate-change scenarios using the best available science, whilst using our operating models to identify vulnerability and exposure. We also consider adaptation measures in new project stage-gate evaluations.

C2.2b

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

Two key processes guide how we manage climate-change risks: the Operational Risk Management (ORM) programme for operations, and the Investment Development Model (IDM) for projects.

The ORM guides operations on how to assess risk at each level of activity, with tools to help identify priority unwanted events and the controls we need to put in place and monitor to prevent those events. By way of example, an increased frequency in extreme rainfall events will require changes in monitoring, infrastructure design and emergency preparedness.

The IDM process and evaluation criteria ensure that climate-change risks and opportunities are embedded in the investment design, including the consideration for alternative low-carbon energy sourcing and the adaptation required for extreme weather and long-term climate change. Anglo American's specialist business assurance services are responsible for the overall monitoring and assurance of the risk-management process.

Anglo American's Integrated Risk Management (IRM) process is supported by the Group's Integrated Risk Management Standard. Within this standard, the requirements of effective risk management are highlighted. Risk is assessed across the Group, Business Units, Operations and Capital as well as across corporate functions such as HR, Legal and Safety and Sustainable Development.

Operational Risk Management (ORM) is embedded within the IRM process and assesses risk at the operational level. Risks are continually assessed and critical controls are applied to mitigate the risks identified.

Climate risk and adaptation assessment (CRA) is embedded within ORM. This raises the profile of climate related risks to ensure that they are included in layer 1 (baseline risk assessment) and layer 2 (issue based risk assessment). If climate risk has been adequately considered in Layers 1 and 2, then Layers 3 (task risk management) and 4 (continuous risk management) should not need specific climate inputs.

Once identified, the process will evaluate identified climate change risks to establish root causes, financial and non-financial impacts, and likelihood of occurrence. Consideration of risk treatments is taken into account to enable the creation of a prioritised register and in determining which of the risks should be considered as a principal risk. Residual risk ratings are classified with reference to likelihood and consequence. Climate change consequence ratings span from "insignificant" to "major". For example, we have done work at Venetia where the risk of extreme rainfall events is likely to continue to increase, which has implications for production and safety at open cast operations. As a consequence of this exercise, we will look at storm water drainage requirements to accommodate 1/500 year flood events.

Climate change risks and opportunities are prioritised based on materiality criteria. As in previous years, Anglo American undertakes a methodological approach to identifying, prioritising and reporting on material climate change issues by a process of internal reflection and external stakeholder engagement.

Our process for determining materiality involves three steps: consultation, analysis and approval. The consultation process in 2017 involved extensive desktop research, including: review of the Group Risk Register; global media coverage and analyst reports on Anglo American and the mining sector; and analysis of minuted Board and executive discussions. We also conducted an external consultation survey with a wide range of stakeholders, including investors, customers, suppliers, governments, civil society and industry groups. We will continue to conduct such engagement on a regular basis.

A climate change risk is defined as a principal risk if it poses a risk or combination of risks that would threaten the business model, future

performance, solvency or liquidity of Anglo American (i.e. a substantive impact). Examples of a "major" consequence of relevance to climate change risks would be flood-related business interruptions leading to a greater than 5% of annual revenue loss, a major widespread social impact through conflict around increasingly scarce water resources affected by climate change (jeopardising our social license to operate), a significant breach of law (such as the Australian Safeguard Mechanism), etc. An example of a principal risk related to climate change includes the longer term risk from declining internal combustion engine manufacturing, and a switch to battery operated vehicles instead of fuel cell electric vehicles, which continue to use higher volumes of PGMs. This risk is directly affected by the transition to a lower carbon global economy.

C2.2c

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Anglo American has an active engagement strategy with the governments, regulators and other stakeholders within the countries in which we operate or plan to operate, as well as at international level. We assess portfolio capital investments against political risks and avoid or minimise exposure to jurisdictions with unacceptable risk levels. We actively monitor regulatory and political developments at a national level, as well as global themes and international policy trends, on a continuous basis. For example, in Australia, the federal government implemented the climate change Safeguard Mechanism in July 2016 to restrict GHG emissions. In South Africa, our operating sites are prepared for the reporting requirements under the national GHG emission reporting regulations, which came into effect in April 2017.
Emerging regulation	Relevant, always included	Regulations related to carbon pricing (such as the carbon tax in South Africa) will increase capital and operating costs. Our regulatory teams within each country also provide us with new or pending regulatory issues within the water areas to allow us to plan for future changes. Anglo American S&SD, projects, Group legal departments, the Minerals Council of South Africa forums and other working groups also inform the business risks related to future climate-related regulation. Regulatory and tariff information gathered in this manner is integrated into our on-site climate and water risk assessment processes that are ongoing. Recognising the potential for a range of carbon pricing and offset/incentive policies to emerge in the medium term, we continue to work with governments, industry peers and other stakeholders in developing and implementing effective, efficient and equitable climate-change policies. For example, Anglo American has proactively engaged in the design of the carbon tax in South Africa through providing comments on draft designs and through our involvement in Industry Task Team on Climate Change (ITTCC) and as members of the Minerals Council of South Africa, Business Unity South Africa and the National Business Initiative. Our ECO2MAN energy and GHG management programme mitigates our exposure to carbon taxation by reducing operational GHG emissions. The tax is expected to be operational by 1 January 2019.
Technology	Relevant, always included	Low carbon technologies with the potential to negatively impact demand for our products are assessed on an ongoing basis. Additionally, technology development has the potential to enable more cost-effective achievement of our long term GHG mitigation target. As a member of the ICMM, Anglo American has access to research and discussions on emerging technology-related risks as well as best practice available technologies. We are also investing in new technologies: FutureSmart Mining™ is Anglo American's innovation-led approach to responsible and sustainable mining – and it is critical for the future of how we do business. We are looking beyond our own industry to re-imagine the future of mining, using open-innovation principles and partnerships to find solutions that will materially improve efficiencies and our competitive positions. We believe that one day all mines will be both carbon and water-neutral (as well as low cost and scalable) with a minimal footprint that is harmonised with the needs of our host communities – and that FutureSmart Mining™ is our pathway to that future. We invest in low-carbon research and development (R&D), equipment, products, and services. This includes investment into Carbon Capture and Storage (CCS) (through the Australian Coal 21 Fund and the South African Centre for Carbon Capture and Storage), CCS and utilisation (through De Beers' work on CO2 mineralisation of kimberlite tailings), and investment into the development of fuel cells and the hydrogen value chain through our PGM investment programme. Anglo American has taken proactive steps to influence climate-related technology risks and opportunities directly by investing in the development of the fuel cell and hydrogen value chain though our PGM investment programme. Amplats will invest USD100 million, through AP Ventures, into a specialist 12-year Fund dedicated to investment in advanced companies utilising the unique properties of PGMs. Our longer term partnership research programmes include piloting platinum-based fuel cells for mobile and stationary power systems.
Legal	Relevant, always included	The Operational Risk Management (ORM) programme for operations, and the Investment Development Model (IDM) for projects include a consideration of legal climate change risks. Examples of legal climate change risks include the Safeguard Mechanism affecting our Metallurgical Coal business in Australia and the risks of non-compliance with GHG reporting regulations affecting our South African operations. In Australia, the federal government implemented the climate change Safeguard Mechanism in July 2016, to restrict GHG emissions. We continue to explore options for offsets should there be a potential exceedance, including the use of carbon credits. In South Africa, our operating sites are prepared for the reporting requirements under the national GHG emission reporting regulations, which came into effect in April 2017.
Market	Relevant, always included	The transition to lower carbon, climate resilient economies is expected to have impacts on the demand for our products and these trends are factored into our risk and opportunity assessment procedures. In 2015, we assessed the climate-related scenario risks and opportunities for the thermal coal market to 2030 and beyond. The exercise highlighted the continued role of thermal coal in the global energy mix, even within the International Energy Agency (IEA) 2°C Scenario, with an increasing contribution from alternative low-carbon energy sources and extensive deployment of CCS technologies. In 2016, we undertook a qualitative assessment to determine implications for product demand for copper and PGM markets. The qualitative analysis, which included the IEA 2°C Scenario, indicates that in the transition to a low-carbon economy, and under increasing climate constraints, the demand for both metals is positive, and is particularly attractive for copper. Society's rising global access to electricity, combined with the demand to provide it through renewable sources, will rely on the use of copper as one of the most efficient conductors of electricity. Our intention is to complete a quantitative analysis of the climate-scenario-related impacts on copper, nickel, PGMs, iron ore and metallurgical coal in 2018. The analysis will enhance our view of low-carbon transition risks and align with disclosure requirements, including the recently issued recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD). We harvested the Khatu Solar Park, which is located adjacent our Sishen mine in the Northern Cape, as a Clean Development Mechanism project. Carbon credits which will be issued once the 100MW CSP IPP, which is currently under construction, enters production with feed-in to the national power grid.
Reputation	Relevant, always included	The climate change aspects considered in the Operational Risk Management (ORM) programme for operations include climate-related reputational risks. Climate change regulation continues to evolve rapidly and many of the proposed developments have significant potential reputational and financial implications of non-compliance. Failure to demonstrate positive climate change action would damage Anglo American's reputation and impact our relationships with customers, investors, business partners, regulators and broader society. Anglo American is experiencing increasing pressure from investors, in particular, to proactively manage climate change risks and opportunities which are increasingly seen as material to shareholder value. The recently issued recommendations of the TCFD are an example.

	Relevance & inclusion	Please explain
Acute physical	Relevant, always included	The climate change aspects considered in the ORM programme for operations, and the IDM for projects include acute physical risks. We have been working with the UK Met Office since 2010, and more recently also with the CSIR in South Africa and other recognised experts on climate science. Initial climate studies identified our highest-risk sites as being located in Peru and Chile, with several other operations also vulnerable to extreme weather events. In 2012, we developed climate scenarios for vulnerable regions, which we then used to develop best-practice guidance for our operations and new investment projects. In 2016, we undertook a high-resolution modelling exercise with the UK Met Office, for the Los Bronces underground project in Chile. The scenario data has informed our catchment-based water-model, air-quality and natural-hazard assessments and control measures. In 2017, Amplats initiated a climate-modelling and adaptation exercise across all of our Platinum operations in South Africa. Similar exercised are planned for Debswana's Jwaneng and Orapa operations in Botswana.
Chronic physical	Relevant, always included	The climate change aspects considered in the Operational Risk Management (ORM) programme for operations, and the Investment Development Model (IDM) for projects include chronic physical risks. We have been working with the UK Met Office and other recognised experts on climate science since 2010. Initial climate studies identified our highest-risk sites as being located in Peru and Chile, with several other operations also vulnerable to extreme weather events. In 2012, we developed climate scenarios for vulnerable regions, which we then used to develop best-practice guidance for our operations and new investment projects. In 2016, we undertook a high-resolution modelling exercise with the UK Met Office, for the Los Bronces underground project in Chile. The scenario data has informed our catchment-based water-model, air-quality and natural-hazard assessments and control measures. In 2017, Amplats initiated and have since completed a climate-modelling and -adaptation exercise across all of its operations in South Africa. Similar exercises are planned for Debswana's Jwaneng and Orapa operations in Botswana.
Upstream	Relevant, sometimes included	A catchment-based approach is an integral component of our new Water Management Standard. For example, we recently participated in the Olifants River Catchment Management Forum established with other mining companies, comprised of various local stakeholders. The consortium assesses acid mine drainage in the Olifants river catchment in Mpumalanga, including the feasibility of applying mine-impacted water for irrigation purposes. We also piloted the ICMM water guidance at Minas Rio through a multi stakeholder workshop with particular emphasis on perceived risks. In addition, we use the Socio-Economic Assessment Toolbox (SEAT) to understand our water related socio-economic impacts, enhance stakeholder dialogue and the management of social issues. Our ongoing stakeholder engagement provides us with internal company knowledge that allows us to integrate these issues into our risk processes. Climate-related risks in our supply chain are increasingly considered. Climate-smart procurement will see us buying more high-efficiency equipment and working with suppliers on innovation and technology change. Examples of successful measures to work with our supply chain to reduce our direct and indirect risks include: • working with key global suppliers to understand their innovation plans, and discussing how those can support safety and sustainability objectives • changing a fuel contract to a new fuel that includes an additive that improves fuel efficiency and reduces related GHG emissions • requiring that service providers transporting employees meet requirements regarding the specification, operation and maintenance of buses • working with suppliers to source more efficient products that minimise operating costs and reduce GHG and other emissions • efforts to recycle mining consumable goods, including conveyor belts and tyres, to reduce environmental impacts.
Downstream	Relevant, sometimes included	Anglo American considers customers in our assessment of climate risk particularly with respect to those using our thermal coal products and those processing our iron ore products, as these collectively represent more than 90% of our scope 3 emissions. Our Platinum business actively invests in the hydrogen value chain, a downstream user of PGMs. Amplats will invest USD100 million, through AP Ventures, into a specialist 12-year Fund dedicated to investment in advanced companies utilising the unique properties of PGMs. Our longer term partnership research programmes include piloting platinum-based fuel cells for mobile and stationary power systems. In February 2017, Anglo American and 12 other companies launched the global Hydrogen Council (now 39 companies). Through the Council we confirmed our ambition to accelerate investment in the development and commercialisation of both hydrogen and fuel cell sectors.

C2.2d

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

Management is responsible for monitoring progress of actions to mitigate key risks and to determine if any such risk falls outside the limits of our risk appetite. Management is supported through the Group's internal audit programme, which evaluates the design and effectiveness of controls. The risk management process is continuous; key risks are reported to the Audit Committee, with sustainability risks also being reported to the Sustainability Committee.

Our process for determining materiality involves three steps: consultation, analysis and approval. The consultation process in 2017 involved extensive desktop research, including: review of the Group Risk Register; global media coverage and analyst reports on Anglo American and the mining sector; and analysis of minuted Board and executive discussions. We also conducted an external consultation survey with a wide range of stakeholders, including investors, customers, suppliers, governments, civil society and industry groups. We will continue to conduct such engagement on a regular basis.

An example of a physical risk assessed and managed through this process is the risk of climate-induced extreme weather events. Anglo American seeks to understand the physical implications of climate change for our operations and neighbouring communities, and to implement appropriate adaptation responses. Key elements of our approach include:

•building climate scenarios using the best available science

•using our Operating Model to identify vulnerability and exposure

•integrating critical controls into operational risk management.

Among the key adaptation measures are the considerations for catchment impacts, including long-term water supply security, the community exposure and changes in mine and equipment design (for example, stormwater drainage, slope stability and ventilation), and in hazard monitoring and emergency preparedness. Direct management action has not been taken given the long-term and uncertain nature of the risk. Management action has been focused on understanding the potential changes and required monitoring and critical controls. In 2016, we undertook a high-resolution modelling exercise with the UK Met Office, for the Los Bronces underground project in Chile. The scenario data has informed our catchment-based water-model, air-quality and natural-hazard assessments and control measures. In 2017, Platinum initiated a have since completed a climate-modelling and adaptation exercise across all of its operations in South Africa. Similar exercises are planned for Debswana's Jwaneng and Orapa operations in Botswana.

An example of a legal risk assessed and managed through this process is the proposed carbon tax in South Africa. Anglo American has proactively engaged in the design of the tax through providing comments on draft designs and through our involvement in Industry Task Team on Climate Change (ITTCC) and as members of the Minerals Council of South Africa and the National Business Initiative.

Our ECO2MAN energy and GHG management programme mitigates our exposure to carbon taxation by reducing operational GHG emissions. In 2017, a total of 320 energy-efficiency and business improvement projects saved 6.4 million GJ in energy consumption, We have set a new long-term target to reduce absolute GHG emissions by 30% by 2030 against the 2016 level.

Building on the outcomes of the FutureSmart Mining™ Innovation Open Forum on energy that we held in December 2016, we held an energy efficiency workshop in October 2017 to further assist in identifying and prioritising opportunities, and in developing action plans meet our longer term targets. By 2020, we will have completed technical and commercial reviews to identify the priority energy and carbon-reduction options at our major operations. Through FutureSmart Mining™, we are investing in new mineral processing technologies that are more energy efficient than conventional methods of comminution. For example, our novel comminution circuits fragment particles using 30% less energy than conventional means.

We are also exploring low carbon and renewable energy options. For example, we have implemented energy recovery at Platinum's Waterval Smelter; are industry leaders in using rich gas for a combined 140 MW power generation plant using waste mine (methane) from our underground coal mines in Australia; and are exploring CCS options (e.g. through De Beers, we are investigating the potential for mineral carbonation of kimberlite tailings as a CCS technology solution). Carbon offset projects will be pursued to further reduce emissions. Our budget guidelines include provision for the SA carbon tax and the guidance for new investment evaluations include sensitivity to carbon pricing.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Policy and legal: Increased pricing of GHG emissions

Type of financial impact driver

Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description

The draft bill on carbon tax was first issued by the South African government in November 2015 and then reissued in for comment during December 2017. While certain policy and technical aspects remain outstanding, we are evaluating further opportunities to reduce energy use and GHG emissions and options to source carbon offset credits. The proposed tax would increase our operating costs at all of our South African operations (affecting Platinum, Coal South Africa, Kumba Iron Ore and De Beers business units). These operations collectively emitted 1 864 900 tCO2e of Scope 1 emissions in 2017.

Time horizon

Current

Likelihood

Virtually certain

Magnitude of impact

High

Potential financial impact

5700000

Explanation of financial impact

The estimated exposure to carbon tax, with the commencement of the scheme, is USD5.7 million (R70 million) (assuming no pass through in the electricity price as government has indicated will be the case initially).

Management method

Anglo American has proactively engaged in the design of the tax through providing comments on draft designs and through our involvement in the Industry Task Team on Climate Change (ITTCC), the Minerals Council South Africa, Business Unity South Africa and the National Business Initiative. Our ECO2MAN energy and GHG management programme mitigates our exposure by reducing operational GHG emissions. In 2017, globally a total of 320 energy-efficiency and business improvement projects saved 6.4 million GJ in energy consumption. We have set a new long-term target to reduce absolute GHG emissions by 30% by 2030 against the 2016 level. Building on the outcomes of the FutureSmart Mining™ Innovation Open Forum on energy (December 2016), we held an energy efficiency workshop in October 2017 to further assist in identifying and prioritising opportunities, and in developing action plans meet our longer term targets. By 2020, we will have completed technical reviews to identify the priority energy and carbon-reduction options at our major operations. We are exploring low carbon and renewable energy options, have implemented energy recovery, are industry leaders in using rich gas (methane) from our underground coal mines in Australia to power electricity plants and are exploring carbon capture and storage options and carbon offsets. Our budget guidelines include provision for the SA carbon tax and the guidance for new investments evaluations include sensitivity to carbon pricing.

Cost of management

12000000

Comment

We estimate in excess of USD12 million has been invested in energy savings projects, research, policy development and

developing climate change fact bases in South Africa since 2011.

Identifier
Risk 2

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Transition risk

Primary climate-related risk driver
Policy and legal: Increased pricing of GHG emissions

Type of financial impact driver
Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description
In Australia, the federal government implemented the climate change Safeguard Mechanism in July 2016, to restrict GHG emissions. • It covers facilities with emissions greater than 100ktCO2e (i.e. all our Metallurgical Coal sites). It is a benchmarking framework where a baseline emissions level is set for each operation based on the last five years (FY 2009-10 to FY 2013-14) of data for Scope 1 emissions reported under the National Greenhouse and Energy Reporting Scheme (NGERS).

Time horizon
Current

Likelihood
Virtually certain

Magnitude of impact
Medium-high

Potential financial impact

Explanation of financial impact

Management method
Anglo American determined a calculated baseline for Capcoal, Moranbah North and Grosvenor mines, accompanied with a third-party audit report. The applications were submitted by the deadline on the 31st of October. Exceedance above baseline limits remains a risk for our Metallurgical Coal business (as we mine deeper or expand into areas where geological conditions may result in more emissions). The business unit will continue to track emissions for each facility against their respective baselines as well as monitor legislation changes and available abatement technologies. In 2018, work will continue on identifying and implementing ECO2MAN projects where appropriate. At our Moranbah North, Grosvenor and Capcoal underground metallurgical coal operations, coal mine methane is captured and used to generate more than 140 MW of electricity. Their combined environmental benefit is a reduction in GHG emissions of 3.7 Mt of CO2e emissions a year. In Australia, the abatement of dilute ventilation air methane (or VAM) is being constantly researched. However, significant safety issues have to be overcome before the easiest technology (high-temperature oxidation) can be implemented at an Australian mine. We support research through our contribution to the Australian Coal 21 Fund, which invests in the development of technologies relating to carbon capture, geological storage and methane emissions abatement at underground coal mines.

Cost of management

Comment

Identifier
Risk 3

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Transition risk

Primary climate-related risk driver
Policy and legal: Other

Type of financial impact driver
Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description
COP 21 concluded with the Paris Agreement. The negotiated outcomes will influence national policies and energy technology choices for decades into the future. All countries in which Anglo American operates will be required to contribute to the global effort to deliver on the Paris Agreement. Domestic policies will likely follow where they are not in place already, presenting a portfolio risk.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Unknown

Potential financial impact
0

Explanation of financial impact
Financial implications will only become evident as countries develop and implement domestic policies that will impact our different operations

Management method
We are working with governments and industry to develop equitable and effective climate change policies and technologies to facilitate the transition to a lower carbon future. The engagements with the South African government on carbon tax and energy efficiency incentives are ongoing. A range of carbon pricing and offset/incentive policies expected to emerge in all our operating geographies. The ECO2MAN program is been implemented across the Group, with an emphasis on driving energy and emission savings. ECO2MAN is underpinned by a technical standard and site level reduction targets. In October 2015, the Board Sustainability Committee ratified the Anglo American 2020 reduction targets of 8% for energy and 22% for GHG emissions. These targets were derived taking into account the current cash flow and economic constraints. Through De Beers, we have started investigating the potential for mineral carbonation of kimberlite tailings as a CCS-technology solution. We are working with recognised experts on climate science such as the UK Meteorological Office and with the CSIR in South Africa to understand and prioritise adaptation controls to future climate and extreme weather risks. For vulnerable operations, the Anglo American ORM process is used to evaluate climate risks and critical controls. Adaptation measures are also considered in new project stage gate evaluations.

Cost of management
0

Comment
Costs form part of overall operating costs.

Identifier
Risk 4

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Physical risk

Primary climate-related risk driver
Chronic: Rising mean temperatures

Type of financial impact driver
Other, please specify (Increased water and ventilation costs)

Company- specific description
Working with the UK Met Office, we undertook early climate studies in 2010-2011, ranking all Group operations and projects for climate vulnerability. Our highest risk sites are located in Peru and Chile, with several of our other operations also vulnerable to extreme weather events. In 2012-2014, we built low-resolution climate scenarios for vulnerable regions, seeking to develop best practice guidance for our operations and new investment projects. We selected De Beers' Venetia diamond mine, located in a hot semi-arid region in South Africa, as the pilot site for integrating climate risk responses into Anglo American's Operating Model. Using a number of regional climate change models, the scenarios projected climatic variables up to mine closure and beyond, with risks relating to extreme rainfall events, extended periods of drought and steadily increasing temperatures. The adaptation team spent time with the mining function at Venetia to clarify and explore the implications of the scenarios. For example, the distinct rise in temperature has significant implications for water recovery from the tailings dam and the mine's ventilation requirements.

Time horizon

Long-term

Likelihood
More likely than not

Magnitude of impact
Medium-high

Potential financial impact
90500000

Explanation of financial impact
There was no impact on production in the reporting year. However, water restrictions had a net negative impact on production at Los Bronces of approximately 18,000 tonnes in 2015 which translates into a USD90.5 million impact.

Management method
Anglo American seeks to understand the physical implications of climate change for our operations and neighbouring communities, and to implement appropriate adaptation responses. Key elements of our approach include: •building climate scenarios using the best available science •using our Operating Model to identify vulnerability and exposure •integrating critical controls into operational risk management. Among the key adaptation measures are the considerations for catchment impacts, including long-term water supply security, the community exposure and changes in mine and equipment design (for example, stormwater drainage, slope stability and ventilation), and in hazard monitoring and emergency preparedness. In 2016, we undertook a high-resolution modelling exercise with the UK Met Office, for the Los Bronces underground project in Chile. The scenario data has informed our catchment-based water-model, air-quality and natural-hazard assessments and control measures. In 2017, Platinum initiated a climate-modelling and -adaptation exercise across all of its operations in South Africa. Similar exercised are planned for Debswana's Jwaneng and Orapa operations in Botswana.

Cost of management
744100

Comment
Costs of various adaptation studies have amounted to USD744,100

Identifier
Risk 5

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Physical risk

Primary climate-related risk driver
Chronic: Changes in precipitation patterns and extreme variability in weather patterns

Type of financial impact driver
Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company- specific description
Availability of water is central to mining and thus has the potential to impact Anglo American's core business. Potential changes in precipitation patterns have been less certain in the climate change adaptation studies undertaken so far. However, in general, changes in rainfall variability may cause operational disruptions due to floods and droughts (which can impact on energy security), present risks to the health and safety of employees and local communities, and may negatively affect land rehabilitation outcomes. As a result of snow and rain in Chile we lost 28 production days at our copper operations. All of our platinum operations within the Limpopo river basin are in water stressed areas.

Time horizon
Short-term

Likelihood
More likely than not

Magnitude of impact
Medium-high

Potential financial impact
90500000

Explanation of financial impact

There was no impact on production in the reporting year. However, water restrictions had a net negative impact on production at Los Bronces of approximately 18,000 tonnes in 2015 which translates into a USD90.5 million impact.

Management method
Direct management action has been taken in relation to current rainfall variability involving developing and implementing water efficiency technologies to reduce water dependency and projects to improve resilience against physical impacts of extreme weather events. At De Beers, management action has been focused on understanding the potential changes and identifying the critical controls and monitoring requirements. Amplats has been investing in the provision of water available for communities in which we operate. The Amandelbult complex invested in a mobile wastewater treatment plant, water-purification plant, a waste-disposal unit and water tanker to bring clean water to the community. Amplats have implemented a long term bulk water strategy and infrastructure plan, to protect, manage and maintain water supply to their operations. Amplats is a representative member and chairperson of the Executive Committee of the Olifants River Joint Water Forum. The water resources team at Minas Rio developed an operational water balance, hydrological model and simulations to predict water abstraction stoppage periods in the Peixe River during the dry season. The current contingency plan has been implemented comprising the acquisition and installation of additional pumping capacity at the tailings dam to increase the use of process water recirculated and stored in the tailings dam reservoir, as per its design.

Cost of management
50000

Comment
Costs of various adaptation studies have amounted to USD50,000. Amplats will make a once-off USD6.5 million (R80 million) investment to support the upgrade of Polokwane's sewage works for quality improvement and to secure an additional 6 Ml/d for Mogalakwena. Of the USD6.5 million (R80 million), we have spent USD 4 million (R50 million) to date, with USD 1.6 million (R20 million) being incurred in the reporting year. The work will be completed in the next financial year.

Identifier
Risk 6

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Physical risk

Primary climate-related risk driver
Chronic: Changes in precipitation patterns and extreme variability in weather patterns

Type of financial impact driver
Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company- specific description
Los Bronces is Anglo American's largest operation in Chile and one of the largest copper deposits in the world. Water constraints in 2015 led to a decrease in production, but returned to normal in the final quarter of 2015 following snowfall. This has forced the team to develop and implement a series of water-efficiency measures and seek alternative, non-competing sources of water to ensure the continuity of adequate water supply for the operation. This is resulting in an increase in costs associated with purchasing and transporting water.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
Medium

Potential financial impact
90500000

Explanation of financial impact
There was no impact on production in the reporting year. However, water restrictions had a net negative impact on production at Los Bronces of approximately 18,000 tonnes in 2015 which translates into a USD90.5 million impact.

Management method
A bespoke piece of climate-modelling analysis was carried out for the Los Bronces underground copper project in Chile. Although the area around the mine is semi-arid, the glaciers found there are natural stores of water that influence the run-off of mountain rivers, especially in the dry season. Understanding the effects of mining and climate change on the hydrological cycle within this

area is important, both for operations and the communities located downstream. Once a robust and accurate climate model had been established, scenarios were run up to the years 2030, 2040 and beyond. Specific weather parameters were fed into the model to understand the effects of temperature and rainfall changes over time and different altitudes, and how they could potentially affect geomorphology, air emissions and natural hazards. Predictions for rain, snowfall and glacial meltwater were all linked to how they influence water security and are now factored into the water balance of the mine's catchment area. These climate-variability findings will feed into Los Bronces' life of mine plan to better inform planning decisions.

Cost of management
70000000

Comment
Recent water project expenditure at Los Bronces was USUSD70 million which excludes the operational costs of purchasing water.

Identifier
Risk 7

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Transition risk

Primary climate-related risk driver
Reputation: Shifts in consumer preferences

Type of financial impact driver
Reputation: Reduced revenue from decreased demand for goods/services

Company- specific description
Independent forecasters foresee coal as an important part of the energy mix up to 2040, even in those scenarios that successfully limit global warming to 2'C Coal, primarily through its role in electricity production, has a critical role in supporting poverty alleviation and sustaining prosperity. It would be detrimental to the development prospects of many of the world's emerging economies and poorest countries, to simply stop mining coal. That said, fossil fuels will be increasingly contested by society and, as a result, the role of thermal coal will decline. Thermal coal supply is the most significant climate exposure for Anglo American, with the indirect downstream GHG emissions accounting for 108 million tonnes of CO2 annually. Our thermal coal business represented 13% of our revenue for 2017. 51% of our coal business, by revenue, relates to metallurgical coal used in the production of steel. However, there are limited substitutes for metallurgical coal in steel making. Coal is an indispensable element of steel production, which is a critical material in the provision of renewable energy. At present, we do not believe that there is any viable alternative to metallurgical coal. We have high-quality assets in Australia, Colombia and South Africa, producing the particular products our diverse customers need, in both metallurgical coal (for steel manufacture) and thermal coal (for electricity generation) applications.

Time horizon
Long-term

Likelihood
Likely

Magnitude of impact
Medium-high

Potential financial impact
2868000000

Explanation of financial impact
Underlying EBITDA for coal operations was USD 2,868 million in 2017 (USD1,646 million in 2016).

Management method
In 2015, we conducted an assessment of the climate-related scenario risks and opportunities for the thermal coal market to 2030 and beyond. The exercise highlighted the continued role of thermal coal in the global energy mix, even within the 2°C Scenario, with an increasing contribution from alternative low-carbon energy sources, and the great need for deployment of CCS technologies. We are participating in the development of CCS and clean coal technologies through various investments. In Australia, we voluntarily contribute to the Coal 21 Fund for development of low emission technologies. In South Africa we are founding members of the Centre for CCS. Through the World Coal Association and the Coal Industry Advisory Board, we engage with governments to inform policy for the effective uptake of new technologies under the global platform for accelerating coal efficiency (PACE). We also invest directly in reducing our emissions. Savings in GHG emissions due to ECO2MAN projects implemented since 2011 amounted to 21% largely through the use of coal mine methane drainage for power generation at our underground operations in Australia. Any future investment in thermal coal will be considered in the context of the global transition to a low-carbon world.

Cost of management
10000000

Comment
Our investment in clean coal technology amounts to approximately USD10 million.

Identifier
Risk 8

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Transition risk

Primary climate-related risk driver
Technology: Substitution of existing products and services with lower emissions options

Type of financial impact driver
Technology: Reduced demand for products and services

Company- specific description
In 2016 we undertook a qualitative analysis of the climate-change signposts and indicators affecting PGM demand to 2035. The analysis showed that in the transition to a low-carbon economy, and under increasing climate constraints, transition opportunities are potentially net positive for PGMs to 2035. In the short to medium term, meeting GHG emissions targets incentivise use of more fuel-efficient diesel vehicles (i.e. lower carbon than gasoline internal combustion vehicles) that require more platinum in their catalytic converters than is required in the gasoline catalyst. Additionally, demand for stationary and mobile platinum based fuel cells, particularly in freight transport applications, will increase demand for our products. However, this is partially offset by diesel demonisation due to more significant negative local air quality impacts as well as the growing demand for alternative transport technologies such as battery electric vehicles (which are projected to play an increasing role in the private passenger car market). One third of Anglo American's Platinum is sold to the automotive industry (a third meets the demands of the industrial sector and a third of the jewellery sector). Of that third, roughly half is associated with light duty diesel vehicles in Europe. The rest is in areas unlikely to be affected by electric vehicles: the freight segment, demand outside of Europe (where diesel is subsidised) and other areas where the economicics do not incentivise the use of electric vehicles. The growing hydrogen economy (and growth in jewellery demand) will more than offset this loss in demand in Europe in particular. In the long term, there is some risk to our sales if adoption rates are faster than projected at present. Similarly, government regulation or social change (e.g. through increased use of car-sharing services) could limit sales of internal combustion engine vehicles and the associated demand for PGMs in their catalytic converters. Anglo American is the leading primary producer of platinum group metals, extracting and processing around 40% of all newly mined platinum.

Time horizon
Long-term

Likelihood
Unlikely

Magnitude of impact
Low

Potential financial impact
13000000

Explanation of financial impact
Gross automotive demand for platinum fell by 40koz or 1.2%.but gross demand for palladium climbed strongly, expanding by 6.0% to 8.43 million oz as global vehicle production continued to grow. Although we project a net positive impact, any downturn in the automotive market or in the share of the internal combustion engine beyond current expectations would be expected to have a negative impact on profit. If a decrease in demand resulted in a R100 decrease in the PGM basket price this would reduce our EBIT by R160 million over a year-long period.

Management method
Three key initiatives have been put in place to shape the demand for PGMs in a low-carbon, post-ICE world. •Through the PGM Investment Programme, we make strategic investments in a portfolio of activities ranging from research, product development and demonstration through to investments in early-stage businesses that use or enable the use of PGMs in the longer term. This includes companies with expertise in the advancement of hydrogen fuel cells and hydrogen-storage solutions. •We support dedicated market-development activities, including investments in refuelling infrastructure and research and development. For example, in 2017, Anglo American co-funded the construction of seven hydrogen refuelling stations in California. •Finally, we take a positive policy advocacy stance through initiatives such as the Hydrogen Council, of which we are a founding member. This is a

global initiative of leading energy, transport and industry companies with a united vision and ambition for hydrogen to foster the energy transition from fossil-fuel-based sources of power. Bringing together cross-industry expertise and collaborating to shift complex energy systems, the Hydrogen Council plans to invest USD1.9 billion per year over the next five years, supporting a transition to a hydrogen-based transportation system. Through this approach, we aim to stimulate a hydrogen economy and an increase in the adoption rate of fuel cell electric vehicles.

Cost of management
100000000

Comment
Amplats will invest USD100 million, through AP Ventures, into a specialist 12-year Fund dedicated to investment in advanced companies utilising the unique properties of PGMs.

C2.4

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

C2.4a

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

Identifier
Opp1

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Other

Type of financial impact driver
Reduced operating costs (e.g., through efficiency gains and cost reductions)

Company- specific description
During 2013, regulations on the allowance for energy efficiency savings in terms of section 12L of the South African Income Tax Act as amended came into operation. Tax incentives were introduced for businesses that can show measurable energy savings. The 12L regulation allows for a USD0.08 (R0.95)//kWh tax allowance for energy savings and sets out the process for determining the significance of energy efficiency savings, and the requirements for claiming the proposed tax deduction. Opportunities are available for our South African business units to utilise the 12L tax incentive regulation, translating to a conservative USD11 million (provided the benefits outweigh the cost of third party measurement and verification). With the potential of upcoming regulation requiring the submission of a five-year Energy Management Plan and annual progress reporting, there is an opportunity to align this with the ECO2MAN programme.

Time horizon
Current

Likelihood
Virtually certain

Magnitude of impact
Medium

Potential financial impact
11000000

Explanation of financial impact
The estimated potential tax rebate is in the region of USD11 million as well as the ongoing energy cost savings associated with

projects.

Strategy to realize opportunity
This will require the third party (registered) monitoring and verification of all viable and/applicable projects within Anglo American's South African business units and/or operations. Tax rebates based on planned and implemented projects are expected for Amplats (8 projects at Mogalakwena), De Beers (9 projects at Venetia), Kumba Iron Ore (4 projects at Sishen and 2 projects at Kolomela) and Coal SA (1 project at Goedehoop and 1 project at Landau Colliery).

Cost to realize opportunity
0

Comment
No cost (USD0): there is a net benefit (this is the model offered by energy service companies). As an example, M&V costs at Coal SA amounted to USD12,782 but savings and the tax rebates result in a net benefit.

Identifier
Opp2

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Markets

Primary climate-related opportunity driver
Access to new markets

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

Company- specific description
The South African carbon tax bill allows for the use of domestic offset credits against 10% of tax exposure. Draft regulations on the use of offsets were published in June 2016. We are evaluating options to source cost-effective carbon credits. This presents opportunities for our South African operations (affecting Platinum, Coal South Africa, Kumba Iron Ore and De Beers business units) to mitigate risk (reduce our carbon tax liability) but also to potentially generate an additional income stream.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
Low

Potential financial impact
182083

Explanation of financial impact
With regard to the draft South African carbon tax bill, it is estimated that offsets could reduce compliance costs by USD182,083 (R2.5 million)/pa.

Strategy to realize opportunity
We investigate opportunities for carbon-offset partnerships and we have identified options for implementation (once a compliance carbon-trading market develops) to be transacted in accordance with Anglo American's Treasury and Supply Chain policies and requirements. We will consider access to both project specific offset credits as well as the carbon market supply. As an example, Anglo American's Kumba Iron Ore have identified and implemented various carbon-offset projects including a bamboo plantation; installing domestic solar water heaters in houses; undertaking a camelthorn tree preservation project and solar powered facilities. De Beers has started investigating the potential to use the formation of carbonate minerals in kimberlite tailings, the waste rock from diamond mining, as a CCS-technology solution. In 2016, De Beers completed a review of previous mineral-carbonation studies at mine sites. Currently, a group of expert employees is working with external experts from the University of British Columbia, Monash University, and the University of Queensland to assess if CO2 could be stored in kimberlite tailings at Venetia mine in South Africa and at Gahcho Kué mine in Canada. Recognising the potential for a range of carbon pricing and offset/incentive policies to emerge in the medium term, we continue to work with governments, industry peers and other stakeholders in developing and implementing effective, efficient and equitable climate-change policies.

Cost to realize opportunity
2200000

Comment
Anglo American's Kumba Iron Ore has invested just over USD145,666 (R 2 million in bamboo and solar pilot projects in preparation for the offset mechanism. De Beers plans to invest a total of USD2.1 million in the project exploring CCS mineralisation in kimberlite (excluding site scale pilots).

Identifier
Opp3

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Markets

Primary climate-related opportunity driver
Access to new markets

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

Company- specific description
Over the longer-term it is envisaged carbon offsets, and in particular international forestry (REDD+) credits will play a significant role in meeting regulatory emission caps. In this regard Anglo American is considering options for long-term partnerships with companies engaged in REDD+ initiatives.

Time horizon
Medium-term

Likelihood
More likely than not

Magnitude of impact
Medium-low

Potential financial impact

Explanation of financial impact
Uncertain

Strategy to realize opportunity
We expect carbon offsets and, in particular, REDD+ credits, to play a significant role in meeting emission caps. Anglo American is considering options for long-term partnerships, which will enhance our efforts in the transition to the future low-carbon economy. We will continue to engage in multi-stakeholder initiatives and contribute to a well-designed carbon pricing scheme. Carbon credits to be transacted in accordance with Anglo American's Treasury and Supply Chain policies and requirements. Such transactions will consider access to both project specific offset credits as well as the carbon market supply.

Cost to realize opportunity
0

Comment
To be determined. None at this stage.

Identifier
Opp4

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Markets

Primary climate-related opportunity driver
Access to new markets

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

Company- specific description
Demand for platinum group metals (PGMs) from the automotive sector accounts for just over 40%, 70% and more than 80% of total

platinum, palladium and rhodium demand, respectively. As governments enact ever-tighter emissions legislation, these three metals, which are used in catalytic converters, have a key role to play in the move to reduce vehicle emissions. In the short term, such legislation is likely to mean higher metal loadings on catalytic converters to improve their efficiency. As automotive producers look to produce larger numbers of hybrid vehicles, which run on both an internal combustion engine (ICE) and a battery, PGMs will remain in high demand as the catalysts require metal loadings similar to those found in current ICE cars. Looking further ahead, hydrogen fuel cell electric vehicles (FCEVs) offer a zero emissions alternative to ICE vehicles, without the need for consumers to change their behaviour. Platinum is used in FCEVs as the catalyst which turns hydrogen gas into electrical power. We believe that our actions can help shape this demand in the future. Anglo American is the leading primary producer of platinum group metals, extracting and processing around 40% of all newly mined platinum and is best placed to benefit from this potential increase in demand.

Time horizon
Long-term

Likelihood
Likely

Magnitude of impact
Medium

Potential financial impact
13000000

Explanation of financial impact
Assuming that supply and other demand were to remain unchanged, an increased demand for PGMs for use in fuel cells would be to cause an increase in the PGM basket price. A R100 increase in the PGM basket price of 1% is expected to increase EBIT by approximately R 160 million. Amplats' EBIT in 2017 was USD512 million.

Strategy to realize opportunity
Our Platinum business has three key initiatives in place to shape the demand for PGMs in a low-carbon, post-ICE world: • Through the PGM Investment Programme, we make strategic investments in a portfolio of activities ranging from research, product development and demonstration through to investments in early-stage businesses that use or enable the use of PGMs in the longer term. This includes companies with expertise in the advancement of hydrogen fuel cells and hydrogen-storage solutions. • We support dedicated market-development activities, including investments in refuelling infrastructure and research and development. For example, in 2017, Anglo American co-funded the construction of seven hydrogen refuelling stations in California. • Finally, we take a positive policy advocacy stance through initiatives such as the Hydrogen Council, of which we are a founding member. This is a global initiative of leading energy, transport and industry companies with a united vision and ambition for hydrogen to foster the energy transition from fossil-fuel-based sources of power. Bringing together cross-industry expertise and collaborating to shift complex energy systems, the Hydrogen Council plans to invest USD1.9 billion per year over the next five years, supporting a transition to a hydrogen-based transportation system. Through this approach, we aim to stimulate a hydrogen economy and an increase in the adoption rate of fuel cell electric vehicles.

Cost to realize opportunity
100000000

Comment
Amplats will invest USD100 million, through AP Ventures, into a specialist 12-year Fund dedicated to investment in advanced companies utilising the unique properties of PGMs.

Identifier
Opp5

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Energy source

Primary climate-related opportunity driver
Use of lower-emission sources of energy

Type of financial impact driver
Reduced exposure to GHG emissions and therefore less sensitivity to changes in cost of carbon

Company- specific description
There is an opportunity to invest in the self-generation of energy as technologies develop and become economically viable and as the drivers to secure reliability of energy supply and reduce our GHG emissions intensify. Key opportunities lie at our South African operations (particularly around waste heat recovery and solar PV), and further use of methane for electricity at our Australian

underground operations.

Time horizon
Short-term

Likelihood
Likely

Magnitude of impact
Medium

Potential financial impact
948000

Explanation of financial impact
As an indication, if a 10MW solar PV facility were to produce at a levelised cost of R0.02 below the rate that we buy electricity from Eskom (the utility in South Africa), this would result in a saving of USD38,000 per year. This over the economic life of the project is equivalent to USD948 000 million (at current prices)

Strategy to realize opportunity
We have made some early progress in the use of renewable energy, although a great deal more is required. In Brazil, the furnace at Codemin uses biomass instead of fossil fuels in the processing of nickel. Coal South Africa has installed solar power generation capacity that meets a portion of its energy needs at Greenside colliery and Coal's Highveld hospital. Anglo American's Moranbah North and Capcoal methane-fired power stations together generate more than 140 MW of electricity. The power stations are owned and operated by clean-energy provider, Energy Developments Limited (they provide a benefit in mitigating our methane emissions). Electricity generated feeds into the grid but there is an option for this to be ring-fenced for Anglo American should there be any grid constraints affecting supply. Platinum's Waterval smelter in South Africa generates electricity from waste heat recovered from the converting process. Through this process we generate an average of approximately 3.2 MW in electrical energy for own use. In 2016, we invested in US-based Greyrock Energy, which is developing and commercialising gas-to-liquids technology used to produce clean fuels from stranded or flared gas. A feasibility study is under way for a solar photovoltaic project at Platinum's Mogalakwena complex.

Cost to realize opportunity
2476329

Comment
The Eternity Power Thermal Harvesting™ project which was commissioned in June 2015 and developed by Vuselela Energy in collaboration with Platinum which had a total project cost of R150million. We invested USD2,476,329 (R34 million) in Greyrock Energy.

Identifier
Opp6

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Markets

Primary climate-related opportunity driver
Access to new markets

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

Company- specific description
Three of Anglo American's commodities – copper, platinum and nickel – will become even more critical in the move to low-carbon technology and renewable energy. The demand for renewable energy and energy storage technologies is projected to increase as we transition to a lower carbon global economy. Two of Anglo American's commodities, copper and nickel, are used in these technologies. Nickel is currently used in nickel metal hydride, nickel cadmium and lithium ion batteries. These battery technologies enable more efficient energy consumption in vehicles (such as electric vehicles) and facilitate greater penetration of renewable energy technologies allowing for lower energy-related GHG emissions. Renewable energy technologies also rely on nickel-containing alloys to produce turbines, pumps, rotors, storage tanks, etc. Anglo American produced 43,800t of Nickel in 2017. Copper is used in several low-carbon technology and energy efficiency applications. Use of copper in transmission and distribution lines can reduce losses and therefore reduce emissions associated with fossil fuel based power. Electric vehicles and various renewable energy technologies rely on copper. Copper is also used in ICT equipment that can enable dematerialisation and avoid GHG emissions. Demand for copper is expected to increase, given its use in several low-carbon technology applications. Our qualitative assessment to determine implications for product demand for copper indicates that in the transition to a low-carbon

economy and under increasing climate constraints, the demand for copper is particularly positive. Anglo American produced 349 Kt of copper in 2017.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium

Potential financial impact

Explanation of financial impact
Anglo American has not conducted quantitative modelling. This will be done in 2018

Strategy to realize opportunity
In 2016, we undertook a qualitative assessment to determine implications for product demand for copper and PGM markets. The qualitative analysis, which included the International Energy Agency 2° Scenario, indicates that in the transition to a low-carbon economy and under increasing climate constraints, the demand for both metals is positive, and is particularly attractive for copper. We are also currently assessing the potential increase in demand for Nickel associated with its projected increased application in low carbon technology deployment.

Cost to realize opportunity
0

Comment
None at this stage (beyond normal operating costs)

Identifier
Opp7

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Other

Type of financial impact driver
Other, please specify (innovation-led to competitive advantage)

Company- specific description
Innovation can lead to competitive advantage through finding new ways to make mining safer, more efficient, more sustainable, more harmonised with the needs of host communities, and with a smaller environmental footprint. The need to transition to a low-carbon economy and adapt to changing climatic conditions are fundamental to our long-term success. As we look forward to our next 100 years, we aim to lead in an industry that remains vital to the development of modern society. With our innovative approach to sustainability and the application of technologies to reduce the physical impacts of mining, our goal will be – as it always has been – to deliver value to all our stakeholders and continue to make a real and positive difference.

Time horizon
Long-term

Likelihood
Likely

Magnitude of impact
High

Potential financial impact
500000

Explanation of financial impact
We have continued to lift the performance of our assets through the implementation of our Operating Model and, as a result, have delivered USD1.1 billion of cost and volume improvements in 2017, beyond the target we set of USD1.0 billion. The immediate opportunity for reducing our carbon tax liability stems from carbon offsets. If we were to offset the maximum 10% allowance in

2019, this would result in a carbon tax saving of ZAR7million (USD500,000

Strategy to realize opportunity
FutureSmart Mining™ is Anglo American's innovation-led approach to responsible and sustainable mining – and it is critical for the future of how we do business. Working in partnership beyond mining, we are looking well beyond our own industry to re-imagine the future of mining, using open-innovation principles and partnerships to find solutions that will materially improve efficiencies and our competitive positions. We believe that one day all mines will be both carbon and water-neutral (as well as low cost and scalable), with a minimal footprint that is harmonised with the needs of our host communities – and that FutureSmart Mining™ is our pathway to that future. Examples include: • Concentrate the Mine (CTM) is a full mining systems approach integrating grade engineering, advanced mine to mill techniques and a number of embedding technologies to provide a step change increase in an operations metal output, reducing energy and water consumption through more efficient processing techniques • The Waterless Mine initiatives will reduce, and eventually eliminate, the consumption of fresh water in the mining process and significantly reduce energy consumption. • The Modern Mine objective is to achieve a step change in mining efficiency. Through the development and implementation of new technologies, automation, and processes, we will reduce our energy consumption and waste.

Cost to realize opportunity

Comment

Identifier
Opp8

Where in the value chain does the opportunity occur?
Supply Chain

Opportunity type
Resilience

Primary climate-related opportunity driver
Other

Type of financial impact driver
Other, please specify (Partnerships)

Company- specific description
Collaborative partnerships enable us to connect with people to find safer, more efficient and more sustainable ways to mine the precious metals and minerals that the world needs. Anglo American is considering options for long-term partnerships, which will enhance our efforts in the transition to the future low-carbon economy. The development of the Group's Sustainability Strategy identified the need for partnerships around the following areas: • Building resilience: partnering with stakeholders on carbon-reducing projects and adapting to climate change; and • Being proactive: developing low-carbon technology partnerships. This opportunity is relevant to all our operations.

Time horizon
Long-term

Likelihood
Likely

Magnitude of impact
High

Potential financial impact
1700000

Explanation of financial impact
As an indication, a 30% reduction in our carbon tax liability (achieved through our long term target) would reduce our carbon liability by USD1.7 million.

Strategy to realize opportunity
The FutureSmartTM Open Forums focus specifically on global challenges around mining, processing and sustainability. So far, we have held four forums – Water, Processing, Mining and Energy – where we worked directly with world-class experts from a variety of industries; entrepreneurs; research and non-governmental institutions; as well as suppliers, to explore creative solutions, and potentially collaborate to solve them. Our Platinum business has three key partnership-based initiatives in place to shape the demand for PGMs in a low-carbon, post-ICE world: • Through the PGM Investment Programme, we make strategic investments in a portfolio of activities ranging from research, product development and demonstration through to investments in early-stage businesses that use or enable the use of PGMs in the longer term. • We support dedicated market-development activities, including investments in refuelling infrastructure and research and development. • Finally, we take a positive policy advocacy stance through initiatives such as the Hydrogen Council, of which we are a founding member. We also invest in low-carbon research and

development (R&D), equipment, products, and services. This includes investment into Carbon Capture and Storage (CCS) (through the Australian Coal 21 Fund and the South African Centre for Carbon Capture and Storage), as well as CCS and utilisation (through De Beers work on CO2 mineralisation of kimberlite tailings).

Cost to realize opportunity
100000000

Comment
Amplats will invest USD100 million, through AP Ventures, into a specialist 12-year Fund dedicated to investment in advanced companies utilising the unique properties of PGMs. Our longer-term partnership research programmes include piloting platinum-based fuel cells for mobile and stationary power systems.

C2.5

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

	Impact	Description
Products and services	Not yet impacted	Kumba's iron ore has a high lump-to-fines ratio compared to its competitors, reducing downstream emissions associated with steelmaking. We expect demand for this product to increase due to the low-carbon transition. Three of Anglo American's commodities – copper, platinum and nickel – will become even more critical in the move to low-carbon technology and renewable energy. Demand for PGMs from the automotive sector accounts for just over 40%, 70% and more than 80% of total platinum, palladium and rhodium demand, respectively. As governments enact ever-tighter emissions legislation, these three metals, which are used in catalytic converters, have a key role to play in the move to reduce vehicle emissions. In the short term, such legislation is likely to mean higher metal loadings on catalytic converters to improve their efficiency. As automotive producers look to produce larger numbers of hybrid vehicles, which run on both an internal combustion engine (ICE) and a battery, PGMs will remain in high demand as the catalysts require metal loadings similar to those found in current ICE cars. Looking further ahead, hydrogen fuel cell electric vehicles (FCEVs) offer a zero emissions alternative to ICE vehicles, without the need for consumers to change their behaviour. Anglo American is the leading primary producer of PGMs, extracting and processing around 40% of all newly mined platinum and is best placed to benefit from this potential increase in demand. The demand for renewable energy and energy storage technologies is projected to increase as we transition to a lower carbon global economy. Two of Anglo American's commodities, copper and nickel, are used in these technologies. In the longer term we expect fossil fuels will be increasingly contested by society and, as a result, the role of thermal coal will decline. Thermal coal supply is the most significant climate exposure for Anglo American, with the indirect downstream GHG emissions accounting for 108 million tonnes of CO2 annually. Our thermal coal business represented 13% of our revenue for 2017. The sale of the Eskom-tied domestic thermal coal operations was announced on 10 April 2017. 51% of our coal business, by revenue, relates to metallurgical coal used in the production of steel. However, there are limited substitutes for metallurgical coal in steel making.
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	Changing weather patterns threaten security of water supply in water stressed areas in which we operate. For example, the Mogalakwena complex is water secure current production levels. Expansion of the Mogalakwena Complex is, however, potentially hindered by regional water scarcity due to increased demand and low water assurance associated with drought conditions. This is further compounded by climate change, with modelling predicting highly variable drought and wet cycles with a potential 10% increase in high and low rainfall margins, as well as shorter and wetter rainy periods, with longer dry periods per annum. The mine is located in an area where there are rapidly growing demands for water to support agricultural, mining, industrial and domestic consumption in order to support on-going economic development and growth.
Adaptation and mitigation activities	Not yet impacted	Increasing costs, supply chain and operational disruptions due to climate change have the potential to negatively impact our adaptation and mitigation activities, Amplats has not experienced any negative impacts to date.
Investment in R&D	Impacted	Climate change risks and opportunities have contributed to the impetus to invest in innovation. FutureSmart Mining™ is Anglo American's innovation-led approach to responsible and sustainable mining – and it is critical for the future of how we do business. Working in partnership beyond mining, we are looking well beyond our own industry to re-imagine the future of mining, using open-innovation principles and partnerships to find solutions that will materially improve efficiencies and our competitive positions. We believe that one day all mines will be both carbon and water-neutral (as well as low cost and scalable), with a minimal footprint that is harmonised with the needs of our host communities – and that FutureSmart Mining™ is our pathway to that future. We invest in low-carbon R&D, equipment, products, and services. This includes investment into CCS (through the Australian Coal 21 Fund and the South African Centre for Carbon Capture and Storage), CCS and utilisation (through De Beers work on CO2 mineralisation of kimberlite tailings), and investment into the development of fuel cells and the hydrogen value chain through our PGM investment programme.
Operations	Not yet impacted	Climate change regulations are impacting our operating costs (expected in the next year in South Africa as the carbon tax is introduced and in Australia given the introduction of the Safeguard Mechanism). Physical climate changes are also impacting our operations and expected to impact them into the future. The Los Bronces operation experienced a drought from 2012-2015 and then subsequent high precipitation events in 2016 and 2017. The result of this was that sections of the pit and haul roads were flooded, leading to lost production for a 2-week period. This is regarded as a substantive loss for the operation. Our platinum business has experienced increased compliance costs due to severe weather events. The primary philosophy of mine water management is to ensure that clean natural water runoff is diverted away from mining operations and the mine affected water is collected, contained and where possible re-used/recycled. Affected water is collected in pollution control dams (PCDs), normally located at the lowest point on the mine site. PCDs must be designed and operated to contain all rainfall events that are less than the 1:50 year rainfall and flood event. During January and February 2017, six PCDs at different operations spilled mine affected water into the natural environment as a result of excessive rainfall. All discharges were sampled for analysis and reported to the Department of Water and Sanitation (DWS) as per the incident procedure. DWS was also engaged to make them aware of the weather and potential discharges and the reporting process that will be followed. Due to significant dilution observed in the receiving environment, the final impact ratings were not significant and no fines or penalties incurred.
Other, please specify	Not impacted	Not applicable

C2.6

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

	Relevance	Description
Revenues	Impacted	The potential impact of changing market demands for products driven by the transition to an increasing carbon constrained global economy will impact demand for PGMs, nickel, copper and high-quality iron ore (produced by Anglo American's Kumba Iron Ore). The potential impact on revenues has led to our Platinum business' investment in the fuel cell and hydrogen value chain development. Amplats will invest USD100 million, through AP Ventures, into a specialist 12-year Fund dedicated to investment in advanced companies utilising the unique properties of PGMs. Our longer term partnership research programmes include piloting platinum-based fuel cells for mobile and stationary power systems. In February 2017, Anglo American and 12 other companies launched the global Hydrogen Council. Through the Council we confirmed our ambition to accelerate investment in the development and commercialisation of both hydrogen and fuel cell sectors
Operating costs	Impacted	The proposed carbon tax has been evaluated and liability at an operational level used to inform financial planning (budget setting). Through FutureSmart Mining™, we are investing in novel mineral processing technologies that are more energy- efficient than conventional methods. For example, our tests show that there is a possibility of reducing comminution energy by 30% over current methods. Securing adequate bulk water supply has capital and operating cost implications for Anglo American and is factored into the company's financial planning. For example, Anglo American has been actively involved in partnerships, through the Olifants River Water Forum and Lebalelo pipeline, to source water into the Northern and Eastern Limb platinum operations and communities. This has included collaboration with 30 organisations to provide bulk water services to mines and communities in the area. Used (grey) water is also sourced for the Northern Limb operations through partnerships with the municipalities of Polokwane and Mokopane. In 2017 Amplats and Anglo American commissioned the strategic Limpopo regional source-water project in collaboration with the Department of Water and Sanitation, to restate regional water balances of quaternary catchments in Limpopo. The objective is to understand water deficits and surpluses before undertaking a conceptual source-water project to meet shortfalls in collaboration with other industry partners and government. Preliminary findings indicate significant supply shortfalls in 2022 and the importance of water supply and demand management at our operations, other mining operations and municipalities. The project is currently evaluating source-water options.
Capital expenditures / capital allocation	Impacted	Independent forecasters foresee coal as an important part of the energy mix up to 2040 however fossil fuels will be increasingly contested by society and, as a result, the role of thermal coal will decline in the long term. Any future investment in thermal coal will be considered in the context of the global transition to a low-carbon world. Meeting our ambitious, long term, GHG reduction target will require additional capital investment. We are extending the ECO2MAN programme, the Anglo American Energy and CO2 management programme, to include deep dive assessments. This will include a three year programme to undertake technical and financial reviews at each of our major operating sites to determine an optimal path to achieving the 2030 target. The results of this process will feed into capital planning and allocation processes. Additionally, capital allocation planning has considered the requirements of FutureSmart MiningTM where we plan on investing significantly by 2021 in Concentrate the Mine, The Waterless Mine initiative and The Modern Mine innovation programmes.
Acquisitions and divestments	Impacted	Independent forecasters foresee coal as an important part of the energy mix up to 2040 however fossil fuels will be increasingly contested by society and, as a result, the role of thermal coal will decline in the long term. The sale of the Eskom-tied domestic thermal coal operations consisting of New Vaal, New Denmark, and Kriel collieries, as well as four closed collieries (together, 'Eskom-tied operations') by Anglo American Operations Proprietary Limited and Anglo American Inyosi Coal Proprietary Limited to a wholly owned subsidiary of Seriti Resources Holdings Proprietary Limited was announced on 10 April 2017 for a consideration payable, as at 1 January 2017, of R2.3 billion (approximately USD164 million). The transaction was completed on 1 March 2018. Through the PGM Investment Programme, we make strategic investments in a portfolio of activities ranging from research, product development and demonstration through to investments in early-stage businesses that use or enable the use of PGMs in the longer term. This includes companies with expertise in the advancement of hydrogen fuel cells and hydrogen-storage solutions. In 2017, our work to add value to our portfolio of investment companies included: • Successfully raising USD32 million from third parties for Primus Power and the award of a US Technology and Development Agency grant to support an energy storage system for Eskom, South Africa's national electricity utility • Facilitating the entry of Germany-based Hydrogenious Technologies' systems to the US market, via United Hydrogen Technology. In addition, Amplats is helping secure additional funding and entry opportunities to new markets for Hydrogenious. • Identifying and developing a number of African and Asian opportunities for Greyrock Energy.
Access to capital	Not yet impacted	Access to capital has not been impacted by our climate change performance but we actively engage and respond to shareholder concerns in this regard. Responding to the recently issued recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) is an example.
Assets	Not yet impacted	We have been working with the UK Met Office and other recognised experts on climate science since 2010. Initial climate studies identified our highest-risk sites as being located in Peru and Chile, with several other operations also vulnerable to extreme weather events. In 2012, we developed climate scenarios for vulnerable regions, which we then used to develop best-practice guidance for our operations and new investment projects. In 2016, we undertook a high-resolution modelling exercise with the UK Met Office, for the Los Bronces underground project in Chile. The scenario data has informed our catchment-based water-model, air-quality and natural-hazard assessments and control measures. Recent water project expenditure at Los Bronces was USD70 million which excludes the operational costs of purchasing water. These are once off costs and derived from quotations and invoices. In 2017, Platinum initiated a climate-modelling and -adaptation exercise across all of its operations in South Africa. Similar exercised are planned for Debswana's Jwaneng and Orapa operations in Botswana. The results will feed into our financial planning.
Liabilities	Not impacted	Anglo American's Operational Risk Management (ORM) programme for operations, and the Investment Development Model (IDM) for projects has not identified any material climate risks impacting our liabilities. We will continue to monitor risks to our liabilities and will update our financial planning processes if climate risks to our liabilities become material.
Other	Not impacted	Not applicable

C3. Business Strategy

C3.1

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

Yes

C3.1a

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

Yes, qualitative

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

(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

Yes

C3.1c

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

i) Our strategy is to secure, develop and operate a portfolio of high quality and long life resource assets, from which we will deliver leading shareholder returns. We achieve this through innovative practices and technologies – in the hands of our world class people – towards a common purpose. Anglo American has applied our FutureSmart Mining™ approach to the development of our new Sustainability Strategy. Holistic, integrated and flexible to the characteristics of individual operating sites, our strategy comprises mutually reinforcing elements that together are expected to positively transform how our stakeholders experience our business, both locally and globally. The strategy is focused on three global sustainability pillars – Trusted Corporate Leader, Thriving Communities, Healthy Environment – each encompassing three global stretch goals. These goals relate to Anglo American as a whole, at an aggregate level. They are deliberately ambitious, they will challenge our business to innovate and change, and we are mobilising our people and resources to deliver them by 2030.

ii) Our energy-efficiency target for 2030 is a 30% reduction in our absolute energy intensity against our 2016 performance, while our long term GHG emissions target is a net 30% reduction in emissions against the 2016 level. The long term stretch targets align with our aspiration to develop a carbon-neutral mine. By 2020, we will have completed technical reviews to identify the priority energy and carbon-reduction options at our major operations.

iii) In the reporting year we introduced an ambitious Sustainability Strategy and our new, long term, GHG emissions reduction target. As a part of FutureSmart MiningTM, the new strategy is the result of rigorous and far-reaching consultation and development. We have leveraged existing partnerships and conducted extensive stakeholder engagement, analysed critical sustainability opportunities and risks – including the UN Sustainable Development Goals – and ensured cross-functional and business unit collaboration internally. We have set out a series of stretch goals relating to our host communities, the natural environment, and the governance of our industry, together with a new collaborative approach to regional economic development. The outcome is a Sustainability Strategy that will deliver lasting value to all our stakeholders, including shareholders, by positioning us better to meet society's growing expectations for truly sustainable mining, while continuing to provide the increasingly essential products that improve people's lives.

We continued our investment in the development of fuel cells and the hydrogen value chain through our PGM Investment Programme and in 2017 our work to add value to our portfolio of investment companies included:

· Successfully raising USD32 million from third parties for Primus Power and the award of a US Technology and Development Agency grant to support an energy storage system for Eskom, South Africa's national electricity utility. As part of the programme, Primus will deploy an array of four batteries capable of delivering 100kW of power and 500kWh of energy.

· Facilitating the entry of Germany-based Hydrogenious Technologies' systems to the US market, via United Hydrogen Technology. In addition, Amplats is helping secure additional funding and entry opportunities to new markets for Hydrogenious.

· Identifying and developing a number of African and Asian opportunities for Greyrock Energy.

In February 2017, Anglo American and 12 other companies launched the global Hydrogen Council. Through the Council we confirmed our ambition to accelerate investment in the development and commercialisation of both hydrogen and fuel cell sectors

iv) We expect that climate change will affect our business in three principal ways: regulation, taxation and the cost of 'decarbonising' energy systems (if passed on to consumers) will have a financial impact; demand for PGMs and copper – critical products in enabling alternative energy technologies – will increase, while coal is likely to feature less prominently in the long term global energy mix; and the physical and social impacts of a changing climate may affect our operations and host communities. There is also the potential for a range of carbon pricing and offset/incentive policies to emerge in the medium term.

v) In the short term (1-6 years), climate change has driven more efficient use of energy and emissions reductions via the ECO2MAN programme (delivering a cumulative saving 4.8 million tCO2 e – a 21% reduction relative to BAU), switching to and investigating low carbon energy sources (e.g. in Brazil, the furnace at Codemin uses biomass instead of fossil fuels in the processing of nickel); recovering energy (electricity from waste heat recovery at Platinum's Waterval smelter), and mitigating coal-mine methane emissions (more than 140MW of methane-powered electricity generation at our underground metallurgical coal operations in Australia).

vi) The most significant long-term (more than 6 years) strategic consideration has been the impact on our portfolio of potential risks and opportunities related to climate change. In 2015, we assessed the climate-related scenario risks and opportunities for the thermal coal market to 2030 and beyond. The exercise highlighted the continued role of thermal coal in the global energy mix, but that demand would drop in the long term. Any future investment in thermal coal will be considered in the context of the global transition to a low-carbon world. In 2016, we undertook a qualitative assessment to determine implications for product demand for copper and PGM markets. The qualitative analysis indicates that in the transition to a low-carbon economy, and under increasing climate constraints, the demand for both metals is positive, and is particularly attractive for copper. This has spurred collective action and investment in low-carbon research and development (R&D), equipment, products, and services.

vii) Partnerships and innovation in the context of the low-carbon transition are positioning us as to be mining industry leaders in the long term. FutureSmart Mining™ is Anglo American's innovation-led approach to responsible and sustainable mining – and it is critical for the future of how we do business.

viii) Anglo American recognises the need to make a contribution to the global journey to address climate change and that this is inextricably linked to remaining a successful business into the future. The Paris Agreement and the achievement of the SDGs played a fundamental role in shaping our Sustainability Strategy and the long term (2030) GHG reduction target.

C3.1d

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

Climate-related scenarios	Details
2DS	In 2015, we conducted an assessment of the climate-related scenario risks and opportunities for the thermal coal market to 2030 and beyond. This highlighted the continued role of thermal coal in the global energy mix, even within the 2oC Scenario, with an increasing contribution from alternative low-carbon energy sources, and the great need for deployment of carbon capture and storage (CCS) technologies. Aligned with the 'Aiming for A' disclosure commitments, in 2016 we undertook a qualitative analysis of the climate-change signposts and indicators affecting copper and PGM demand to 2035, in line with the long life of our mining assets. This analysis served as a first step to assess the financial implications for the Anglo American portfolio in our transition to a low-carbon economy. For long-term scenarios we used International Energy Agency (2ºC Scenario) and models with progressively higher GHG emissions paths from IHS Markit – a strategic information and analytics company. The qualitative analysis explored key uncertainties regarding: • disruptive-technology threats and opportunities • end-user-behaviour impact on product demand • the influence of climate policies on product markets • the implications for mining operations and investments. The analysis revealed the following implications: • Rivalry: a gradual and consistent decline in thermal coal demand. Copper gains on reducing cost of renewables. • Virtigo: A gradual increase in copper and PGM demand, mainly due to increases in: the number of internal combustion engine vehicles; heating and ventilation; and in building automation systems. The demand for thermal coal, however, remains flat. • Autonomy: A significant growth in renewables for power generation. Increasing demand for electric cars allows for fuel cell participation. Overall good for copper and PGM demand. Coal in power generation declines substantially • 2°C: Renewables are central to power generation. Rapid electrification of the energy infrastructure, together with the broader uptake of new technology applications, underpin growth in copper and PGM demand Coal for power generation is largely restricted to utilities with CCS technology. The analysis showed that in the transition to a low-carbon economy, and under increasing climate constraints, demand for both metals is positive and is particularly attractive for copper. Our Platinum business' strategy development has carefully considered these scenarios. Three key initiatives have been put in place to shape the demand for PGMs in a low-carbon, post-ICE world. • Through the PGM Investment Programme, we make strategic investments in a portfolio of activities ranging from research, product development and demonstration through to investments in early-stage businesses that use or enable the use of PGMs in the longer term. • We support dedicated market-development activities, including investments in refuelling infrastructure and research and development. • We take a positive policy advocacy stance through initiatives such as the Hydrogen Council, of which we are a founding member. The Hydrogen Council plans to invest USD1.9 billion per year over the next five years, supporting a transition to a hydrogen-based transportation system. Our intention is to complete a quantitative analysis of the scenario-related impacts on our product portfolio - copper, nickel, PGMs, diamonds, iron ore, metallurgical and thermal coal. We have defined the scope and started on this work, and expect to have it completed in Q1 2019. Understanding the physical and social effects of climate change on our mining operations and host communities is of material importance to Anglo American. We have been working with the UK Met Office and CSIR to understand which of our operations would be most at risk from these impacts. A bespoke piece of climate-modelling analysis was carried out for the Los Bronces underground copper project in Chile.

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

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

Anglo American has developed a new Sustainability Strategy that is fundamental to our low carbon transition. Our energy-efficiency target for 2030 is a 30% reduction in our absolute energy intensity against our 2016 performance, while our long term GHG emissions target is a net 30% reduction in emissions against the 2016 level. The long term stretch targets align with our aspiration to develop a carbon-neutral mine. Building on the outcomes of the FutureSmart Mining™ Innovation Open Forum on energy that we held in December 2016, we held an energy efficiency workshop in October 2017 to further assist in identifying and prioritising opportunities, and in developing action plans meet our longer term targets. By 2020, we will have completed technical reviews to identify the priority energy and carbon-reduction options at our major operations.

Meeting our ambitious, long term, GHG reduction target will require additional capital investment. We are extending the ECO2MAN programme, the Anglo American Energy and CO2 management programme, to include deep dive assessments. This will include a three year programme to undertake technical and financial reviews at each of our major operating sites to determine an optimal path to achieving the 2030 target. The results of this process will feed into capital planning and allocation processes. We have implemented and are assessing other opportunities for switching low carbon energy sources; recovering energy, and mitigating coal-mine methane emissions.

FutureSmart Mining™ is Anglo American's innovation-led approach to responsible and sustainable mining – and it is critical for the future of how we do business. We are looking well beyond our own industry to re-imagine the future of mining, using open-innovation principles and partnerships to find solutions that will materially improve efficiencies and our competitive positions. As part of FutureSmart MiningTM we are planning on investing significant capital by 2021 in the following initiatives:

· Concentrate the Mine: designed to provide a step change increase in an operations metal output, reducing energy and water consumption through more efficient processing techniques; and

· The Modern Mine: aiming to achieve a step change in mining efficiency through the development and implementation of new technologies, automation, and processes.

The transition to lower carbon, climate resilient economies is expected to have impacts on the demand for our products and these trends are factored into our low-carbon transition plan. In 2015, we assessed the climate-related scenario risks and opportunities for the thermal coal market to 2030 and beyond. The exercise highlighted the continued role of thermal coal in the global energy mix, even within the International Energy Agency (IEA) 2°C Scenario, with an increasing contribution from alternative low-carbon energy sources and extensive deployment of carbon capture and storage (CCS) technologies. In 2016, we undertook a qualitative assessment to determine implications for product demand for copper and PGM markets. The qualitative analysis, which included the IEA 2°C Scenario, indicates that in the transition to a low-carbon economy, and under increasing climate constraints, the demand for both metals is positive, and is particularly attractive for copper.

Our intention is to complete a quantitative analysis of the climate-scenario-related impacts on copper, nickel, PGMs, diamonds, iron ore and metallurgical coal and thermal coal in 2018. We have defined the scope and started on this work, and expect to have it completed in Q1 2019. The analysis will enhance our view of low-carbon transition risks and align with disclosure requirements, including the recently issued recommendations of the TCFD.

We invest in low-carbon research and development (R&D), equipment, products, and services. This includes investment into CCS (through the Australian Coal 21 Fund, the South African Centre for Carbon Capture and Storage and through De Beers work on CO2 mineralisation of kimberlite tailings), and investment into the development of fuel cells and the hydrogen value chain through our PGM investment programme.

Anglo American has taken proactive steps to influence climate-related technology risks and opportunities directly by investing in the development of the fuel cell and hydrogen value chain through our PGM investment programme. Amplats will invest USD100 million, through AP Ventures, into a specialist 12-year Fund dedicated to investment in advanced companies utilising the unique properties of PGMs. Our longer term partnership research programmes include piloting platinum-based fuel cells for mobile and stationary power systems. In February 2017, Anglo American and 12 other companies launched the global Hydrogen Council. Through the Council we confirmed our ambition to accelerate investment in the development and commercialisation of both hydrogen and fuel cell sectors.

C4. Targets and performance

C4.1

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

Absolute target

C4.1a

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

Target reference number

Abs 1

Scope

Scope 1+2 (location-based)

% emissions in Scope

100

% reduction from base year

30

Base year

2016

Start year

2017

Base year emissions covered by target (metric tons CO2e)

17958182

Target year

2030

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

% achieved (emissions)

0

Target status

New

Please explain

Our energy-efficiency target for 2030 is a 30% reduction in our absolute energy intensity against our 2016 performance, while our long term GHG emissions target is a net 30% reduction in emissions against the 2016 level. The long term stretch targets align with our aspiration to develop a carbon-neutral mine. Building on the outcomes of the FutureSmart Mining™ Innovation Open Forum on energy that we held in December 2016, we held an energy efficiency workshop in October 2017 to further assist in identifying and prioritising opportunities, and in developing action plans meet our longer term targets. By 2020, we will have completed technical reviews to identify the priority energy and carbon-reduction options at our major operations. A science-based target currently requires the inclusion of scope 3. An appropriate methodology for the mining industry is being developed. Although not verified, our target meets the scope 1 and 2 requirements of a science-based target.

Target reference number

Abs 2

Scope

Scope 1+2 (location-based)

% emissions in Scope

100

% reduction from base year

22

Base year

2015

Start year
2016

Base year emissions covered by target (metric tons CO2e)
17875766

Target year
2020

Is this a science-based target?
No, but we anticipate setting one in the next 2 years

% achieved (emissions)
95

Target status
Underway

Please explain
Emissions are projected based on circumstances in line with operating plans (stripping ratios, ore hardness, haul distances, expansions and closures, etc.) and then performance is measured, ex-post, in line with the World Resources Institute's (WRI) Policy and Action Standard. Improvements are achieved by selecting and implementing high value energy efficiency and GHG mitigating and include projects undertaken through operational improvements and supply chain procurement. In 2011, we launched our operational energy- and carbon management programme, ECO2MAN, following increased recognition of our responsibility to reduce operational GHG emissions, as well as growing concern over the potential bearing on the business of the policy responses to climate change. Through ECO2MAN, we have been able to analyse our activities and identify opportunities to reduce energy consumption and carbon emissions. This understanding formed the basis for setting our ambitious target to reduce GHG emissions by 22% against our adjusted 2020 baseline consumption (subject to divestments and significant business changes). ECO2MAN is supported by a mandatory carbon and energy technical standard and related guidance.

C4.2

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

Target
Energy usage

KPI – Metric numerator
GJ

KPI – Metric denominator (intensity targets only)
NA

Base year

Start year
2016

Target year
2020

KPI in baseline year

KPI in target year
105.4

% achieved in reporting year

Target Status
Underway

Please explain
Our energy-reduction target for 2020 is 8%. Approximately 320 energy-efficiency and business-improvement projects saved 6.4 million GJ in energy consumption (a 6% reduction relative to the projected consumption in a BAU scenario) in 2017.

Part of emissions target
This forms part of Anglo American's GHG reduction target relating to the energy component of Anglo American's GHG emissions.

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

C-CO4.2a

(C-CO4.2a) Explain, for coal mining activities, why you do not have a methane-specific emissions reduction target or incorporate methane into your target(s) reported in C4.2, and forecast how your methane emissions will change over the next five years.

Anglo American's thermal coal and metallurgical coal operations represent different contexts with respect to the generation of methane emissions.

In the case of Anglo American's thermal coal operations, the intermittent release of exceptionally low concentration fugitive methane from underground thermal coal mines is a challenge for estimating emissions. There are very few technically feasible opportunities to reduce fugitive methane emissions due to the low concentration of vent air methane (VAM), apart from the mobile flaring units at New Denmark (now divested), which only operated intermittently as the methane concentrations were often too low to sustain a flare.

The first continuous VAM measurements have commenced at Greenside and Zibulo. Currently, VAM is estimated using IPCC tier 2 calculations. The emissions from VAM will have an impact on the underground operations in terms of carbon tax, thus it is important to have accurate emissions measurements. The aim is to accurately measure VAM emissions, thereby possibly reducing our carbon footprint and our potential carbon tax liability. Initial results show that the VAM quantities measured are lower than what is currently being reported using the IPCC 2006 Tier 2 methodology. Pre-drainage is not widely practised in South Africa because the methane concentration is low thus methane is dealt with through the normal ventilation process.

In the case of metallurgical coal operations, coal mine methane emissions are included in our Group GHG target and are key to our mitigation actions in Australia. We have two sources of gas: rich gas that can be used for power generation and VAM. Due to low concentrations in VAM there are very few opportunities to mitigate this dilute or lean gas. Through pre-drainage we try to shift VAM into rich gas for use. As we mine deeper we are producing more gas, including both rich and VAM.

We lead the industry in using coal mine methane to generate electricity rather than flaring it. At our Moranbah North, Grosvenor and Capcoal underground metallurgical coal operations in Australia, waste mine methane is captured and used to generate more than 140 MW of electricity. In Australia the abatement of VAM is being continuously researched by industry bodies such as the Australian Coal Association Research Program and Australian Coal Association Low Emissions Technology Limited). We support research through our contribution to the Australian Coal 21 Fund, which invests in the development of technologies relating to carbon capture, geological storage and methane emissions abatement at underground coal mines. In South Africa, we are founding members of the Centre for Carbon Capture and Storage. To date, we have invested approximately USD10 million in clean-coal technology.

Anglo American is not in a position to comment on changes in metallurgical coal methane emissions at this stage as it is commercially sensitive.

C4.3

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

Yes

C4.3a

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

	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	277	355085
To be implemented*	38	62804
Implementation commenced*	9	9506
Implemented*	24	1485496
Not to be implemented	99	417005

C4.3b

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

Activity type
Other, please specify (Various initiatives)

Description of activity
<Not Applicable>

Estimated annual CO2e savings (metric tonnes CO2e)
25274

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
474386

Investment required (unit currency – as specified in CC0.4)
620000

Payback period
1-3 years

Estimated lifetime of the initiative
Ongoing

Comment

Activity type
Other, please specify (Various initiatives)

Description of activity
<Not Applicable>

Estimated annual CO2e savings (metric tonnes CO2e)
50538

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
282665

Investment required (unit currency – as specified in CC0.4)
286000

Payback period
1-3 years

Estimated lifetime of the initiative
Ongoing

Comment

Activity type
Fugitive emissions reductions

Description of activity
Other, please specify (Coal methane capture)

Estimated annual CO2e savings (metric tonnes CO2e)

1412407

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
0

Investment required (unit currency – as specified in CC0.4)
10000

Payback period
1-3 years

Estimated lifetime of the initiative
Ongoing

Comment
Coal Australia continued to invest in additional capture and use of rich gas from underground operations through power generation plants and gas exports. This initiative has been ongoing for a number of years but in 2017 the capacity was increased by 15MW to 144MW. This initiative contributes to achieving Anglo American's Scope 1 and 2 GHG reduction target.

C4.3c

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

Method	Comment
Dedicated budget for low-carbon product R&D	Anglo American Platinum, together with the Public Investment Corporation, has launched a USD200 million fund to invest in platinum-based technology companies in South Africa through AP Ventures. Platinum-based fuel cells provide a significant economic and environmental development opportunity for the country by facilitating the provision of clean, reliable and cost-effective power.
Internal price on carbon	An internal price of carbon is used for the budgeting process for scope 1 emissions in South Africa, and as a downside risk for scope 2. Sensitivity testing against carbon pricing scenarios is done for coal.
Dedicated budget for energy efficiency	Each of our business units is required to budget for projects (and where necessary the capital requirements) to meet their energy and carbon emissions savings targets which have been decided through the implementation of ECO2MAN.

C4.5

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

C4.5a

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

Level of aggregation
Group of products

Description of product/Group of products
PGMs are used in autocatalysts and in the case of more fuel-efficient diesel vehicles, our PGMs enable manufacturers to meet stringent air quality requirements on diesel vehicles thereby enabling greater use of diesel vehicles that produce fewer GHG

emissions than gasoline ICE vehicles in the short term. Looking further ahead, hydrogen fuel cell electric vehicles (FCEVs) offer a zero emissions alternative to ICE vehicles, without the need for consumers to change their behaviour. Platinum is used in FCEVs as the catalyst which turns hydrogen gas into electrical power. We believe that our actions can help shape this demand in the future. Anglo American is the leading primary producer of platinum group metals, extracting and processing around 40% of all newly mined platinum and is best placed to benefit from this potential increase in demand. Anglo American is the leading primary producer of platinum group metals, extracting and processing around 40% of all newly mined platinum.

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

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (own calculations in line with IPA LCA)

% revenue from low carbon product(s) in the reporting year
19

Comment
Amplats will invest USD100 million, through AP Ventures, into a specialist 12-year Fund dedicated to investment in advanced companies utilising the unique properties of PGMs. Our longer term partnership research programmes include piloting platinum-based fuel cells for mobile and stationary power systems. We have also successfully piloted fuel cell technology for underground locomotives and in a mini-grid rural electrification project. Through our PGM Investment Programme activities we are investing in a number of new promising technologies which use PGMs. This includes companies that support or use fuel cell technology/ clean technology for example: • Ballard which is a Canadian based business providing clean energy fuel cell products that enable optimised power systems for a range of applications. • Altergy Systems is a global leader in the manufacture and supply of proton exchange membrane fuel cells. The company was the first fuel cell company to implement automated assembly lines enabling the high volume, low cost manufacture of fuel cells. • Other examples include investments in Hydrogenious Technologies; Greyrock Energy; Primus Power; and hydrogen distributor United Hydrogen Group (UHG). In 2017, our work to add value to our portfolio of investment companies included: • Successfully raising USD32 million from third parties for Primus Power and the award of a US Technology and Development Agency grant to support an energy storage system for Eskom, South Africa's national electricity utility • Facilitating the entry of Germany-based Hydrogenious Technologies' systems to the US market, via United Hydrogen Technology. In addition, Amplats is helping secure additional funding and entry opportunities to new markets for Hydrogenious. • Identifying and developing a number of African and Asian opportunities for Greyrock Energy. We also continue to aid the widespread commercial adoption of fuel cells and hydrogen in transport and other sectors. This involves a range of activities from investing in companies that address specific market challenges through the PGM investment programme, to engaging with governments across the world to ensure a fair regulatory environment for these technologies, and assisting in demonstration programmes where appropriate.

Level of aggregation
Product

Description of product/Group of products
Copper is used in several low-carbon technology and energy efficiency applications. Use of copper in transmission and distribution lines can reduce losses and therefore reduce emissions associated with fossil fuel based power. Electric vehicles and various renewable energy technologies rely on copper. Copper is also used in ICT equipment that can enable dematerialisation and avoid GHG emissions. Demand for copper is expected to increase, given its use in several low-carbon technology applications. Our qualitative assessment to determine implications for product demand for copper indicates that in the transition to a low-carbon economy and under increasing climate constraints, the demand for copper is particularly positive. Anglo American produced 349 Kt of copper in 2017.

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

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (own calculations (GHG Protocol-aligned))

% revenue from low carbon product(s) in the reporting year
16

Comment
The European Copper Institute estimates that incorporating one extra kilogram of copper into expanding the copper conductor diameter can save between 100 and 7,500 kilograms of CO2e emissions.

Level of aggregation
Product

Description of product/Group of products

Nickel is currently used in nickel metal hydride, nickel cadmium and lithium ion batteries. These battery technologies enable more efficient energy consumption in vehicles (such as electric vehicles) and facilitate greater penetration of renewable energy technologies allowing for lower energy-related GHG emissions. Renewable energy technologies also rely on nickel-containing alloys to produce turbines, pumps, rotors, storage tanks, etc. Anglo American produced 43,800t of Nickel in 2017.

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

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (own calculations (GHG Protocol-aligned))

% revenue from low carbon product(s) in the reporting year
2

Comment
Nickel demand is expected to increase due to the growth in low carbon technologies that rely on nickel-containing alloy. Anglo American is currently assessing the changes in demand for these products to understand the opportunity as well as the implications in terms of avoided emissions enabled through their use.

Level of aggregation
Product

Description of product/Group of products
Kumba sells iron ore which is used to make steel. The use of steel is crucial for the production of wind turbines which is renewable and clean source of energy production. In addition, Kumba's iron ore has a high lump-to-fines ratio compared to its competitors. During 2017, Kumba maintained a high lump-ore to fine-ore ratio at 65:34. This ratio affects the amount of energy required in the sintering process in steel making, enabling a reduction in emissions generated by our clients. A high lump-to-fines ratio enables a significant reduction of emissions. Kumba is one of the largest iron ore producers that beneficiates its ore prior to sale. In 2017, we beneficiated approximately 70% of our ore (2016: 69%). Through beneficiation, the physical properties of the finished product are enhanced, removing impurities and improving product quality, which in turn reduces downstream emissions associated with steelmaking.

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

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (own calculations (GHG Protocol-aligned))

% revenue from low carbon product(s) in the reporting year
13

Comment
Kumba sells iron ore which is used to make steel. The use of steel is crucial for the production of wind turbines which is a renewable and clean source of energy production. In addition, Kumba's iron ore has a high lump-to-fines ratio compared to its competitors. During 2017, Kumba maintained their lump-ore to fine-ore ratio at 65:34. This ratio affects the amount of energy required in the sintering process in steel making. A high lump-to-fines ratio enables a significant reduction of emissions.

C-CO4.6

(C-CO4.6) Describe your organization's efforts to reduce methane emissions from coal mining activities.

There are no viable technologies for the capture of dilute ventilation air methane. There have been several investigations into applying these technologies at operating underground coal mines, both in Australia and elsewhere in the world. However, full-scale introduction of these technologies faces technology constraints, and also a safety risk as a potential ignition source.

Anglo American's thermal coal and metallurgical coal operations represent different contexts with respect to the generation of methane emissions and therefore opportunities to reduce them.

In the case of thermal coal operations, the exceptionally low inherent methane concentration presents challenges for monitoring and reporting. are very few technically feasible opportunities to reduce fugitive methane emissions due to the low concentration of vent air methane (VAM), apart from the mobile flaring units at New Denmark (divested as of 1 March 2018) which only operated intermittently as the methane concentrations were often too low to sustain a flare. Pre-drainage is also not an option for this reason and thus methane is dealt with through the normal ventilation process.

In the case of metallurgical coal operations, mine methane emissions are included in our Group GHG target and are key to our mitigation actions in Australia.

At our Moranbah North, Grosvenor and Capcoal underground metallurgical coal operations in Australia, waste mine methane is captured and used to generate more than 140 MW of electricity. Their combined environmental benefit is a reduction in GHG emissions of 3.7 Mt of CO2e emissions a year. Excess rich gas is sold to adjacent Coalbed Methane (CBM) producers for pipeline sales. Any excess above these disposal methods is flared to reduce the Greenhouse impact. In Australia the abatement of dilute (or VAM) methane is being constantly researched by industry bodies such as the Australian Coal Association Research Program (ACARP) and Australian Coal Association Low Emissions Technology Limited (ACALET) however significant safety issues have to be overcome before the easiest technology (high temperature oxidation) can be implemented at an Australian mine.

We support research through our contribution to the Australian Coal 21 Fund, which invests in the development of technologies relating to carbon capture, geological storage and methane emissions abatement at underground coal mines. As part of its investment in research and development of low-emissions coal technologies, the Coal 21 Fund has invested in two projects aimed at addressing the safety concerns associated with implementing technology for lowering greenhouse emissions from mine ventilation air. Both projects focus on the safety features that would be necessary in the duct work connecting the abatement technology to an operating mine.

In South Africa, we are founding members of the Centre for Carbon Capture and Storage. To date, we have invested approximately USD10 million in clean-coal technology across various R&D areas.

We also invest directly in reducing our emissions. Savings in GHG emissions due to ECO2MAN projects implemented since 2011 amounted to 19% largely through the use of coal mine methane drainage for power generation at our underground operations in Australia.

C-CO4.7

(C-CO4.7) Does your organization conduct leak detection and repair (LDAR) or use other methods to find and fix fugitive methane emissions from coal mining activities?

Yes

C-CO4.7a

(C-CO4.7a) Describe the protocol through which methane leak detection and repair or other methane leak detection methods are conducted for your coal mining activities, including predominant frequency of inspections, estimates of assets covered, and methodologies employed.

At our Australian operations, leak detection is conducted every two years using handheld “sniffer” gas detectors across all of our underground operations where gas collection systems are in place (100% of underground operations). Monitoring and measuring is done for all gas flows, required by law (including auditing). This does not cover leaks. Leak detection is more of an operational issue and driven by safety objectives predominantly. Leaks are detected by independent contractors’ accurate methanometers.

C-CO4.8

(C-CO4.8) If flaring is relevant to your coal mining operations, describe your organization’s efforts to reduce flaring, including any flaring reduction targets.

At our South African operations there are very few technically feasible opportunities to reduce fugitive methane emissions due to the low concentration of vent air methane, apart from the mobile flaring units at New Denmark (divested as of 1 March 2018) which only operated intermittently as the methane concentrations were often too low to sustain a flare.

In the case of metallurgical coal operations, coal mine methane emissions are included in our Group GHG target and are key to our mitigation actions in Australia. Our industry leading efforts to use gas (to fire power stations) mitigates the need to flare significant volumes. At our Moranbah North, Grosvenor and Capcoal underground metallurgical coal operations in Australia, waste mine methane is captured and used to generate more than 140 MW of electricity. Excess rich gas is sold to adjacent CBM producers for pipeline sales. Any excess above these disposal routes is flared to reduce the Greenhouse gas impact.

We support research through our contribution to the Australian Coal 21 Fund, which invests in the development of technologies relating to carbon capture, geological storage and methane emissions abatement at underground coal mines. In South Africa, we are founding members of the Centre for Carbon Capture and Storage. To date, we have invested approximately USD10 million in clean-coal technology.

C5. Emissions methodology

C5.1

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

Scope 1

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
9007987

Comment

Scope 2 (location-based)

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
8867779

Comment

Scope 2 (market-based)

Base year start
January 1 2026

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
703770

Comment

C5.2

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

Australia - National Greenhouse and Energy Reporting Act
IPCC Guidelines for National Greenhouse Gas Inventories, 2006
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

C6.1

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

Row 1

Gross global Scope 1 emissions (metric tons CO2e)
9922431

End-year of reporting period
<Not Applicable>

Comment

C6.2

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

Row 1

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

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

Comment
As of October 2015, Chile is among the countries/regions where the I-REC Standard board has authorised the issuers to implement attribute tracking systems. A total of 2,055,863 MWh of electricity were purchased by our operations in Chile in 2017. The emissions factors associated with electricity purchased are based on information provided by suppliers in the market, according to the I-REC Standard. These factors are used for the location-based and the market-based Scope 2 emission values (hence they are the same). In early 2016, Anglo American updated its systems to more accurately report in line with the revised Scope 2 reporting methodologies.

C6.3

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

Row 1

Scope 2, location-based
8035751

Scope 2, market-based (if applicable)
816178

End-year of reporting period
<Not Applicable>

Comment
This only applies to our operations in Chile. As of October 2015, Chile is among the countries/regions where the I-REC Standard board has authorised the issuers to implement attribute tracking systems. A total of 2,055,863 MWh of electricity were purchased by our operations in Chile in 2017. The emissions factors associated with electricity purchased are based on information provided by suppliers in the market, according to the I-REC Standard. These factors are used for the location-based and the market-based Scope 2 emission values (hence they are the same). In early 2016, Anglo American updated its systems to more accurately report in line with the revised Scope 2 reporting methodologies.

C6.4

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

C6.4a

(C6.4a) 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
F-Gasses

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions are not relevant

Explain why the source is excluded
After review, the contribution of F-gasses to Anglo American's carbon footprint was considered negligible (significantly below the materiality threshold).

Source
N2O

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions are not relevant

Explain why the source is excluded
After review, the contribution of N2O to Anglo American's carbon footprint was considered negligible (significantly below the materiality threshold).

Source
CO2 emissions from spontaneous combustion (sponcom)

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions are not relevant

Explain why the source is excluded
Coal South Africa historically reported spontaneous combustion emissions based on a factor of approximately 10% loss of stockpiles as ROM to combustion per annum. However, due to lack of global consensus on how to calculate these emissions, the business stopped reporting these emissions in 2011 / 2012.

Source
Emissions from explosives detonation

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions are not relevant

Explain why the source is excluded
The emissions have previously been assessed and found to be immaterial.

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

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO2e

332365

Emissions calculation methodology

This category includes upstream (i.e. cradle-to-gate) emissions from the production of products purchased or acquired by Anglo American's Platinum (Platinum), Nickel, Coal South Africa (Coal SA), Iron Ore Brazil (IOB), Copper and Kumba Iron Ore (Kumba) business units. Activity data: The Platinum data was based on the purchase of explosives obtained from supply chain records of the quantities purchased. CoalSA data was based on the quantity of lime/limestone produced and/or consumed on site for stone dusting and water treatment. Kumba identified explosives, steel, tyres and cement as its top four purchased goods using supplier invoices to obtain the total masses in tonnes. Nickel data relates to explosives purchased. IOB includes explosives and LPG. Emission factors: The emission factors and their respective sources are provided below: Explosives: 2.51 tCO2e/tonne product (CCalc Tool Manual Version 1.1 – Carbon Calculations over the Life Cycle of Industrial Activities). Steel: 1.9 tCO2e/tonne product (Greenhouse Gas Abatement in Energy Intensive Industries, page 5, Integrated steel mill average) Tyres: 1.2 tCO2e per tonne (Michelin Annual Report - 2013 Performance, page 43) Cement: 0.893 tCO2e tonne product (Pretoria Portland Cement - http://ppc.investoreports.com/ppc_ar_2013/downloads/ppc-ar-2013) Lime/Limestone: 0.75 tCO2e per tonne (Tier 1 IPCC 2006 Guideline methodology) Nickel explosives: 0.17 per tCO2e and 0.55 per tonne N20 GWP values: Carbon dioxide = 1 Methodology: The direct supplier emissions are estimated by multiplying the quantity of purchased product by an emission factor associated with the production of the product. Calculations were performed in accordance with ISO 14064 Part 1 and the Scope 3 Accounting and Reporting Standard by The Greenhouse Gas Protocol Initiative. IOB calculated emissions using the Brazilian GHG Program calculation sheets and its conversion factors (GHG Protocol Brazilian Program Tool - Version 2016.1.1). Assumptions: No assumptions were made in the calculation of the emissions in this category. Allocation methods: Operational Control (Platinum, Nickel, Iron Ore Brazil, Copper and CoalSA) Financial Control (Kumba)

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

100

Explanation

Not applicable

Capital goods

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Emissions associated with this category are measured and reported by the following Business Units: Kumba and Coal South Africa. However, the category is not material at the Anglo American level: emissions from capital goods represented 0.001% of our Scope 3 emission and purchases of capital goods are relatively low given the current focus on driving cost and productivity efficiencies through the operations, and on continuing to upgrade the quality of our portfolio.

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

Evaluation status

Relevant, calculated

Metric tonnes CO2e

852477

Emissions calculation methodology

This category includes emissions related to the extraction and/or production of fuels and energy purchased and consumed by all Anglo American's business units that are not accounted for in Scope 1 and Scope 2. This includes the emissions from coal for heating, coal for metallurgical processes, heavy fuel oil, intermediate fuel oil, marine gas oil, diesel, petrol, LPG, natural gas, paraffin, used oil for combustion and pet coke. Transmission and Distribution losses have been accounted for under Scope 2 emissions and have not been included in this section. Activity data: The activity data was obtained from the central Anglo American Enablon system based on site reported records of the quantity of each type of fuel purchased in GJ. Emission factors: DEFRA 2017 Well to Tank - Fuels emission factors. GWP values: Carbon dioxide = 1 Methodology: The quantity of fuel consumed in the reporting year was multiplied by the emission factor associated with the extraction, production, and transportation of that fuel. Calculations were performed in accordance with ISO 14064 Part 1 and The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Assumptions: No assumptions were made in the calculation of the emissions in this category. Allocation methods: Operational Control.

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

100

Explanation

Not applicable

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

157323

Emissions calculation methodology

For platinum, transport services include products taken by air to OR Tambo in helicopters that are owned by Anglo American. From ORT, the products are transported by flight to the relevant customers; hence this category only includes air travel. Diesel and Biodiesel are material to Nickel. Coal SA's material T&D: Transport of product from respective operations, or from the Rapid Loading Terminal, to the Richards Bay Coal Terminal via Rail within South Africa. Anglo American Kumba Iron Ore factored in diesel along with other products which were billed as purchased transport services in kilometres. For platinum, the activity data for this category is established by the hours of all helicopter flights and the weight of the refined product transported via air from OR Tambo International Airport to the customer's destination. Emission factors: Helicopter flights: 523.26 kg CO2ehour. This was calculated based on 170 litres/hour and 3.078 kilogram CO2e/litre (Defra 2012 - Annex 1 - Table 1b) Air Domestic (<425 km): 0.426 kg CO2e/tonne.km (Scope 3 Indirect) Defra 2012 and 2.065 kg CO2e/tonne.km (Scope 3 Direct) Defra 2012. Air Long-haul international (>3700 km) 0.641 kg CO2e/tonne.km (Scope 3 Direct) Defra 2012 and 0.132 kg CO2e/tonne.km (Scope 3 Indirect) Defra 2012. For our other business units that measure and report this category, the activity data was obtained from supply chain records of the quantity of each type of fuel purchased. Emission factors: The emission factors and their respective sources are provided below: CoalSA Electric rail: 14.18 gCO2e/net t-km (Transnet) Kumba Heavy Articulated vehicle: 0.9946 kgCO2e/vehicle km, (DEFRA, 2014) Nickel Diesel: 2.431 kgCO2e/1000 litres Biodiesel: 2.603 kgCO2e/1000 litres GWP values: Carbon dioxide = 1 Methodology: The total quantities of diesel and petrol used for the transportation and distribution of goods were multiplied with the respective emission factors. The emission factor for a Heavy Goods Vehicle was divided by an assumed 30m3 volume of the purchased goods transported per trip to get the emission factor in terms of volume and then multiplied by a single distance travelled from Sasolburg to Kumba's operations. The Calculations were performed in accordance with ISO 14064 Part 1 and The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard- operational control.

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

100

Explanation

Not applicable

Waste generated in operations

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Emissions associated with upstream waste generated constituted 0.035% of Anglo American's scope 3 emissions in 2016 and is therefore not deemed to be material.

Business travel

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Emissions associated with business travel constituted 0.002% of Anglo American's scope 3 emissions in 2016 and is therefore not deemed to be material.

Employee commuting

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Emissions associated with employee commuting constituted 0.024% of Anglo American's scope 3 emissions in 2016 and is therefore not deemed to be material.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

This category includes emissions from the operation of assets that are leased by Anglo American and its business units and not included in the scope 1 or scope 2 inventories. This is reported to be zero as any property that may currently be leased out is fully managed and as such incorporated into the scope 1&2 inventories.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

5034533

Emissions calculation methodology

Kumba Iron Ore’s products are transported by railway from Sishen and Kolomela to Saldanha, product from Thabazimbi is transported to Vanderbijlpark and Newcastle. The product due for international export is transported by sea vessel. Anglo American’s Coal South Africa product is transported domestically by railway and a combination of rail and sea vessel for internationally exported products. Activity data: The activity data for this category comprises sources of air, land and sea transportation including long and short haul flights, domestic rail as well as export by ship. Emission factors: Air Long-haul international: 0.641 kg CO2e/tonne.km (Direct, Defra 2012) and 0.132 kg CO2e/tonne.km (Indirect, Defra 2012). CoalSA Domestic rail: 0.042ktCO2e/tkm (Transnet) International Ocean Freight: 0.0078ktCO2e/tkm (IPCC) Kumba Rail: 0.059 kgCO2e/tonne.km (DEFRA, 2014) Shipping: 0.0025 kgCO2e/tonne.km (DEFRA, 2014) GWP values: Carbon dioxide = 1 Methodology: The weight of the product transported and distance travelled was multiplied by the relevant emission factor. Calculations were performed in accordance with ISO 14064 Part 1 and The Greenhouse Gas Protocol. Assumptions: An assumption was made that rail emissions were negligible for Platinum due to immaterial emissions factor. Kumba made the following assumptions: All of the product which is transported via ship is transported via a Bulk Carrier 200,000t + dry weight tonnage (dwt) type of ship classification used in DEFRA The rail emission factor used from DEFRA could be adjusted for the South African rail services by dividing the emission factor by the UK grid emission factor (GEF) and then multiplying it by the South African GEF. Allocation methods: Operational Control (CoalSA) Financial Control (Kumba).

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

100

Explanation

Platinum's outbound logistics (e.g., of sold products) is paid for by Amplats and therefore constitutes a purchased transport service and is included in "Upstream Transportation and Distribution". No material transportation of product to our direct clients is paid for by the client and therefore this source is not deemed material.

Processing of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

117782404

Emissions calculation methodology

This category includes emissions from the processing (by third parties/consumers) of sold intermediate products. This processing occurs subsequent to sale by Amplats (Platinum), Nickel, Copper and Kumba Iron Ore (Kumba). Activity data: The activity data for this category includes emissions from: processing nickel for production of stainless steel; the production of copper wire from copper; the processing of refined PGMs and Gold as well as the production of steel from iron ore. Emission Factors: Stainless steel: 6.84 tCO2e/t steel smelted Copper wire: 0.1500 kgCO2e/tonne copper Platinum: 33.78 kgCO2e/ton Palladium: 46.75 kgCO2e/ton Rhodium: 76.80 kgCO2e/ton Gold: 18.94 kgCO2e/ton Other PGMs: 38.57 kgCO2e/ton Iron: 1.35 tCO2e/tonne pig iron (2006 IPCC) Steelmaking: 1.46 tCO2e/tonne steel (2006 IPCC) Steel Products: 0.845 tCO2e/tonne ore Sintering Emission Factor: 0.202 tCO2e/tonne sinter (2006 IPCC) GWP values: Carbon dioxide = 1 Methane = 25 Sintering results in the emission of Carbon dioxide and methane. Methodology: The emissions associated with the processing of the respective materials were calculated by multiplying the mass of the product sold with the emission factor for the processing technique. Calculations were performed in accordance with ISO 14064 Part 1 and The Greenhouse Gas Protocol. Assumptions: Conversion of pig iron to steel is assumed a ratio of 1:1. For conservative estimates, nickel produced is assumed to be used for stainless steel production (8% nickel content), as stainless steel production is the most energy intensive process of all nickel end-products. It is further assumed that the product will be recycled at least once during its lifetime. For conservative estimates, copper produced is assumed to be used for the production of copper wire, as the production of copper wire is the most energy intensive process for copper end-products. It is further assumed that the product will be recycled at least once during its lifetime. Platinum constitutes 50% of total PGM production, it is assumed that the energy involved in the manufacturing of auto-catalysts and jewellery is immaterial. Allocation methods: Operational Control (Platinum, Nickel and Copper) Financial Control (Kumba)

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

100

Explanation

CoalSA reported zero for this category because coal is processed at plants on site / at operational level and thus all energy/fugitive related emissions are therefore included in Scope 1 and 2 reports. Any further emissions related to processing subsequent to this are deemed immaterial.

Use of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

99884162

Emissions calculation methodology

This category includes emissions from the use of goods and services sold by Anglo American. Anglo American's thermal coal product is utilised in the thermal coal powered generation of electricity, both domestically (in South Africa) and Internationally. Whilst our metallurgical coal is exported out (mostly) of Australia and to the rest of the world for steel production amongst others. Activity data: The activity data for this category comprises the metric tonnes of thermal and metallurgical coal product supplied to the various energy generators /providers and steelmakers across the world. Emission factors: Metallurgical coal: 3.06 Thermal coal: 2.03 GWP values: Carbon dioxide = 1 Methane = 25 Nitrous oxide = 296 Methodology: Equation 2.1 (Stationary combustion) of the IPCC 2006 Guidelines (Chapter 2, v2.2) was used to estimate the emissions from coal product sold to and used by the consumer. Emissions (GHG and fuel) is the result of Fuel Consumption multiplied by Emissions Factor (GHG and fuel), where: Emissions (GHG and fuel) is the emissions of a given GHG by type of fuel (kg GHG) Fuel Consumption is the amount of fuel combusted (TJ) Emissions Factor (GHG and fuel) is the default emission factor of a given GHG by type of fuel (kg gas/TJ). Assumptions: The carbon oxidation factor is assumed to be 1. Allocation methods: Operational Control

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

100

Explanation

There are no material emissions directly associated with the use of the iron ore and PGMs post their processing as outlined in the previous category ("Processing of sold products").

End of life treatment of sold products

Evaluation status
Relevant, calculated

Metric tonnes CO2e
3139826

Emissions calculation methodology
This category includes emissions from the disposal and end-treatment of products sold by Anglo American's Platinum (Platinum), Coal South Africa (CoalSA) and Kumba Iron Ore (Kumba) business units. The end of life treatment of coal product (ash/fly post combustion in power stations) is disposal onto discard dumps. Platinum and most PGMs are recycled at end of life. Steel (product of iron ore) is also often recycled with the process involving smelting. Activity data: This data comprises the amount of iron ore sold in the reporting year based on sales records. Emissions factors: The emission factor associated with the end of life treatment: Processing of scrap metal in an Electric Arc Furnace: 0.08 tCO2e / tonne ore (2006 IPCC Guidelines) GWP values: Carbon dioxide = 1 Methodology: The amount of steel recycled was determined by multiplying the recycling rate (30%) with the total amount of steel produced. The amount of recycled steel was then multiplied by the number of times recycled (one) and finally multiplied by the electric arc furnace emission factor to estimate the emissions associated with end of life treatment. The Calculations were performed in accordance with ISO 14064 Part 1 and The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Assumptions: A steel recycling rate of 30% (World Steel Association report from 2012). Number of times steel is recycled is once. All sold iron ore product is processed into steel. Allocation methods: Operational Control (Platinum and CoalSA) Financial Control (Kumba)

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
In South Africa, ash/fly is discarded on dumps and no further treatment is done, as a result this category is immaterial to CoalSA. The products of platinum (PGMs) are not often disposed of or treated, instead these usually remain as is or are recycled and as a result this category is reported as zero by Platinum.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
Anglo American and its business units do not lease out their assets and as such this category is irrelevant in this respect.

Franchises

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
The franchise category is immaterial to the Anglo American business model.

Investments

Evaluation status
Relevant, calculated

Metric tonnes CO2e
1134430

Emissions calculation methodology
This category includes scope 3 emissions associated with Anglo American's Coal South Africa (CoalSA) and Platinum (Platinum) investments in the reporting year. Non-managed (equity share) operations, Mafube Colliery (50%) and Cerrejon Coal (33%), are included with only the respective shared percentages of their emissions being reported. Activity data: The activity data consists on the quantities of PGM produced at the site of Joint Venture Companies. Scope 1 and 2 emissions from the Coal South Africa equity share operations are reported in this category. Emission factors: The applied emission factor is 1.4665 tCO2e/refined ounce of precious metal. (GHG intensity factor of Amplats for 2017, i.e. the CO2 equivalent emissions / refined ounces). The reported direct scope 1&2 emissions were utilised for CoalSA's equity share investments. GWP values: Carbon dioxide = 1 Methodology: The PGM production of the Platinum joint venture mines was multiplied by the GHG intensity figure of Platinum for 2017 as well as the percentage shareholding in order to estimate the emissions from these operations. The CoalSA emissions were obtained from the Enablon database and multiplied by the shareholding percentage. Calculations were performed in accordance with ISO 14064 Part 1 and The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Assumptions: No assumptions were made. Allocation methods: Operational Control (Platinum and CoalSA).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
Anglo American's Kumba Iron Ore primarily has investments in holding companies without any direct operational footprints and as such reports zero emissions for this category.

Other (upstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
Anglo American has no other relevant/material upstream emissions.

Other (downstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation
Anglo American has no other relevant/material downstream emissions.

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?
No

C6.10

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

Intensity figure
0.00068

Metric numerator (Gross global combined Scope 1 and 2 emissions)
17958182

Metric denominator
unit total revenue

Metric denominator: Unit total
26243000000

Scope 2 figure used
Location-based

% change from previous year
11.4

Direction of change
Decreased

Reason for change
Scope 1 and 2 GHG emission decreased by 0.5% and group revenue increased by 13.4% compared to the previous reporting year. The decrease in emissions was the result of a combination of emission reduction initiatives, divestments and a change in output. The most significant change was due to emission reduction initiatives saving an additional 1 485 496 tCO2e during the year. Cumulative GHG emission savings in 2017 amounted to 4.8 million tonnes (Mt) CO2e – a 21% reduction relative to the BAU. Approximately 320 energy-efficiency and business-improvement projects saved 6.4 million GJ in energy consumption (a 6% reduction relative to the projected consumption in a BAU scenario) in 2017.

Intensity figure
8.22

Metric numerator (Gross global combined Scope 1 and 2 emissions)
17958182

Metric denominator
Other, please specify (Group Copper Equivalent Production)

Metric denominator: Unit total
2184000

Scope 2 figure used
Location-based

% change from previous year
2

Direction of change
Increased

Reason for change
Group GHG emissions per copper equivalent production. This metrics is used to communicate the GHG intensity per unit in a single comparable measure for the portfolio: the GHG emissions of mining 1 tonne of copper equivalent. The increase is partially offset by reductions due to emission reduction initiatives implemented in 2017 saving an additional 1 485 496 tCO2e during the year.

Intensity figure
2.72

Metric numerator (Gross global combined Scope 1 and 2 emissions)
996764

Metric denominator
Other, please specify (Iron Ore (Kumba) Copper Equivalent Prod)

Metric denominator: Unit total

366000

Scope 2 figure used
Location-based

% change from previous year
3.8

Direction of change
Decreased

Reason for change
Iron Ore (Kumba) GHG emissions per tonne of copper equivalent production: A 5.4% increase in GHG emissions was offset by a greater, 9.6%, increase in copper equivalent production

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Intensity figure
1.54

Metric numerator (Gross global combined Scope 1 and 2 emissions)
193601

Metric denominator
Other, please specify (Iron Ore (Brazil) Copper Equivalent Prod)

Metric denominator: Unit total
126000

Scope 2 figure used
Location-based

% change from previous year
11

Direction of change
Increased

Reason for change
Iron Ore (Brazil) GHG emissions per tonne of copper equivalent production: GHG emissions increased by 15.6% and copper equivalent production increased by 4.1%

Intensity figure
9.43

Metric numerator (Gross global combined Scope 1 and 2 emissions)
1451624

Metric denominator
Other, please specify (Thermal Coal Copper Equivalent Productio)

Metric denominator: Unit total
154000

Scope 2 figure used
Location-based

% change from previous year
5.9

Direction of change
Increased

Reason for change
Thermal Coal GHG emissions per tonne of copper equivalent production: GHG emissions increased by 1.3%. This would have been higher if it were not for the introduction of additised diesel at our South African operations (reducing an additional 580 tCO2e during 2017). Copper equivalent production decreased by 4.3%.

Intensity figure
5.01

Metric numerator (Gross global combined Scope 1 and 2 emissions)
1849971

Metric denominator
Other, please specify (Diamonds Copper Equivalent Production)

Metric denominator: Unit total
369000

Scope 2 figure used
Location-based

% change from previous year
29.7

Direction of change
Decreased

Reason for change
De Beers GHG emissions per tonne of copper equivalent production: GHG emissions increased by 0.1%. The increase was limited by the implementation of a number of GHG reduction initiatives resulting in additional savings of 1827 tCO2e in 2017). Copper equivalent production went up by 42.5%.

Intensity figure
3.6

Metric numerator (Gross global combined Scope 1 and 2 emissions)
1255584

Metric denominator
Other, please specify (Copper Equivalent Production)

Metric denominator: Unit total
349000

Scope 2 figure used
Location-based

% change from previous year
13.5

Direction of change
Increased

Reason for change
Copper GHG emissions per tonne of copper equivalent production: GHG emissions increased by 11.9%. However projects were implemented during the reporting year that resulted in additional GHG reductions of 2951 tCO2e.

Intensity figure
20.59

Metric numerator (Gross global combined Scope 1 and 2 emissions)
6361290

Metric denominator
Other, please specify (Metallurgical Coal Copper Equivalent Pro)

Metric denominator: Unit total
309000

Scope 2 figure used
Location-based

% change from previous year
32.8

Direction of change
Increased

Reason for change

Coal Australia-Canada GHG emissions per tonne of copper equivalent production: GHG emissions increased by 16.3% and copper equivalent production decreased by 12.5%.

Intensity figure
11.71

Metric numerator (Gross global combined Scope 1 and 2 emissions)
4611656

Metric denominator
Other, please specify (Platinum Copper Equivalent Production)

Metric denominator: Unit total
394000

Scope 2 figure used
Location-based

% change from previous year
8.5

Direction of change
Increased

Reason for change
Platinum GHG emissions per tonne of copper equivalent production: Emissions decreased by 17.3% due in part to new emission reduction initiatives implemented during the reporting year. These collectively resulted in an additional 40 656 tCO2e reduced. This decrease was offset by a higher, 23.8%, decrease in copper equivalent production.

Intensity figure
10.47

Metric numerator (Gross global combined Scope 1 and 2 emissions)
17958182

Metric denominator
full time equivalent (FTE) employee

Metric denominator: Unit total
67095

Scope 2 figure used
Location-based

% change from previous year
24.1

Direction of change
Increased

Reason for change
Anglo American's scope 1 and 2 emissions have increased by 0.5% and FTE (employees and contractors) have decreased by a much higher 19%. The decrease in FTE is a result of the restructuring associated with creating a fit for purpose organisation.

C7. Emissions breakdowns

C7.1

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

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	9706304	IPCC Third Assessment Report (TAR - 100 year)
CH4	216127	IPCC Third Assessment Report (TAR - 100 year)

C-CO7.1b

(C-CO7.1b) Break down your total gross global Scope 1 emissions from coal mining activities in the reporting year by greenhouse gas type.

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Total gross Scope 1 GHG emissions (metric tons CO2e)	Comment
Fugitives (Underground coal mining)			5164041	Fugitive emissions data is not captured at the level of gas desegregation.
Fugitives (Surface coal mining)	0	0	276307	Fugitive emissions data is not captured at the level of gas desegregation.
Fugitives (Post-mining and abandoned coal mines)	0	0	0	Not applicable
Flaring			341290	Flaring emissions data is not captured at the level of gas desegregation.
Utilized methane	0	0	0	Not applicable
Combustion (Underground coal mining, excluding flaring and utilization)	0	0	0	Not applicable
Combustion (Surface coal mining, excluding flaring and utilization)	0	0	0	Not applicable
Combustion (Electricity generation)	0	0	0	Not applicable
Combustion (Other)	0	0	0	Not applicable
Emissions not elsewhere classified	0	0	0	Not applicable

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Australia	5734830
Botswana	354399
Brazil	1187055
Canada	142912
Chile	416932
Namibia	190515
Peru	21158
Other, please specify (Rest of World)	1239
South Africa	1865140
United Kingdom of Great Britain and Northern Ireland	1441
Zimbabwe	6810

C7.3

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

By business division

C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
Coal South Africa	616748
Copper	437943
Corporate	2104
De Beers	840481
Iron Ore Brazil	118342
Kumba Iron Ore	540434
Metallurgical Coal	5735040
Nickel	1068303
Platinum	563037

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

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

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	6351788	<Not Applicable>	
Electric utility generation activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	9883264	<Not Applicable>	
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Australia	626222	0	793892	0
Botswana	511126	0	516289	0
Brazil	232220	0	2457449	0
Canada	24494	0	113395	0
Chile	816178	816178	2055863	2055863
Namibia	187253	0	189144	0
Peru	1464	0	2292	0
Other, please specify (Rest of World)	1137	0	7886	0
South Africa	5504255	0	5559854	0
United Kingdom of Great Britain and Northern Ireland	63596	0	153999	0
Zimbabwe	67807	0	114927	0

C7.6

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

By business division

C7.6a

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

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Coal South Africa	834876	0
Copper	817641	816178
Corporate	10331	0
De Beers	1009490	0
Iron Ore Brazil	75260	0
Kumba Iron Ore	456330	0
Metallurgical Coal	626250	0
Nickel	156954	0
Platinum	4048619	0

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

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

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	1461125	0	
Metals and mining production activities	7811056	816178	
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.9

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

Increased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	Not applicable
Other emissions reduction activities	1485496	Decreased	8	The GHG reduction projects we have implemented have a typical payback time of three years. In the reporting year an additional 1,485,496 tCO2e were reduced by our emissions reduction initiatives, and our total Scope 1 and Scope 2 emissions in the previous year were 17,875,766 tCO2e, therefore we arrived at 8% through (1,485,496/ 17,875,766)*100= 8%). The main cause of the significant decrease was due to Coal Australia's continued investment in additional capture and use of rich gas from underground operations through power generation plants and gas exports. This initiative has been ongoing for a number of years but in 2017 the capacity was increased to 144MW (129MW in 2016)
Divestment	1380174	Decreased	8	Metallurgical Coal divestments over the past two years have included pulverised coal injection (PCI) producer Foxleigh and Callide (a domestic and export thermal coal producer), while mining activities have ceased at Drayton (an export thermal producer) and we expect to complete the sale of the operation in the near future. The disposals of our 83.3% interest in the Dartbrook thermal coal mine in Australia, and of certain Rustenburg complex Mineral Resources (Platinum) were completed. The emissions associated with divested operations in 2016 (proportional to the number of months relevant in the case of De Beers' IMTEC - Consolidated operations which were divested from the end-March 2017) were aggregated and calculated as a percentage of total 2016 emissions (1,380,174/ 17,875,766)*100= 8%).
Acquisitions	0	No change	0	Not applicable
Mergers	0	No change	0	Not applicable
Change in output	2783255	Increased	16	Across the Group, production increased by 5% on a copper equivalent basis, driven by improved performances at De Beers (+22%), Kumba Iron Ore (+8%) and Iron Ore Brazil (+4%), partly offset by lower production at the Coal operations (-4%).
Change in methodology	0	No change	0	Not applicable
Change in boundary	0	No change	0	Not applicable
Change in physical operating conditions	0	No change	0	Not applicable
Unidentified	0	No change	0	Not applicable
Other	0	No change	0	Not applicable

C7.9b

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

Location-based

C8. Energy

C8.1

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

More than 5% but less than or equal to 10%

C8.2

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

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

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	503664	14613232	15116896
Consumption of purchased or acquired electricity	<Not Applicable>	8936	11956149	11965085
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	512600	26569380	27081981

C-MM8.2a

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

	Heating value	Total MWh
Consumption of fuel (excluding feedstocks)	LHV (lower heating value)	14422306
Consumption of purchased or acquired electricity	<Not Applicable>	11639578
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0
Total energy consumption	<Not Applicable>	26565548

C8.2b

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

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

C8.2c

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

Fuels (excluding feedstocks)
Bituminous Coal

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
2085512

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Metallurgical Coal

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
922716

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization
9631524

MWh fuel consumed for the self-generation of electricity
529913

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Natural Gas

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
146371

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Liquefied Petroleum Gas (LPG)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
231183

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)

Motor Gasoline

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
38422

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Kerosene

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
4274

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Petroleum Coke

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
21480

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Biodiesel

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
50097

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Other, please specify (Heavy fuel oil)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
1033172

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Other, please specify (Biomass)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
453568

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
453568

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Other, please specify (Marine gas oil)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
402417

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Other, please specify (Intermediate fuel oil)

Heating value
Please select

Total fuel MWh consumed by the organization
91359

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Other, please specify (Smaller quantity fuels used)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
4800

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

C8.2d

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

Biodiesel

Emission factor
2.69

Unit
metric tons CO2e per m3

Emission factor source
IPCC

Comment

Bituminous Coal

Emission factor
2.62

Unit
metric tons CO2e per metric ton

Emission factor source
IPCC

Comment

Diesel

Emission factor
2.68

Unit
metric tons CO2e per m3

Emission factor source
IPCC

Comment
A country-specific emission factor of 2.67 metric tonnes CO2e per m3 is used in Australia.

Kerosene

Emission factor
2.83

Unit
metric tons CO2e per m3

Emission factor source
IPCC

Comment

Liquefied Petroleum Gas (LPG)

Emission factor
2.98

Unit
metric tons CO2e per metric ton

Emission factor source
IPCC

Comment
A country-specific emission factor of 1.53 metric tonnes CO2e per metric tonne is used in Australia.

Metallurgical Coal

Emission factor
2.44

Unit
metric tons CO2e per metric ton

Emission factor source
IPCC

Comment

Motor Gasoline

Emission factor
2.4

Unit
metric tons CO2e per m3

Emission factor source
IPCC

Comment
A country-specific emission factor of 2.28 metric tonnes CO2e per m3 is used in Australia.

Natural Gas

Emission factor
0.00215

Unit
metric tons CO2e per m3

Emission factor source
IPCC

Comment

Petroleum Coke

Emission factor
3.17

Unit
metric tons CO2e per metric ton

Emission factor source
IPCC

Comment

Other

Emission factor
2.74

Unit
metric tons CO2e per m3

Emission factor source
IPCC

Comment
Other sources include: Other: Marine gas oil- 2.669 metric tonnes CO2e per m3, IPCC Other: Biomass used as fuel- 0 metric tonnes CO2e per metric tonne, IPCC Wood or wood waste- 0 metric tonnes CO2e per metric tonne, IPCC Other: Methane flared- 2.749 metric tonnes CO2 per metric tonne CH4, IPCC; Australia does a specific conversion based on NGERs and accounts for changing combustion efficiency Other: Methane from coal mining- 21 metric tonnes CO2 per metric tonne CH4, IPCC: from July 2015, Australia's GWP was revised to 25

C8.2e

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	1054660	1054660	0	0
Heat	453566	453566	453566	453566
Steam	0	0	0	0
Cooling	0	0	0	0

C-MM8.2e

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

	Total gross generation (MWh) inside metals and mining sector boundary	Generation that is consumed (MWh) inside metals and mining sector boundary
Electricity	1002024	1002024
Heat	453566	453566
Steam	0	0
Cooling	0	0

C8.2f

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

Basis for applying a low-carbon emission factor
Contract with suppliers or utilities (e.g. green tariff), supported by energy attribute certificates

Low-carbon technology type
Other low-carbon technology, please specify (Mixed)

MWh consumed associated with low-carbon electricity, heat, steam or cooling
2055863

Emission factor (in units of metric tons CO2e per MWh)
0.39

Comment
As of October 2015, Chile is among the countries/regions where the I-REC Standard board has authorised the issuers to implement attribute tracking systems. A total of 2,034,016 MWh of electricity were purchased by our operations in Chile in 2016. The emissions factors associated with electricity purchased are based on information provided by suppliers in the market, according to the I-REC Standard. These factors are used for the location-based and the market-based Scope 2 emission values (hence they are the same). Anglo American has revised report systems to more accurately report in line with the revised Scope 2 reporting methodologies.

Basis for applying a low-carbon emission factor
Off-grid energy consumption from an on-site installation or through a direct line to an off-site generator owned by another company

Low-carbon technology type
Other low-carbon technology, please specify (waste heat recovery)

MWh consumed associated with low-carbon electricity, heat, steam or cooling
8936

Emission factor (in units of metric tons CO2e per MWh)
0

Comment
Anglo American does not procure any low carbon electricity with accompanying contractual instruments through a market-based approach. 8,936 MWh was purchased from Eternity Power RF in 2017 (generated by the 4,3MW Eternity Thermal Harvesting power plant at ACP). The plant was commissioned in June 2015. This electricity is not purchased through a market-based instrument and therefore is not considered Scope 2 market-based emissions according to the CDP guidance.

C9. Additional metrics

C9.1

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

Description
Waste

Metric value
26713

Metric numerator
Non-hazardous waste to legal landfill (tonnes)

Metric denominator (intensity metric only)

% change from previous year
30

Direction of change
Increased

Please explain

Description
Land use

Metric value
1565438

Metric numerator
Company-managed land (hectares)

Metric denominator (intensity metric only)

% change from previous year
0

Direction of change
No change

Please explain

Description
Land use

Metric value
110824

Metric numerator
Land altered by mining activities

Metric denominator (intensity metric only)

% change from previous year
1

Direction of change
Increased

Please explain

Description
Land use

Metric value
19265

Metric numerator
Land rehabilitated (hectares)

Metric denominator (intensity metric only)

% change from previous year
7

Direction of change
Decreased

Please explain
In 2017, we re-assessed the rehabilitation status at all our sites and prioritised activities for 2018. In 2017, 39% of the rehabilitation target set by operations was achieved, excluding De Beers where rehabilitation at Venetia mine has been deferred to 2019, while Debswana data is not reported centrally.

C-CO9.2a

(C-CO9.2a) Disclose coal reserves and production by coal type attributable to your organization in the reporting year.

Thermal coal

Proven reserves (million metric tons)
819

Probable reserves (million metric tons)
351.9

Production (million metric tons)
60.5

Energy content of production (GJ per metric ton)
25.8

Heating value
LHV

Emission factor of production (metric tons CO2e per metric ton)
24

Comment
Mineral Resources are additional to (exclusive of) those resources converted to Ore Reserves and are reported on a dry tonnes basis.

Metallurgical coal

Proven reserves (million metric tons)
231.5

Probable reserves (million metric tons)
332.7

Production (million metric tons)
21.3

Energy content of production (GJ per metric ton)
25.8

Heating value
LHV

Emission factor of production (metric tons CO2e per metric ton)
299

Comment
Mineral Resources are additional to (exclusive of) those resources converted to Ore Reserves and are reported on a dry tonnes basis.

Other coal

Proven reserves (million metric tons)
0

Probable reserves (million metric tons)
0

Production (million metric tons)
0

Energy content of production (GJ per metric ton)

Heating value
Please select

Emission factor of production (metric tons CO2e per metric ton)

Comment
Not applicable

Total coal

Proven reserves (million metric tons)
1050.5

Probable reserves (million metric tons)
684.6

Production (million metric tons)
81.8

Energy content of production (GJ per metric ton)
25.8

Heating value
LHV

Emission factor of production (metric tons CO2e per metric ton)
96

Comment
Mineral Resources are additional to (exclusive of) those resources converted to Ore Reserves and are reported on a dry tonnes basis

C-CO9.2b

(C-CO9.2b) Disclose coal resources by coal type attributable to your organization in the reporting year.

Thermal coal

Measured resources (million metric tons)
999

Indicated resources (million metric tons)
999

Inferred resources (million metric tons)
923

Total resources (million metric tons)
999

Comment
Measured resources (million metric tons): 3,381.2 Indicated resources (million metric tons): 1,251.7 Inferred resources (million metric tons): 922.8 Total resources (million metric tons): 5,555.8

Metallurgical coal

Measured resources (million metric tons)
676

Indicated resources (million metric tons)
572

Inferred resources (million metric tons)
559

Total resources (million metric tons)
999

Comment
Total resources (million metric tons): 1806.9

Other coal

Measured resources (million metric tons)
0

Indicated resources (million metric tons)
0

Inferred resources (million metric tons)
0

Total resources (million metric tons)
0

Comment

Total coal

Measured resources (million metric tons)
999

Indicated resources (million metric tons)
999

Inferred resources (million metric tons)
999

Total resources (million metric tons)
999

Comment
Measured resources (million metric tons): 4,057.2 Indicated resources (million metric tons): 1,823.9 Inferred resources (million metric tons): 1,481.6 Total resources (million metric tons): 7,362.7

C-CO9.3a

(C-CO9.3a) Break down the coal production attributed to your organization in the reporting year by grade.

	Production (%)	Comment
Lignite	0	Not applicable
Subbituminous	39	This includes production from our South African Thermal Coal business as well as thermal coal produced as a secondary yield from Capcoal (part of our Australian business)
Bituminous	61	This includes production from our Australian Metallurgical Coal business
Anthracite	0	Not applicable
Other	0	Not applicable

C-MM9.3a

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

Output product
Diamonds

Capacity, metric tons

Production, metric tons
0.01

Production, copper-equivalent units (metric tons)
369000

Scope 1 emissions
835300

Scope 2 emissions
890571

Pricing methodology for copper-equivalent figure
Copper equivalent production, expressed as copper equivalent tonnes, shows changes in underlying production volume. It is calculated by expressing each commodity's volume as revenue, subsequently converting the revenue into copper equivalent units by dividing by the copper price (per tonne). Long-term forecast prices (and foreign exchange rates where appropriate) are used, in order that period-on-period comparisons exclude any impact for movements in price. When calculating copper equivalent production, all volumes relating to domestic sales are excluded, as are volumes from Samancor and sales from non-mining activities. Volume from projects in pre-commercial production is included.

Comment
Production is 0.0066908 metric tonnes Anglo American does not report mining capacity.

Output product
Platinum group metals

Capacity, metric tons

Production, metric tons

Production, copper-equivalent units (metric tons)

Scope 1 emissions
184345

Scope 2 emissions
877725

Pricing methodology for copper-equivalent figure

Comment

Anglo American does not report mining capacity. Production is disclosed in terms of own-mined production and purchase of metal in concentrate. It reflects a commodity basket and is therefore captured under "metals" production

Output product
Copper

Capacity, metric tons

Production, metric tons

Production, copper-equivalent units (metric tons)

Scope 1 emissions
382496

Scope 2 emissions
756688

Pricing methodology for copper-equivalent figure

Comment
Anglo American does not report mining capacity. Production is disclosed in terms of own-mined production and purchase of metal in concentrate. It reflects a commodity basket and is therefore captured under "metals" production

Output product
Nickel

Capacity, metric tons

Production, metric tons

Production, copper-equivalent units (metric tons)

Scope 1 emissions
954006

Scope 2 emissions
124000

Pricing methodology for copper-equivalent figure

Comment
Anglo American does not report mining capacity. Production is disclosed in terms of own-mined production and purchase of metal in concentrate. It reflects a commodity basket and is therefore captured under "metals" production

Output product
Iron ore

Capacity, metric tons

Production, metric tons
45000000

Production, copper-equivalent units (metric tons)
366000

Scope 1 emissions
540434

Scope 2 emissions
456330

Pricing methodology for copper-equivalent figure
Copper equivalent production, expressed as copper equivalent tonnes, shows changes in underlying production volume. It is calculated by expressing each commodity's volume as revenue, subsequently converting the revenue into copper equivalent units by dividing by the copper price (per tonne). Long-term forecast prices (and foreign exchange rates where appropriate) are used, in order that period-on-period comparisons exclude any impact for movements in price. When calculating copper equivalent production, all volumes relating to domestic sales are excluded, as are volumes from Samancor and sales from non-mining activities. Volume from projects in pre-commercial production is included.

Comment
Kumba Iron Ore. Anglo American does not report mining capacity.

Output product
Iron ore

Capacity, metric tons

Production, metric tons
16800000

Production, copper-equivalent units (metric tons)
126000

Scope 1 emissions
118342

Scope 2 emissions
75260

Pricing methodology for copper-equivalent figure
Copper equivalent production, expressed as copper equivalent tonnes, shows changes in underlying production volume. It is calculated by expressing each commodity's volume as revenue, subsequently converting the revenue into copper equivalent units by dividing by the copper price (per tonne). Long-term forecast prices (and foreign exchange rates where appropriate) are used, in order that period-on-period comparisons exclude any impact for movements in price. When calculating copper equivalent production, all volumes relating to domestic sales are excluded, as are volumes from Samancor and sales from non-mining activities. Volume from projects in pre-commercial production is included.

Comment
Iron Ore - Minas-Rio Anglo American does not report mining capacity.

Output product
Other mining (Please specify) (Metallurgical Coal)

Capacity, metric tons

Production, metric tons
21300000

Production, copper-equivalent units (metric tons)
309000

Scope 1 emissions
5735040

Scope 2 emissions
626250

Pricing methodology for copper-equivalent figure
Copper equivalent production, expressed as copper equivalent tonnes, shows changes in underlying production volume. It is calculated by expressing each commodity's volume as revenue, subsequently converting the revenue into copper equivalent units by dividing by the copper price (per tonne). Long-term forecast prices (and foreign exchange rates where appropriate) are used, in order that period-on-period comparisons exclude any impact for movements in price. When calculating copper equivalent production, all volumes relating to domestic sales are excluded, as are volumes from Samancor and sales from non-mining activities. Volume from projects in pre-commercial production is included.

Comment
Anglo American does not report mining capacity.

Output product
Other mining (Please specify) (Coal South Africa)

Capacity, metric tons

Production, metric tons
60500000

Production, copper-equivalent units (metric tons)

154000

Scope 1 emissions
614960

Scope 2 emissions
801641

Pricing methodology for copper-equivalent figure
Copper equivalent production, expressed as copper equivalent tonnes, shows changes in underlying production volume. It is calculated by expressing each commodity's volume as revenue, subsequently converting the revenue into copper equivalent units by dividing by the copper price (per tonne). Long-term forecast prices (and foreign exchange rates where appropriate) are used, in order that period-on-period comparisons exclude any impact for movements in price. When calculating copper equivalent production, all volumes relating to domestic sales are excluded, as are volumes from Samancor and sales from non-mining activities. Volume from projects in pre-commercial production is included.

Comment
Anglo American does not report mining capacity.

C-CO9.3b

(C-CO9.3b) Break down the coal production attributed to your organization in the reporting year by mine type.

	Production (%)
Underground	39
Surface	61

C-MM9.3b

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

Output product
Copper

Capacity (metric tons)

Production (metric tons)
579000

Annual production in copper-equivalent units (thousand tons)
349000

Scope 1 emissions (metric tons CO2e)
34330.59

Scope 2 emissions (metric tons CO2e)
59489.26

Pricing methodology for-copper equivalent figure
Copper equivalent production, expressed as copper equivalent tonnes, shows changes in underlying production volume. It is calculated by expressing each commodity's volume as revenue, subsequently converting the revenue into copper equivalent units by dividing by the copper price (per tonne). Long-term forecast prices (and foreign exchange rates where appropriate) are used, in order that period-on-period comparisons exclude any impact for movements in price. When calculating copper equivalent production, all volumes relating to domestic sales are excluded, as are volumes from Samancor and sales from non-mining activities. Volume from projects in pre-commercial production is included.

Comment
Anglo American does not report metals processing capacity.

Output product

Nickel

Capacity (metric tons)

Production (metric tons)
43800

Annual production in copper-equivalent units (thousand tons)
117000

Scope 1 emissions (metric tons CO2e)
114296.74

Scope 2 emissions (metric tons CO2e)
32954.32

Pricing methodology for-copper equivalent figure
Copper equivalent production, expressed as copper equivalent tonnes, shows changes in underlying production volume. It is calculated by expressing each commodity's volume as revenue, subsequently converting the revenue into copper equivalent units by dividing by the copper price (per tonne). Long-term forecast prices (and foreign exchange rates where appropriate) are used, in order that period-on-period comparisons exclude any impact for movements in price. When calculating copper equivalent production, all volumes relating to domestic sales are excluded, as are volumes from Samancor and sales from non-mining activities. Volume from projects in pre-commercial production is included.

Comment
Anglo American does not report metals processing capacity.

Output product
Platinum group metals

Capacity (metric tons)

Production (metric tons)
68

Annual production in copper-equivalent units (thousand tons)
394000

Scope 1 emissions (metric tons CO2e)
369713.77

Scope 2 emissions (metric tons CO2e)
3110147.46

Pricing methodology for-copper equivalent figure
Copper equivalent production, expressed as copper equivalent tonnes, shows changes in underlying production volume. It is calculated by expressing each commodity's volume as revenue, subsequently converting the revenue into copper equivalent units by dividing by the copper price (per tonne). Long-term forecast prices (and foreign exchange rates where appropriate) are used, in order that period-on-period comparisons exclude any impact for movements in price. When calculating copper equivalent production, all volumes relating to domestic sales are excluded, as are volumes from Samancor and sales from non-mining activities. Volume from projects in pre-commercial production is included.

Comment
Anglo American does not report metals processing capacity.

C-CO9.4a

(C-CO9.4a) Explain which listing requirements or other methodologies you have used to provide reserves data in C-CO9.2a. If your organization cannot provide data due to legal restrictions on reporting reserves figures in certain countries, please explain this.

The Ore Reserve and Mineral Resource estimates presented in this response are prepared in accordance with the Anglo American plc (AA plc) Reporting of Exploration Results, Mineral Resources and Ore Reserves standard. This standard requires that the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 edition (the JORC Code) be used as a minimum standard. Some Anglo American plc subsidiaries have a primary listing in South Africa where public reporting is carried out in accordance with the South African Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves (the SAMREC Code). The SAMREC Code is similar to the JORC Code and the Ore Reserve and Mineral Resource terminology appearing in this section follows the definitions in both the JORC (2012) and SAMREC (2016 Edition) Codes. Ore Reserves in the context of this Annual Report have the same meaning as 'Mineral Reserves' as defined by the SAMREC Code and the CIM (Canadian Institute of Mining and Metallurgy) Definition Standards on Mineral Resources and Mineral Reserves.

The information on Ore Reserves and Mineral Resources was prepared by or under the supervision of Competent Persons as defined in the JORC or SAMREC Codes. All Competent Persons have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking. All the Competent Persons consent to the inclusion in this report of the information in the form and context in which it appears. The names of the Competent Persons (CPs) along with their Recognised Professional Organisation (RPO) affiliation and years of relevant experience are listed in the Ore Reserve and Mineral Resource Report 2017. Anglo American Group companies are subject to a comprehensive programme of reviews aimed at providing assurance in respect of Ore Reserve and Mineral Resource estimates. The reviews are conducted by suitably qualified Competent Persons from within the Anglo American Group, or by independent consultants. The frequency and depth of the reviews is a function of the perceived risks and/or uncertainties associated with a particular Ore Reserve and Mineral Resource. The overall value of the entity and time that has elapsed since an independent third-party review is also considered. Those operations/projects that were subjected to independent third-party reviews during the year are indicated in footnotes

to the tables.

The JORC and SAMREC Codes require due consideration of reasonable prospects for eventual economic extraction for Mineral Resource definition. These include long-range commodity price forecasts which are prepared by in-house specialists largely using estimates of future supply and demand and long term economic outlooks. The calculation of Mineral Resource and Ore Reserve estimates are based on long-term prices determined at the beginning of the second quarter each year. Ore Reserves are dynamic and are more likely to be affected by fluctuations in the prices of commodities, uncertainties in production costs, processing costs and other mining, infrastructure, legal, environmental, social and governmental factors which may impact the financial condition and prospects of the Group. Mineral Resource estimates also change and tend to be influenced mostly by new information pertaining to the understanding of the deposit and secondly by the conversion to Ore Reserves. Unless otherwise stated, Mineral Resources are additional to (exclusive of) those resources converted to Ore Reserves and are reported on a dry

tonnes basis.

The appropriate Mineral Resource classification is determined by the appointed Competent (or Qualified) Persons. The choice of appropriate category of Mineral Resource depends upon the quantity, distribution and quality of geoscientific information available and the level of confidence in these data.

To accommodate the various factors that are important in the development of a classified Mineral Resource estimate, a scorecard approach is generally used. Mineral Resource classification defines the confidence associated with different parts of the Mineral Resource. The confidence that is assigned refers collectively to the reliability of the Grade and Tonnage estimates. This reliability includes consideration for the fidelity of the base data, the geological continuity predicated by the level of understanding of the geology, the likely precision of the estimated grades and understanding of grade variability, as well as various other factors (in particular density) that may influence the confidence that can be placed on the Mineral Resource. Most business units have developed commodity specific scorecard-based approaches to the classification of their Mineral Resources.

C-CO9.6/C-EU9.6/C-OG9.6

(C-CO9.6/C-EU9.6/C-OG9.6) Disclose your investments in low-carbon research and development (R&D), equipment, products, and services.

Investment start date
January 1 2014

Investment end date
December 31 2020

Investment area
R&D

Technology area
Carbon capture and storage/utilisation

Investment maturity
Pilot demonstration

Investment figure
8124

Low-carbon investment percentage
100

Please explain
Investment is ongoing. Anglo American Coal was a founding member of SACCCS. We have participated actively in the Board of Governors (until this was dissolved due to structural changes at SACCCS), the steering committee and chaired a stakeholder engagement sub-committee at SACCCS. SACCCS was established to determine the feasibility (techno-economic) of carbon capture and storage research in South Africa. Given South Africa's emissions from coal fired power stations as well as coal-to-liquids plants, CCS in South Africa would help to reduce the country's emissions substantially. The pilot storage project aims to begin with the test injection in 2019 to determine the injectivity of the geology. The project has also been structured to maximise the skills transfer to the country. The pilot storage project is being funded by the World Bank, Norway and the South African Department of Energy.

C-MM9.6

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

Investment start date
January 1 2016

Investment end date
December 31 2019

Investment area
R&D

Technology area
Other, please specify (Carbon Capture, Storage, and Utilisation)

Investment maturity
Applied research and development

Investment figure
2100000

Low-carbon investment percentage
81 - 100%

Please explain
Since 2016, De Beers has funded an R&D programme to investigate the potential to store carbon in kimberlite tailings (fine-grained material leftover from diamond mining) through mineral carbonation technologies. Kimberlite belongs to a family of rare rocks that are highly reactive with CO2 and thus forms an excellent feedstock for a number of potential mineral carbonation technologies. The project started in 2016 with a review of previous mineral carbonation studies at mine sites. During 2017 and 2018, the project has focused on mineral carbonation potential studies at Venetia mine in South Africa and Gahcho Kué mine in Canada. In addition, laboratory-scale pilot work to assess mineral carbonation technologies that could be applied at these two sites has also begun. In

addition, De Beers is supporting academic-focused research at Voorspoed mine in South Africa, to better understand carbonation pathways and rates, as well as carbonate-mineral preservation, in kimberlite tailings in a southern African climate over a long time period. The project is being run by an in house team of scientists, who are working in close partnership with external mineral carbonation experts at a number of universities. The primary university collaborators are the University of British Columbia, the University of Alberta, Trent University, and the University of Queensland.

Investment start date
January 1 2009

Investment end date
December 31 2019

Investment area
Products

Technology area
Other, please specify (Platinum-based technology development)

Investment maturity
Small scale commercial deployment

Investment figure
100000000

Low-carbon investment percentage
81 - 100%

Please explain
In February 2017, Anglo American and 12 other companies launched the global Hydrogen Council. Through the Council we confirmed our ambition to accelerate investment in the development and commercialisation of both hydrogen and fuel cell sectors. Hydrogen-powered fuel cell electric vehicles offer the most natural solution for zero emission vehicles – emitting only water and requiring little change to the way we are all used to driving and refuelling our cars. Bringing together cross-industry expertise and collaborating to shift complex energy systems, the Hydrogen Council plans to invest USD1.9 billion per year over the next five years, supporting a transition to a hydrogen-based transportation system. Together with the Chinese Ministry of Science and Technology, Amplats was instrumental in establishing the International Fuel Cell and Hydrogen Association in China this year. We are also a member of a number of additional organisations through which we advocate for clean energy related to PGMs. We also invest in R&D through a number of universities. Amplats will invest USD100 million, through AP Ventures, into a specialist 12-year Fund dedicated to investment in advanced companies utilising the unique properties of PGMs. Our longer term partnership research programmes include piloting platinum-based fuel cells for mobile and stationary power systems. We have also successfully piloted fuel cell technology for underground locomotives and in a mini-grid rural electrification project. Through our PGM Investment Programme activities we are investing in a number of new promising technologies which use PGMs. This includes companies that support or use fuel cell technology/ clean technology for example: • Ballard which is a Canadian based business providing clean energy fuel cell products that enable optimised power systems for a range of applications. • Altergy Systems is a global leader in the manufacture and supply of proton exchange membrane fuel cells. The company was the first fuel cell company to implement automated assembly lines enabling the high volume, low cost manufacture of fuel cells. • Other examples include investments in Hydrogenious Technologies; Greyrock Energy; Primus Power; and hydrogen distributor United Hydrogen Group (UHG). The investment is open-ended (ongoing)

Investment start date
January 1 2017

Investment end date
December 31 2027

Investment area
Property, plant and equipment

Technology area
Other, please specify (Platinum-based technology development)

Investment maturity
Please select

Investment figure

Low-carbon investment percentage
81 - 100%

Please explain

In 2017, Anglo American co-funded the construction of seven hydrogen refuelling stations in California to promote the roll-out of hybrid fuel cell electric vehicles.

C10. Verification

C10.1

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

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	No third-party verification or assurance

C10.1a

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

Scope
Scope 1

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
aa-sustainability-report-2017.pdf

Page/ section reference
71

Relevant standard
ISAE 3410

Proportion of reported emissions verified (%)
100

Scope
Scope 2 location-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
aa-sustainability-report-2017.pdf

Page/ section reference
71

Relevant standard
ISAE 3410

Proportion of reported emissions verified (%)
100

C10.2

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

C10.2a

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

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C5. Emissions performance	Year on year change in emissions (Scope 1 and 2)	ISAE 3410	External assurance is undertaken annually on Anglo American's Scope 1 and 2 emissions therefore year on year changes in emissions is verified by a third party.
C8. Energy	Other, please specify (Total amount of energy used - million GJ)	ISAE 3410	As part of our 2017 sustainability reporting process we also requested that the assurer audit energy data for expression of reasonable assurance

C11. Carbon pricing

C11.1

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

Yes

C11.1a

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

Australia ERF Safeguard Mechanism

C11.1b

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

Australia ERF Safeguard Mechanism

% of Scope 1 emissions covered by the ETS
32

Period start date
January 1 2017

Period end date
December 31 2017

Allowances allocated
1980164

Allowances purchased
133104

Verified emissions in metric tons CO2e
2113268

Details of ownership
Facilities we own and operate

Comment
In Australia, the federal government implemented the climate change Safeguard Mechanism in July 2016, to restrict GHG emissions. It covers facilities with emissions greater than 100ktCO2e (i.e. all our Metallurgical Coal sites). It is a benchmarking framework where a baseline emissions level is set for each operation based on the last five years (FY 2009-10 to FY 2013-14) of data for Scope 1 emissions reported under the National Greenhouse and Energy Reporting Scheme (NGERS). The baseline is set at the highest level of reported emissions within that five-year period. New operations that do not have sufficient data for that reporting period (Grosvenor) will need to apply for a calculated emissions baseline. For any exceedances over the set emissions baseline, the Clean Energy Regulator (CER) may consider enforcement options as appropriate for an operation, ranging from issuing an infringement notice through to a civil penalty. In the event of an exceedance the facility may also consider the following the mitigation options; • Use of Australian Carbon Credit Units (ACCUs) as an offset • Multi-year monitoring which allows emissions to exceed in one year as long as the average over two or three years is below the baseline; and Apply for an exemption where there are exceptional circumstances (e.g. natural disaster). Data provided relates to Capcoal Mine and is associated with the 2016/17 period.

C11.1d

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

Recognising the potential for a range of carbon pricing and offset/incentive policies to emerge in the medium term, we continue to work with governments, industry peers and other stakeholders in developing and implementing effective, efficient and equitable climate-change policies.

In South Africa, where we expect a carbon tax to be implemented in 2019, we have actively prepared by identifying and implementing opportunities to reduce our emissions. Anglo American has proactively engaged in the design of the tax through providing comments on draft designs and through our involvement in Industry Task Team on Climate Change (ITTCC) and as members of the Minerals Council of South Africa, Business Unity South Africa and the National Business Initiative. Our ECO2MAN energy and GHG management programme mitigates our exposure to carbon taxation by reducing operational GHG emissions. In 2017, a total of 320 energy-efficiency and business improvement projects saved 6.4 million GJ in energy consumption, with the avoided energy cost estimated at USD260 million. We have set a new long-term target to reduce absolute GHG emissions by 30% by 2030 against the 2016 level.

At our Australian business we use a carbon price aligned with the Safeguard Mechanism. We continue to explore options for offsets should there be a potential exceedance, including the use of carbon credits. .At our Moranbah North, Grosvenor and Capcoal underground metallurgical coal operations, waste mine methane is captured and used to generate more than 140 MW of electricity. Their combined environmental benefit is a reduction in GHG emissions of 3.7 Mt of CO2e emissions a year. In Australia the abatement of dilute (or VAM) methane is being constantly researched by industry bodies such as the Australian Coal Association Research Program (ACARP) and Australian Coal Association Low Emissions Technology Limited (ACALET) however significant safety issues have to be overcome before the easiest technology (high temperature oxidation) can be implemented at an Australian mine. We support research through our contribution to the Australian Coal 21 Fund, which invests in the development of technologies relating to carbon capture, geological storage and methane emissions abatement at underground coal mines.

C11.2

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

No

C11.3

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

Yes

C11.3a

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

Objective for implementing an internal carbon price
Navigate GHG regulations
Stakeholder expectations
Change internal behavior
Drive energy efficiency
Drive low-carbon investment
Stress test investments
Identify and seize low-carbon opportunities
Supplier engagement

GHG Scope
Scope 1
Scope 2
Scope 3

Application
Budget guidance and project evaluations

Actual price(s) used (Currency /metric ton)
8.74

Variance of price(s) used
The price will vary as carbon tax systems evolve. For example, the exemptions associated with the carbon tax in South Africa will be removed over time and the effective tax rate will move towards USD8.74 (R120) per tonne.

Type of internal carbon price
Implicit price

Impact & implication
In regions where carbon pricing is an emerging government policy, we include carbon pricing in our budget guidance and project evaluations. For example, in South Africa, the pricing aligns with the carbon tax design (USD8.74 (R120) per tonne with various exemptions that takes it down to an average rate of USD3.50 (R48) per tonne). A carbon price is included in assessing brownfield expansion projects (such as was the case for Mafube extension). At our Australian operations the internal price is aligned with the Safeguard Mechanism. We are currently assessing long-term carbon pricing scenarios that impact on the global business, including the demand for our products.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers
Yes, other partners in the value chain

C12.1a

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

Type of engagement
Compliance & onboarding

Details of engagement
Included climate change in supplier selection / management mechanism
Code of conduct featuring climate change KPIs
Climate change is integrated into supplier evaluation processes

% of suppliers by number

1

% total procurement spend (direct and indirect)
22

% Scope 3 emissions as reported in C6.5
0

Rationale for the coverage of your engagement
Anglo American's approach to procurement is guided by the Responsible Sourcing Standard for Suppliers, which details performance expectations across 5 pillars of value: labour and human rights; safety and health; business integrity and ethics; environment and social accountability. Anglo American is in the process of updating the Responsible Sourcing Standard which will include more specific requirements from suppliers with respect to GHG emissions, water usage and management, etc. We engage with our strategic suppliers and apply a risk based, category management approach for other suppliers. Engagement is through completion of self-assessment questionnaires, audits or one-one engagement with Anglo American procurement. No incentive is given to suppliers to report information; however a penalty of non-compliance could result in that supplier losing its contract.

Impact of engagement, including measures of success
Based on risk ranking, suppliers are requested to complete a self-assessment questionnaire and depending on the level of risk identified, selected suppliers are requested to either provide evidence of a recently conducted 3rd party audit or undertake a new audit. To date, the audit process has been conducted with over 300 suppliers prioritised by risk. The audit process and self-assessment questionnaire have been broken up into the 5 pillars. This ensures that the engaged suppliers can demonstrate compliance with legal requirements and alignment with our values and ethics. This includes water-related fines/incidents and information related to the treatment of discharge. This information is used to evaluate risks. 30 suppliers were requested to complete self-assessment questionnaires, of which 18 audits were carried out during 2017. Success is currently measured through the number of self-assessment questionnaires, audits and training sessions conducted with suppliers.

Comment
Climate-smart procurement will see us buying more high-efficiency equipment and working with suppliers on innovation and technology change. Examples of successful measures to work with our supply chain to reduce our direct and indirect risks include: • working with key global suppliers to understand their innovation plans, and discussing how those can support safety and sustainability objectives • changing a fuel contract to a new fuel that includes an additive that improves fuel efficiency and reduces related GHG emissions • requiring that service providers transporting employees meet requirements regarding the specification, operation and maintenance of buses • working with suppliers to source more efficient products that minimise operating costs and reduce GHG and other emissions • efforts to recycle mining consumable goods, including conveyor belts and tyres, to reduce environmental impacts.

Type of engagement
Information collection (understanding supplier behavior)

Details of engagement
Collect climate change and carbon information at least annually from suppliers

% of suppliers by number
1

% total procurement spend (direct and indirect)
22

% Scope 3 emissions as reported in C6.5
0

Rationale for the coverage of your engagement
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Comment

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C12.1c

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

We have multiple engagement methods:

1. The FutureSmart mining approach to innovation

2. Collective efforts such as the Hydrogen council

3. The PGM investment Programme

i. Anglo American engages with partners as part of or FutureSmart mining approach to innovation. The approach brings cutting-edge technological advances and broad, innovative ideas to address mining's intractable challenges, including climate change. Through collaborative partnerships, we are connecting people to find safer, more efficient and more sustainable ways to mine the precious metals and minerals that the world needs.

The FutureSmartTM Open Forums focus specifically on global challenges around mining, processing and sustainability. So far, we have held four forums – Water, Processing, Mining and Energy – where we worked directly with world-class experts from a variety of industries; entrepreneurs; research and non-governmental institutions; as well as suppliers, to explore creative solutions, and potentially collaborate to solve them.

Anglo American is a member of a number of fuel cell and hydrogen associations around the world including the Hydrogen Council. The Hydrogen council was established in January 2017 to voice a united vision and long-term ambition for hydrogen to foster the energy transition. The Hydrogen Council is made up of 13 CEOs and chairpersons from different industries and energy companies, including our chief executive Mark Cutifani. All are committed to help achieve the ambitious goal of staying below the 2°C target, as agreed in the 2015 Paris Agreement.

Through our PGM Investment Programme activities we are investing in a number of new promising technologies which use or facilitate the use of PGMs (in PGM-based catalysts). This includes companies in the fuel cell, hydrogen and energy storage value chain that support or use fuel cell technology/ clean technology. For example we have invested in:

· Ballard, a Canadian based business providing clean energy fuel cell products that enable optimised power systems for a range of applications

· Primus Power, a company delivering grid-scale energy storage batteries that enable the integration of renewable energy into the grid

· Food Fresh Technologies, a company that offers a technology used in the packaging of fresh fruit and vegetables to extend the shelf life and reduce food waste

· Greyrock Energy, a company developing and commercialising gas-to-liquids technology used to produce clean fuels from stranded or flared gas and

· Altergy Systems, a global leader in the manufacture and supply of proton exchange membrane fuel cells. Altergy was the first fuel

cell company to implement automated assembly lines enabling the high volume, low cost manufacture of fuel cells.

Amplats has transfered its existing PGM Investment Programme investments to AP Ventures managed funds in partnership with the Public Investment Corporation (PIC) to attract additional outside investment.

ii. Experts, entrepreneurs, research and government institutions and suppliers have been selectively invited to join the forums based on our assessment of their role in meeting our business needs and where we have identified big opportunities for savings (including energy and water) and improved environmental performance. We are seeking partnerships to develop innovative approaches to co-develop solutions. We see partnerships as key in ensuring that we can make leaps forward, rather than incremental changes, through the development and deployment of new products and technologies. Anglo American is driving this process to directly reduce our own risk, to take advantage of opportunities but also to capacitate partners in our value chain to reduce their climate change risks (thereby reducing our indirect risks).

The PGM Investment fund seeks a pipeline of promising new technology start-ups and projects through relationships with universities, involvement in relevant conferences and through networks of other funders / co-investors.

iii. Success is measured in terms of our ability to deliver on our business strategy through finding safer, more efficient and more sustainable ways to mine the precious metals and minerals that the world needs.

Our innovation roadmap was given impetus following the FutureSmart™ Open Forum on Energy held in December 2016. We identified four main themes from the exercise:

· a mosaic of modular renewable energy solutions, including solar thermal applications in ore processing

· biomass applications to generate power from waste and also to generate jobs

· data analytics supporting intelligent energy use

· a group of new-idea technology solutions that will be driven through SmartPath, our internal method for rapid development of innovative ideas.

Success for the Platinum Investment Programme is the long term sustainability of the industry ensuring that the industrial application of PGMs continues to grow, stimulating demand for the metals and a diversification of its future uses.

C12.3

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

Trade associations
Funding research organizations
Other

C12.3b

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

Yes

C12.3c

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

Trade association
Industry Task Team on Climate Change (ITTCC)

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
We are members of the ITTCC in South Africa, which is a non-profit organisation that represents energy-intensive industries. The ITTCC is committed to working with industry, business groups and government departments to ensure sustainable economic growth while transitioning to a low-carbon economy. The ITTCC's role is to undertake technical, fact-based studies to ensure that South Africa's policies on Climate Change are based on the best information and best practice and prescribe tangible, achievable ends.

How have you, or are you attempting to, influence the position?
Anglo American actively participates in meetings, provides expert advice and has supported a piece of work to provide a fact base to inform policy development. The work of the Task Team feeds into Anglo American's strategy and informs our low-carbon transition planning.

Trade association
International Council on Mining and Metals (ICMM)

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
In 2001, we became a founding member of the ICMM. The ICMM recognises climate change as an undeniable and critical global challenge, and its causes must be addressed by all parts of society. ICMM member companies are committed to being part of the solution. Members support a binding global agreement, carbon pricing, the need to reduce emissions, the use coal as part of a measured transition to a lower carbon energy mix, greater use of renewables, adapting and helping communities to adapt to changes, considering climate change in planning and engaging and partnering for effective solutions.

How have you, or are you attempting to, influence the position?
Anglo American provided commentary on drafts of this position through participation on the working group. In 2016, Anglo American chaired the climate change working group responsible for finalising an Operational Adaptation project based on the MiCA tool and completed a post-COP21 policy brief, among other projects. Anglo American's new water management standard has been developed in alignment with global best practice and the ICMM water reporting guidelines. A cornerstone of the new standard is a more focused and structured approach to managing catchment-wide water risks. Effective regional or catchment management is important in addressing the long-term impacts of mine-affected water.

Trade association
Minerals Council South Africa (previously the Chamber of Mines)

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
Anglo American's CEO is a council member of the Minerals Council of South Africa, which holds a range of positions on carbon policy issues. In general, the Minerals Council of South Africa seeks to ensure that environmental issues are addressed in a manner that enhances members' contribution to sustainable development and ensures that risks to the viability of the mining industry are identified and managed. The Minerals Council South Africa was not supportive of the carbon tax as proposed. Anglo American Coal South Africa's CEO is a member of the World Coal Association. Their position on climate change is that all low emission technologies are required to meet the Paris Agreement target and that this includes modern coal technologies which include High Efficiency, Low Emission (HELE) technologies as well as Carbon Capture Use and Storage (CCUS). These technologies are required in the face of continued coal use projections. The International Energy Agency's Sustainable Development Scenario (where coal use is forecast at its minimum) still has coal at 13% of global energy demand in 2040. Coal is also used for cement, aluminium, glass and steel production.

How have you, or are you attempting to, influence the position?
Anglo American provided commentary into the process – the company is supportive of carbon mitigation mechanisms in a way that does not compromise socio-economic imperatives.

Trade association
World Coal Association (WCA)

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
Anglo American Coal South Africa's CEO is a member of the World Coal Association. Their position on climate change is that all low emission technologies are required to meet the Paris Agreement target and that this includes modern coal technologies which include High Efficiency, Low Emission (HELE) technologies as well as Carbon Capture Use and Storage (CCUS). These technologies are required in the face of continued coal use projections. The International Energy Agency's Sustainable Development Scenario (where coal use is forecast at its minimum) still has coal at 13% of global energy demand in 2040. Coal is also used for cement, aluminium, glass and steel production.

How have you, or are you attempting to, influence the position?
Anglo American has participated in working groups and various aspects of coal and climate change and has reviewed and provided inputs into messaging.

Trade association
Coal Industry Advisory Board (CIAB)

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
Seamus French (CEO of Bulk Commodities) is on the executive committee of the CIAB and was Chairman in 2016-2017. The CIAB is an advisory board to the International Energy Agency, focussing on key issues that may affect energy security. Their view is that given that most forecasts and scenarios envisage coal will continue to be a part of the global energy mix, particularly in India, China and South East Asia where rapid growth in coal-fired power is being seen, advanced coal technologies that reduce the CO2 emissions from coal-fired power, such as high efficiency, low emission power plants and carbon capture and storage are critical for achieving the goals and the Paris Agreement. Carbon Capture and Storage, in particular, requires increased policy support to achieve the levels of deployment required to meet the Paris Goals.

How have you, or are you attempting to, influence the position?
Anglo American participates actively in working groups, driving the direction of the annual work programme, reviewing documents and providing inputs and information to the IEA.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?
No

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

In 2015, Anglo American joined the COP21 Paris Pledge for Action – a statement which gathered momentum in support of the transition to a low-emissions future. In 2015, the United Nations launched the Sustainable Development Goals (SDGs), many of which are related to climate change. Anglo American was part of the business-sector group giving input into their development and an early champion in promoting their adoption.

In January 2017, at the World Economic Forum's Annual Meeting, 13 leading energy, transport and industry companies launched a global initiative – the Hydrogen Council – to voice a united vision and long-term ambition for hydrogen to foster the energy transition (now 39 companies). During the launch, members of the Hydrogen Council confirmed their ambition to accelerate their significant investment in the development and commercialisation of both hydrogen and fuel-cell sectors. These investments currently amount to an estimated total value of €1.4 billion (USD1.5 billion) a year. This acceleration will be possible if the key stakeholders increase their backing of hydrogen as part of the future energy mix with appropriate policies and supporting schemes.
The Hydrogen Council is made up of 13 CEOs and chairpersons from different industries and energy companies, including our chief executive Mark Cutifani. All are committed to help achieve the ambitious goal of staying below the 2°C target, as agreed in the 2015 Paris Agreement.

Anglo American also undertakes a range of engagements specific to various countries in which we operate. For example:
• Anglo American, through our Nickel operations, was the first mining company to join the Climate Protocol of the State of São Paulo. The initiative is part of the São Paulo State strategy to reduce GHG emissions and take actions to adapt to climate change. This is a pioneering initiative in Brazil presented by the Secretariat of Environment of São Paulo, during the COP-21. In line with Anglo American's support of a fact base informing policy, our Nickel business has also partnered with the Sustainability Study Center of the School of Business Administration of the Getulio Vargas Foundation. One project aims to estimate the financial gain of using woodchips as fuel for the Codemin process instead of coal. Reforestation activities are in place to produce wood used as energy in the kilns of Codemin and in the Catalão dryers. New uses for wood, such as in the nickel ore drying process, are being evaluated.
• In South Africa, Anglo American participates in a wide spectrum of policy engagement processes through its membership of the National Business Initiative (NBI) and BUSA. The NBI is a voluntary association of companies mobilising business leadership and resources for specific sustainability objectives. Anglo American engages with the NBI and feeds into workshops and research processes. BUSA is the representative body of organised business in South Africa. BUSA has played a leading role in facilitating climate change policy workshops and submitting formal comments to the national government in relations to the proposed carbon tax, carbon budgets, pollution prevention plans, GHG reporting, the 'desired emission reduction outcomes' and the country's 'intended nationally determined contribution'. These engagements are undertaken as members of the ITTCC and the Minerals Council South Africa. Anglo American also served as Chair of the Energy Efficiency Leadership Network (EELN): a collaboration between the Department of Energy (DOE), NBI, and BUSA to assist the South African business sector with skills and capacity building on energy management and sharing of best practice.
• Our copper operations have shared experiences in energy efficiency with government and other companies in workshops and meetings designed to inform a new energy regulation for 2020 in Chile.

C12.3f

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

During 2017, we reviewed the climate change positions and activities of organisations of which Anglo American and our business units are members to ensure that those organisations do not hold positions on climate change that are contrary to our own.

In addition, Anglo American's policy and position on climate change was approved by the General Management Committee and the Board Sustainability Committee. As such, every business unit is responsible for ensuring that direct and indirect activities are consistent with the Group climate change policy and position.

C12.4

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

Publication
In mainstream reports

Status
Complete

Attach the document
aa-annual-report-2017.pdf

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Publication
In voluntary sustainability report

Status
Complete

Attach the document
aa-sustainability-report-2017.pdf

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Publication
In voluntary communications

Status
Complete

Attach the document
climate-change-supplement.pdf

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets

C14. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Group Director – Technical	Chief Operating Officer (COO)

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to
I am submitting my response	Public	Investors

Please confirm below

I have read and accept the applicable Terms