Welcome to your CDP Climate Change Questionnaire 2020

C0. Introduction

C0.1

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

Kumba Iron Ore Limited (hereafter, Kumba), a member of the Anglo American plc. Group, is a leading value-adding supplier of high quality iron ore to the global steel industry. The company exported 40.0 million tonnes of iron ore in 2019 to steelmakers in Europe, the Middle-East and Asia as well as over 2.2 million tonnes to the local, South African, market. The revenue generated from these sales is used to grow and sustain the business, which shares its success with various stakeholders in many ways. Kumba's main activities include exploration and open cast mining; beneficiation; blending; outbound logistics; shipping, marketing and selling; rehabilitation; environmental management and corporate social investment.

Kumba operates primarily in South Africa, with mining operations in the Northern Cape, a head office in Centurion, Gauteng, and a port operation in Saldanha Bay, Western Cape. Sishen and Kolomela mines are long-life operations with current life of mine estimates placed at 13 years for each mine.

Thabazimbi mine has reached the end of its economic life and a decision to close the operations was made in July 2015, with a conditional agreement reached to transfer ownership of the mine. The final closure plan for Thabazimbi mine was submitted to the Department of Mineral Resources (DMR) in May 2017. The DMR granted the Section 11 approval to enable the Thabazimbi mine's mining right to be transferred to ArcelorMittal South Africa, who will take full responsibility for the environmental rehabilitation and decommissioning of Thabazimbi mine. The agreement was effective in October 2018, at which time the employees, assets and liabilities were transferred to ArcelorMittal SA at a nominal purchase consideration plus the assumed liabilities. All mining operations, including mining, processing and dispatching, ceased on 1 September 2016 and therefore we no longer report this under Kumba. Kumba has a 76.3% interest in Sishen Iron Ore Company (Pty) Ltd (SIOC), an entity which Kumba manages. SIOC, in turn, owns the operating assets of the company. The remaining 23.7% interest in SIOC is held by black economic empowerment (BEE) partners Exxaro Resources Limited, a leading BEE company listed on the JSE (20.6% (20.6%), and the SIOC Community Development Trust, a trust that funds projects in local communities (3.1%). In the context of a challenging operating environment, characterised by the bottoming out of the iron ore price, a further flattening of the global cost curve, continuing regulatory and policy pressures, and elevated levels of political and market uncertainty, Kumba has introduced a refined operating model to significantly reset the Company's cost base. Over the past years, Kumba has implemented several interventions to mitigate the impact of the continued volatile market

conditions. This entailed moving from a volume to a value-based strategy by reconfiguring the mines to reduce the amount of waste mined and to reduce costs in all operational areas. Kumba reviewed the Company's progress in closing its operations at Thabazimbi, restructuring the Sishen pit to a lower cost shell, and increasing production at the successful Kolomela operation. Kumba made good progress on environmental performance in 2017, including energy efficiency and climate mitigation activities. Anglo American supports the 'Aiming for A' Initiative of the Investor Platform for Climate Actions. Kumba has been participating in the CDP since 2008. Kumba has appeared regularly in the Carbon Disclosure Leadership Index since 2009.

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
Reporting year	January 1, 2019	December 31, 2019	No

C0.3

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

South Africa

C0.4

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

ZAR

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 chosen approach for consolidating your GHG inventory.

Operational control

C-MM0.7

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

Row 1

Mining

Iron ore

Processing metals

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) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Other C-Suite Officer	The Social, Ethics and Transformation Committee (Setco) is a sub-committee of the Board and is chaired by a member of the board. The Committee is tasked with ensuring that Kumba attains its goals relating to the management of safety and health, the environment (including climate change, energy and water usage), social transformation and ethics issues across the company. Duties include developing sustainable development policies and guidelines to manage these focus areas, monitoring performance against key indicators, and facilitating participation, cooperation and consultation on key issues. Climate change, the impacts thereof and ensuring resilience within the company, feature prominently in the Committee's environmental management focus, and climate change and energy are included in every quarterly report to the Board. In addition, Setco has taken over the roles, responsibilities and functions of the Risk and Opportunities Committee following its disbandment on May 2019. In 2019, the committee met 4 times. The Chief Executive and executive heads of safety, health and environment, corporate affairs and human resources attend the Setco meetings as invitees to provide updates on their respective focus areas and any other related business of the committee.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	Reviewing and guiding strategy	The Social, Ethics and Transformation Committee (Setco) is a sub-committee of the Board and is chaired

	Reviewing and guiding major plans of action Reviewing and guiding risk management policies Monitoring and overseeing progress against goals and targets for addressing climate-related issues	by a member of the board. The purpose of the Committee is to provide an independent and objective body that will recommend to the board key policies and guidelines for the management of safety, sustainable development, health, environmental, transformation, social and ethics in the Company and its subsidiaries. On a quarterly basis, Setco reviews the Safety, Health and Environment sub-committee report, which contains various aspects of climate change performance targets (e.g. GHG emissions, energy, water etc.). This report is also reviewed by the board for material issues. In addition, Setco has taken over the roles, responsibilities and functions of the Risk and Opportunities Committee following its disbandment on May 2019. The committee met four times and focused on the following critical areas: • Reviewing performance on safety, through the implementation of the elimination of fatalities framework and the culture of zero harm programme • Overseeing progress with the Dingleton resettlement project • Occupational health/hygiene, in particular management of mental health, and dust and carcinogens • Rehabilitation and integrated planning • Environmental management, with a focus on tailings storage facilities, and water and energy usage • Stakeholder engagement, transformation and community development • Permitting • Regulatory compliance • Risks and opportunities pertinent to Setco • Ethics

C1.2

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

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

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

Climate change is a key strategic issue and falls under the management responsibility of Kumba's Chief Executive, and the Executive Committee. They are accountable for day-to-day sustainability management and performance, as well as aspects related to the overall strategy. This includes understanding the impacts of, and developing a pro-active approach to, climate change across all Kumba's operations. The CEO is measured on performance against energy and emissions reduction. The Chief Executive and the Executive management team (Exco) represent the highest levels of authority in Kumba. The Social, Ethics and Transformation Committee (Setco) reports directly to the Kumba Board and is one of five standing committees through which the board executes its duties. The Chief executive and Executive heads of safety, health and environment, public affairs and human resources attend Setco meetings as invitees. There now exists a method to monitor climate indicator impacts from Anglo American plc. Sites have responsible persons who have energy and climate change as part of their performance indicators and therefore ensuring that there is alignment with Kumba Head office

C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity inventivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction target Energy reduction target	The Chief Executive Officer's performance targets have a 25% weighting towards Personal Performance that includes strategic targets, human resource targets and energy, water and emissions reduction targets
Board/Executive board	Monetary reward	Emissions reduction target	Energy and water efficiency targets are specified for the organisation and form part of the overall operational targets upon which senior and Executive managers' bonuses are based. Kumba has an absolute emission reduction target following a dynamic baseline scenario. This forms

		Energy reduction project	part of the Corporate Executives performance contract.
Management group	Monetary reward	Energy reduction target	Senior Management are incentivised to ensure that technical and regulatory support is given to the energy reduction implementation teams. The energy target includes specific electricity and diesel management programmes. This contributes a defined percentage to their overall performance in their contract.
Energy manager	Monetary reward	Emissions reduction target Energy reduction target	Energy managers' performance contracts have specific requirements related to energy management. These teams are incentivised to ensure that energy reduction projects are completed to meet required strategies and targets. A portion of variable remuneration is linked to quantitative energy and GHG targets developed through the ECO2MAN programme and associated targets.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	3	Kumba considers short term to be between 0 to 3 years and could be anything that affects the business immediately. Kumba's short planning consists of energy and emission reduction initiatives for instance the 10 MW Solar PV plant installed at Sishen, and diesel and fuel efficiency initiatives across haulage and loading fleet.

Medium-term	3	5	Medium term is considered to be 3 to 5 years where Kumba considers the impacts of new/implemented climate management policies such as the carbon tax which will increase capital and operational costs.
Long-term	5	30	Long term is considered to be greater than 5 years The focus of Kumba of this long term is to add and implement new energy and carbon saving projects and work to reach the 2020 ECO2MAN energy and carbon targets

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

From a financial perspective and with respect to climate change a 'substantive change' would be a disruption to our operations or supply chain caused by a climate related event that results in a change in production or increase in costs. An unwanted climate event for example, heavy rainfall resulting in flooding and preventing usual operations. Financially Kumba defines substantive change as a loss in revenue or increase in operating costs of more than R600 million. The metric and threshold to define substantive changed is reviewed on a quarterly basis during Kumba's risk assessment process.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term

Description of process

Climate change risk identification processes is considered as part of the overall risk management process at both company level (including upstream/downstream) and at asset level (including our people, infrastructure and equipment). Kumba's Management utilises the Anglo American Integrated Risk Management methodology, aided by Anglo

American Climate Risk & Adaptation (CRA) guideline, to identify and prioritise risks and to document current and future mitigation actions to manage those risks. The process manages operational risks through implementation of four layers: Layer 1. is the Baseline risk assessment that occurs at a high level where risks to Kumba are systematically identified and ranked according to Anglo American's 5X5 risk matrix. Priority unwanted events are identified through this process. For example, climate change projections for Sishen and Kolomela indicated higher temperatures and more variable precipitation as unwanted events that could affect operations at Sishen and Kolomela presently and in future. After identifying unwanted events, a risk and control register is then developed where priority unwanted events are analysed to ensure that all threats and consequences are understood and adequate controls are put in place to mitigate the outcomes (Layer 2). For example at Sishen and Kolomela, a detailed climate risk assessment identified multiple climate change risks that could affect Kumba's operations such as water availability and extreme temperatures and indicated how these risks affect the mine value chain. The third layer which is task risk management occurs 11 during the work planning stage, where risk assessment are undertaken to develop guidelines and procedures that guide the safe execution of specific tasks. Layer 4 is continuous risk management and is employed to reduce risks as well as identify, correct and report workplace issues.

At Kumba, risks are categorised as key risks, other material risk and catastrophic/ event risks. Key risk are risks that would threaten the business model, future performance, solvency or liquidity of Kumba. All key risks are each related to one or more of Kumba's strategic objectives to ensure that risks that may threaten the achievement of the strategic objectives are prioritised and appropriate mitigation strategies are applied to mitigate those risks. Other material risks are risks that have potential negative consequences but are not expected to individually harm the business model, future performance, solvency or liquidity of Kumba. Catastrophic or event risks have high severity, low likelihood events that have multiple fatalities or injuries, an unplanned fundamental change to the strategy or the way that we may operate. Event risks have significant financial consequences on the business. Likelihood is not considered when these risks are assessed as the potential impacts implies that these risks must be treated with highest priority.

Risks are assessed and prioritised on a 5 X 5 rating matrix which considers likelihood of and impact. The purpose of the rating is to enable risks to be prioritised and tracked over time. However, catastrophic risk are not rated, as they should always be treated with highest priority. Impacts from individual risks focus on the negative consequences should the risk materialise. However, successful management of the controls in place to manage the risk may lead to a positive outcome.

At Kumba, we consider substantive change as anything that could materially affect our ability to meet business objectives and, or, is of material importance to stakeholders. This definition applies to Kumba's direct operations. Materiality is defined as a matter that, in the view of the Board, senior management and key stakeholder groups, is of such importance that it could in the short, medium or long term:

• have a considerable influence on, or is of material interest to our stakeholders
• substantively influence the company's ability to meet it strategic objectives
• has a high degree of inter-connectivity with other material issues

From a financial perspective and with respect to climate change a 'substantive change' would be a disruption to our operations or supply chain caused by a climate related event that results in a change in production or increase in costs. An unwanted climate event for example, heavy rainfall resulting in flooding and preventing usual operations. Financially Kumba defines substantive change as a loss in revenue or increase in operating costs of more than R600 million. The metric and threshold to define substantive changed is reviewed on a quarterly basis during Kumba's risk assessment process.

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Kumba has an active engagement strategy with the governments, regulators and other stakeholders within the country in which we operate, as well as at international level through the Anglo American Group. 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. The South African came into effect from 1 June 2019. While the initial tax rate is set at R120/ tonne of CO2-equivalent, the carbon tax law allows for various allowances, with taxpayers eligible for allowances on up to 95% of their emissions. Kumba paid R11.5 million in carbon tax. It is estimated that the tax for 2020 will be around R20.4 million.In addition to the tax that the company will pay, Carbon tax will also increase energy and management costs at all of our operations. In 2017, South Africa implemented the National GHG emissions reporting regulations and the Pollution Prevention Plans (PPP) regulations. The national GHG emissions reporting regulations require companies that exceed various thresholds listed on the GHG regulations to register the relevant facilities and to report on their GHG emissions annually on the 31st of March for the preceding calendar year. Anglo American group undertook the assessment of the implications of these regulations for all the subsidiary companies, then registered and reported as required by the regulations. Our operating sites have complied with recently introduced reporting requirements under the national GHG emission reporting regulations.

Emerging regulation	Relevant, always included	South Africa is putting in place various regulations in order transition the country to a low carbon economy. As Kumba, we keep abreast with emerging regulatory developments through our regulatory team that provide us with new or pending regulatory issues to allow us to plan for future changes.. Our ECO2MAN energy and GHG management programme mitigates our exposure to carbon taxation by reducing operational GHG emissions. The following emerging regulation was included in Kumba's climate-related risk assessment in 2019: Climate Change Bill: These emerging regulations that might affect Kumba's operational costs include the climate change bill. The climate change bill is meant to facilitate a consolidated national climate change response through setting sectorial emissions targets for all GHG emitting sectors. Companies will be allocated mandatory carbon budgets. Kumba is affected by the climate change bill, and will be required to implement, monitor and evaluate mitigation plans in order to comply with carbon budget determined by the minister."
Technology	Relevant, always included	Low carbon technologies with the potential to negatively impact demand of 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. Anglo American Group, through ICMM membership, can access research and discussions on emerging technology-related risks as well as best practice available technologies, which they share with us. Kumba's products are mostly used in the steelmaking industry. With climate change continuously being a challenge, companies, including the steelmaking industries are being pressured to reduce GHG emissions. In order to reduce amount of GHG emissions emitted during steelmaking process, the ratio of lump to fine ore must be high. It is important for Kumba to make use technology that can maintain a high lump to fine ore ratio in order to remain competitive. It is important for us to develop and implement a technology that can liberate low-grade ore, and these requires cash investments. As part of the Anglo American Group, Kumba aligns with the group's e-vision to invest in new technologies, including FutureSmart Mining™ , which is Anglo American's innovation-led approach to responsible and sustainable mining – and it is critical for the future of how we do business.
Legal	Relevant, always included	With countries coming together to reduce global GHG emissions, governments are implementing more regulations to pressure companies to reduce their emissions. The Operational Risk Management (ORM) programme for operations, and the Investment Development Model (IDM) for projects include a consideration of legal

		climate change risks. Although Kumba complies with all regulations, we could be exposed to litigation, which could potentially increase cost and reduce our product demand and services as a result from fines and judgements, for example risks of non-compliance with GHG reporting regulations or the carbon tax law.
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. Anglo American Group intends to complete a quantitative analysis of the climate-scenario-related impacts on iron ore. The analysis will enhance our view of low-carbon transition risks and Kumba has aligned disclosures in accordance with the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) in 2019. Kumba exports most of its product to China. Carbon pricing is continuously changing customer behaviour. In March 2016, China's thirteenth "Five-year plan" was approved, setting out a social demand and economic development blueprint for the goods/services country up to 2020. This plan aligns with China's intended nationally determined contribution (INDC) which was submitted to the United Nations as part of the Paris Agreement in December 2015. The country commits to reduce CO2 emissions per unit of GDP by 60 to 65% below 2005 levels by 2030. China plans implemented of a unified, national carbon emissions trading market in December 2017, and effective nationwide implementation of emissions reporting and third-party verification for key industry sectors, such as steel and coal as one of the ways to achieve the target. As such, the emission trading system has major implications for all companies in the affected industries. The impact is on the energy consumption of the steel industry. Chinese companies are required to obtain permits for their emissions. Each permit is a metric tonne of carbon dioxide. Free permits are issued and more are auctioned. If a company plans to emit more than its allocated emissions it needs to purchase additional permits. Companies will be liable to pay fines based on emissions exceeding their allowances. Kumba is at risk with the iron ore it supplies to the Chinese market, as the composition of iron ore affects the amount of CO2e emitted when producing steel through the sintering process. As such, if Kumba isn't able to maintain an iron ore with a high lump to fines ratio, the Chinese

		customers may choose to purchase iron ore from other sources.
Reputation	Relevant, always included	Climate Change is a global challenge and as a result, companies are being pressured to be more environmentally friendly and reduce their GHG emissions. Climate change is important to investors and local stakeholders and as a result this poses a reputational risk for Kumba. Shareholders might see Kumba as not doing enough to address climate change issues, a failure to manage stakeholder relationships may result in investors losing confidence in Kumba and moving their funds to other competing companies. This may result in adverse impact on our reputation. The climate change aspects considered in the Operational Risk Management (ORM) programme for operations include climate-related reputational risks. Climate change regulation and stakeholder (e.g. customers, investors etc.) understanding continues to evolve rapidly and many of the proposed developments have significant potential reputational and financial implications of non-compliance. We continue to experience 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 Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) are an example.
Acute physical	Relevant, always included	Climate change aspects are considered in the ORM programme for operations, Climate change risk assessment studies done for both Sishen and Kolomela indicate that temperatures are likely to increase across all seasons, and maximum temperatures and extreme high temperatures are likely to increase by up to 5.6 ℃. Physical risks such as changes in temperature extremes pose a risk to Kumba's employees and the productivity of work force during extreme hot conditions. Higher temperatures directly increase the risk of heat stress to workers. As temperatures increase the productivity of staff decreases which can affect Kumba's production targets. Kumba is currently in the process of assessing the study recommendation with hopes to integrate recommendation into all levels of the current ORM practices on site. This includes the review of the baseline workplace risk assessment and control (WRAC), all reviews of bow tie control strategies as well as the development of job risk assessments (JRAs), especially for tasks where employees and contractors are potentially exposed to extreme weather events. The plan is to also increase awareness on climate change and which may be integrated into all continuous risk management practises on site.

Chronic physical	Relevant, always included	Chronic risk such as changes in the frequency and intensity of extreme precipitation events precipitation and sea level rise are relevant for Kumba's operations and supply chain . Climate risk assessments conducted for Sishen and Kolomela in 2017/2018 show that precipitation intensity and major floods events are likely to increase. Mining infrastructure is at risk of damage from flooding events. This may include destabilising tailing dams; flooding of mining pits and resulting in damaged and unusable haul roads. Managing these risks may require operation stoppages and incur additional expenditures, Stoppages may also arise due to work environments becoming unsafe. As part of Kumba's top 5 priority unwanted event list, Kumba listed "High wall bench failure" as one of these unwanted events. Additionally, a major bottleneck for the Sishen and Kolomela operations is the export of material using the existing railway line to the port of Saldanha. The climate change risk assessment study undertaken noted that a number of interruptions to the use of the railway line could have been caused by climate related hazards, such as high temperatures and flooding in river crossing areas. The study has recommended the evaluation of threats to export and, where possible, implement controls to prevent or mitigate interruptions. This could be done using the current ORM bow-tie methodology. Potential controls could include provisioning at the Saldanha port as well as partnerships with railway service providers and increased rail maintenance resources.

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 & Primary climate-related risk driver

Emerging regulation

Carbon pricing mechanisms

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

On 3 April 2017, the South African government released the mandatory National GHG Emissions Reporting regulations. The regulations require companies whose activities exceed certain thresholds to register all its facilities and report emissions and activities to the Department of Environmental Affairs every year. Anglo American group undertook the assessment of the implications of these regulations for all the subsidiary companies, then registered and reported as required by the regulations. Our operating sites have also complied the regulations.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

10,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

If Kumba does not comply with the mandatory GHG regulations they will be liable for a maximum of R5 million for a first conviction and a maximum of R10 million for a second or subsequent conviction

Cost of response to risk

220,000

Description of response and explanation of cost calculation

Our operating at the regional level. Kumba will continue to track emissions for each facility against respective baselines as well as monitor legislation changes and available abatement technologies. In 2019, Kumba's operations were responsible for 1.00 million tonnes of CO2-equivalent emissions (Mt CO2e) from electricity purchased, and the combustion of fossil fuels at operations, and GHGs emitted as a result of industrial processes. This represented an absolute 4% increase in absolute emissions compared

to the 0.96 Mt CO2e emitted in 2018 and a 8.3% saving against the BAU targeted 10.5%. Enablon, a sustainability, environment, health and operational risk management software and Smartsheet are used to help track and report on GHG emissions. The estimated once-off consultant costs for assisting with the assessment of the implications of the regulations, registration and reporting amount to R 220 000.

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation

Carbon pricing mechanisms

Primary potential financial impact

Increased indirect (operating) costs

Higher compliance costs and increased insurance premiums

Company-specific description

The South African government has initiated a carbon pricing system in efforts to reduce Greenhouse Gas (GHG) emissions and transition into a low carbon economy. The first phase of the South African Carbon Tax has been effective from 01 June 2019 which will end on 31 December 2020, thereafter the second phase will commence from 2023 to 2030. The initial tax rate was set at R120/tCO2 in 2019 and has increased to R127/tCO2 in 2020. The potential carbon tax liability has been assessed by Kumba and incorporated carbon tax calculations in the budget guidance and project evaluations. In 2019, Kumba paid R11.5 million in carbon tax. It is estimated that the tax for 2020 will be around R20.4 million. In addition to the tax that the company will pay, Carbon tax will also increase energy and management costs at all of our operations. Electricity use accounts for about 18% of Kumba's exposure
to carbon tax cost impact from 2023. The Carbon tax also has various sets of allowances which include carbon budgets where companies will receive an additional allowance of five percent of total GHG emissions in the tax period. Carbon budgets will be determined and allocated to companies. Companies affected have to comply with the carbon budget and implement mitigation plans after which they need to monitor, evaluate and report progress of implementation annually.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

10,060,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The Carbon tax was introduced at R120 per tCO2e emissions with a 60% threshold, which will make it R48/tCO2. We have estimated that our tax liability (considering only the 60% basic allowance) will be in the range of R10 million. This is also taking into account the 75% allowance on emissions from liquid fuels (i.e. diesel and petrol). However, the carbon tax law proposes other tax-free thresholds available including a maximum of 10% trade exposure allowance, 5% performance allowance, and 10% offset allowance and 5% carbon budget allowance. The South African President has also indicated that introduction of the carbon tax will also not have any impact on the price of electricity for the first phase.

Cost of response to risk

16,340,000

Description of response and explanation of cost calculation

Kumba manages this by staying abreast of regulations. Kumba remains to be active member of the Minerals Council South Africa. The Council interacts, on behalf of the mining sector, with the government about these regulations. Kumba also engages through its parent company, Anglo American. Kumba has integrated an internal carbon price financial models to access the impact of carbon tax on project viability. Kumba's focus is to position itself sustainably whilst weathering the storm given the challenging price environment. Thus, Kumba assess energy efficiency projects continually to ensure continuous cost cutting. In FY2019 Kumba implemented four emission reduction projects such as the payload improvement project for the haul trucks, drill low-idle optimisation, contractor mining monitoring and targeting and improved shovel truck matching. Kumba paid R11.5 million in carbon tax. It is estimated that the tax for 2020 will be around R20.4 million .The amount of Carbon Tax payable is calculated in accordance with the formula derived from the Carbon Tax Act No.15 of 2019 from the government of South Africa. It was calculated as follows :(sum of calculated scope 1 emissions minus zero) x (sum of diesel & petrol emissions) x (1 minus 60% basic allowance for fuel combustion emissions) x R120 per tonne of CO2. Scope 1 emissions

came only from diesel and petrol for Kumba in 2019. Diesel consumption was multiplied by 10 cents per litre and petrol consumption was multiplied by 9 cents per litre.

Comment

Kumba has conducted financial carbon tax liability assessments that highlighted possible financial implications. Kumba implemented various initiatives to reduce diesel and electricity consumption. The cost of implementing all the diesel management and reduction projects is R15.1 million in total for the next 3 years. The cost of measuring and verifying all these on projects is R1.24 million. The cost of updating and maintaining the energy database (ECO2MAN) was R500 000 per year in the past. Monitoring and tracking progress of our energy consumption and emissions against set targets is carried in house through normal operating procedures.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation

Carbon pricing mechanisms

Primary potential financial impact

Increased indirect (operating) costs

Increased operating costs (e.g higher compliance costs, increased insurance premiums)

Company-specific description

Energy Management Plans are to be developed by companies with annual energy use in excess of 180 TJ according to the draft regulations. Kumba is far over this threshold & according to draft regulations, may be required to provide energy data and develop an energy management plan should Kumba be approached.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

10,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

If Kumba does not comply with the regulations they will be liable for a maximum of R5 million for a first conviction and a maximum of R10 million for a second or subsequent conviction

Cost of response to risk

16,340,000

Description of response and explanation of cost calculation

Kumba manages this by staying abreast of regulations. Kumba remains to be active member of the Minerals Council South Africa. The Council interacts, on behalf of the mining sector, with the government about these regulations. Kumba also engages through its parent company, Anglo American. The cost of implementing all the diesel management and reduction projects is R15.1 million in total for the next 3 years. The cost of measuring and verifying all these on projects is R1.24 million. The cost of updating and maintaining the energy database (ECO2MAN) wasR500 000 per year in the past. Monitoring and tracking progress of our energy consumption and emissions against set targets is carried in house through normal operating procedures. Kumba assess energy efficiency projects continually to ensure continuous cost cutting. In FY19 Kumba implemented four types of emission reduction projects. This reduces the company’s exposure to these risks.

Comment

The cost of implementing all the diesel management and reduction projects is R15.1 million in total for the next 3 years. The cost of measuring and verifying all these on projects is R1.24 million. The cost of updating and maintaining the energy database (ECO2MAN) was R500 000 per year in the past. Monitoring and tracking progress of our energy consumption and emissions against set targets is carried in house through normal operating procedures.

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Market

Uncertainty in market signals

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Reduced demands for goods and or services due to shift in consumer preferences

Company-specific description

In March 2016, China's 13th Five Year-Plan" was approved. It sets out the strategy and pathway for China's development for 2016-2020. This plan aligns with China's intended nationally determined contribution (INDC), which was submitted to the United Nations Framework Convention on Climate Change in December 2015. The Chinese government has begun preparing for the 14th Five Year Plan which will be finalised by 2020 which details the country's development pathway from 2021 – 2025 with a strong focus on wellbeing, quality and sustainability. In addition, working towards a net-zero-carbon economy within the next 30 – 50 years with temperatures stabilizing below 2 degrees. China aims to incorporate sustainability to long-term investment and use green finance. The country has committed to reduce CO2 emissions per unit of GDP by 60 to 65% from 2005 levels by 2030. There are various mechanisms, which China will use to achieve these ambitious targets. These include the implementation of a unified, national carbon emissions trading market in December 2017, and effective nationwide implementation of emissions reporting and third-party verification for key industry sectors, such as steel and coal. As such the emission trading system will have major implications for all companies in the effected industries. The impact is on the energy consumption of the steel industry. Chinese companies are required to obtain permits for their emissions. Each permit is a metric tonne of carbon dioxide. Free permits are issued and more are auctioned. If a company plans to emit more than its allocated emissions it needs to purchase additional permits. Companies will be liable to pay fines based on emissions exceeding their allowances. Kumba is at risk with the iron ore it supplies to the Chinese market, as the composition of iron ore affects the amount of CO2 emitted when producing steel through the sintering process. As such, if Kumba is not able to maintain an iron ore with a high lump to fines ratio, the Chinese customers may choose to purchase iron ore from other sources, which may produce less emissions in the steel making process. In the same way, the customers may try to pass on the carbon cost of increased processing emissions through to Kumba. This may impact on Kumba's competitive position and operating margin

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

84,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The average price is expected to be 50 Yuan per tonne (R103/tCO2e). For every tonne of fines supplied 1.46 tCO2e is emitted to create lump through the sintering process. For every 1% extra of fines supplied this could translate into a R1 318 400 000 negative impact on revenue if it is incorporated into the pricing.

Cost of response to risk

250,000

Description of response and explanation of cost calculation

Kumba carries out research and testing focused on improving the grade of iron ore as a management method to this risk. Research at Kumba was carried out in all downstream processing steps including sintering, pelletising, agglomeration blending and evaluation of raw materials, which allows Kumba to analyse the effects the quality of the iron ore products have on its downstream processes. During this reporting year Kumba maintained a high lump ore to fine ore ratio of 67:33 (FY2018 68:32).. This reduces the amount of sintering required on the product and consequently increases the efficiency in the steelmaking process and reduces the scope 1 emissions generated by Kumba's customers. Kumba is the world's only major iron ore producer that beneficiates its ore prior to sale, with Sishen being the only haematite ore producer to beneficiate its product. Kumba beneficiates its ore to sell niche products domestically and at a premium to international markets. The final physical properties of the ore are enhanced through beneficiation by removing impurities and improving product quality, this will also reduce Kumba's downstream emissions associated with steel making. Research and Development was carried out in the past few years for which Kumba invested around R 250 000.

Comment

Identifier

Risk 5

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact

Decreased revenues due to reduced production capacity

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

Company-specific description

Opencast mining operations are at risk due to changes in the frequency and intensity of extreme precipitation events. Climate projections obtained from Sishen and Kolomela climate risk assessment study done in 2017/2018 suggests that while Kumba's operations are likely to experience more time between precipitation events the events will be more intense. Mining infrastructure is at risk of damage from flooding events. This may include destabilising tailing dams, flooding of mining pits and resulting in damaged and unusable haul roads. Managing these risks may require operation stoppages and incur additional expenditures, specifically increased pumping costs. Stoppages may also arise due to work environments becoming unsafe. As part of Kumba's top 5 priority unwanted event list, Kumba listed "High wall bench failure" as one of these unwanted events. The risk of this unwanted event occurring is exacerbated during extreme precipitation events. With the changing climate the frequency of such weather events will increase, thus creating a greater likelihood for rainfall to effect failure of high bench walls. Local communities in the region surrounding mining operations may be affected by property damaged associated with employees may need to take time off to repair their homes. Extreme precipitation resulting in dangerous working conditions would result in work stoppages, thus reducing the production output at Kumba. This would negatively affect Kumba's revenue.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

115,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Extreme precipitation events could result in work stoppages at Kumba's sites. If the Sishen mine were to stop operations for a day, If the Sishen mine were to stop operations for a day, Kumba would lose approximately R111 .5 million in revenue for that day. and If Kolomela mine were to stop operating for a day due to extreme weather, Kumba would lose about R49.2 million in revenue for the day.

Cost of response to risk

544,000,000

Description of response and explanation of cost calculation

Internal Safety, Health and Environment (SHE) Policy guides, Kumba in dealing with all environmental for issues Internal Safety, Health and Environment (SHE) Policy guides, Kumba in dealing with all environmental for issues including water procedures implemented include standards for managing storm water and maintaining safe working conditions for 1:50 year flooding events. Kumba is managing this risk through improved mine pit design. The design considers the effects of extreme rainfall event. The haul roads are designed to not have steep inclines, so as to ensure minimal damage is experienced when extreme rainfall events occur. The integrity of the haul roads are continuously maintained to ensure such events will not cause irreversible damages and to ensure safe operating conditions. These activities reduce the risk to Kumba's operations over a 1 year period. In the reporting year both the Kolomela and Sishen mines implemented upgrades to their dewatering infrastructure. Improving the dewatering infrastructure will in turn reduce the life of mine pit construction costs and achieve larger pit availability. In 2019 Kumba invested R22 million on infrastructure upgrades to improve water supply.

Comment

R544 000 000.

Identifier

Risk 6

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact

Decreased revenues due to reduced production capacity

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

Company-specific description

Changing temperature extremes pose a reduction/disruption risk to Kumba's employees and the productivity of the work force during these extreme hot conditions. Kumba's Sishen and Kolomela mines are situated in the Northern Cape of South Africa which is the Province which experiences the highest summer temperatures in the country, temperatures can reach up to 50°C in summer, which can significantly affect employee fatigue. Higher temperatures directly increase the risk of heat stress to workers and can exacerbate chronic diseases. As temperature extremes increase so the productivity of staff decreases. To manage heat fatigue more frequent breaks in work shifts may be required and this is likely to slow operations and reduce productivity. Heat fatigue amongst employees also increases the risk of accident and injury on site. It has already been noted at Kumba's operations that higher temperatures are already resulting in increased diesel consumption and thus increased operating costs. Kumba's employees are forced to take a break to prevent fatigue. This requires the truck drivers to drive their trucks to the fatigue management centres for breaks. In addition, it has been noted that the truck drivers keep their trucks idling continuously during hot conditions in order to maintain a cool atmosphere in the truck by keeping the air- conditioning on.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

115,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

In the reporting year Kumba spent approximately R257.7 million at its operations on dust suppression. With drought periods exacerbated, these costs could significantly increase. Excessive dust levels could result temporary closure of operations until dust levels decline. Lost production could result in R31 700 205.19 for Kolomela and R 5 122 349.51 per day for Sishen.

Cost of response to risk

245,586,382

Description of response and explanation of cost calculation

All Kumba's operations have real-time dust monitoring and control programmes in place. Results of these programmes inform the controls and interventions for reducing exposure to dust. Monitoring is carried out at all high-risk areas including mining pits on the roads, waste dumps at the stockpiles and at the dense medium separator and JIG plants. The dust management plans have been informed by the outcomes of an investigation in 2015 to better understand the background dust levels and sources of exceedances. This included a workshop facilitated by Anglo American to identify gaps in Kumba's air quality management and determine action items that have subsequently been incorporated into site- specific improvement plans. Both Sishen and Kolomela have implemented an extensive dust improvement plan over the last few years, which has achieved a 80% reduction in exceedances compared to the previous reporting year. Dust suppression measures implemented at our operations include the usage of 'dust-a-side' and ICAT solutions on our primary and secondary roads, the installation of dust extraction systems in the plant, and water cannons and mist foggers on our stockpiles and conveyor belts. Kumba is continuing to work with regulators to find sustainable solutions. Kumba works closely with regulators in implementing the dust management action plan, developed in collaboration with Anglo American. In FY2019 Kolomela spent a total of R 75 998 697.76 on dust suppression initiatives.

Comment

Identifier

Risk 7

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Reputation

Increased stakeholder concern or negative stakeholder feedback

Primary potential financial impact

Decreased access to capital

Reduction in capital availability

Company-specific description

Climate change can present a reputational risk to Kumba as it is an issue which is becoming increasingly more important to investor decisions and local stakeholders. Kumba may be at risk if it is seen by its shareholders not to have the appropriate environmental and social governance practices in place to address climate change

issues. In the event of a loss of investor confidence, the investors may choose to move their funds to other competing companies. It is thus very important for Kumba to ensure they are responding responsibly to climate change related issues and showing leadership in environmental and social governance. Negative investor perceptions can affect the company's share price and this can in turn impact on the recruitment of new investors. The sharp fall in commodity prices is negatively affecting the ability of Kumba to raise funds for expansion.

Time horizon

Long-term

Likelihood

About as likely as not

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

500,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

If investors and asset Managers were to move funds, every 1% drop in share price will reduce the market capitalisation of Kumba by approximately R 500 million

Cost of response to risk

600,000

Description of response and explanation of cost calculation

Corporate governance is valued highly by Kumba & thus Kumba uses reporting & communication structures to manage its climate change related reputational risk. Kumba reports under the GRI Guidelines & GRI's Mining & Metals Sector Supplement. Kumba endorses the principles of the ICMM & the United Nations Global Compact. Kumba actively participates in the investor driven CDP initiatives, to enable its climate change responses to be presented to shareholders. Kumba scored a B in the 2019 CDP response. Through these reporting guidelines Kumba discloses its GHG inventory & emissions performance, along with risks and opportunities identified (including those related to climate change). There is no direct cost associated with the support of these principles and guidelines but they are embedded in the business through ongoing training and policy Development. In FY2019 Kumba spent approximately R275 000 to

support the CDP (Climate Change and Water) processes and Scope 3 calculations.

Comment

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

Markets

Primary climate-related opportunity driver

Use of public-sector incentives

Primary potential financial impact

Other, please specify

Reduced operational cost (e.g. through efficiency gains and cost reductions)

Company-specific description

Other regulatory drivers: The South African, section 12L regulation. During 2013, regulations on the allowance for energy efficiency savings in terms of section 12L of the South African Income Tax Act as cents deduction on taxable income per equivalent kilowatt hour of energy. The regulation allows for a 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. Energy security is a major risk, and in light of the a 5.23% increase (2017), 7.32%

(2018) and further 9.4% (2019) tariff increase, our ECO2MAN programme affords us opportunities, demonstrated by a R85.4 million saving in 2019 compared R36.05. million saving in 2018 and tax allowance claim exceeded R46 million in 2019 compared to R75 million in 2018.Opportunities are available for our operations to utilise the 12L tax incentive regulation (provided the benefits outweigh the cost of third party measurement and verification). With the upcoming regulation requiring the submission of a five-year Energy Management Plan and annual progress reporting, there is opportunity to align this with the ECO2MAN programme this presents opportunities for our South African operations to mitigate risk (reduce our carbon tax liability) but also to potentially generate an additional income stream.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

75,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

In 2019, we achieved diesel savings of 4.9 millions litres at Sishen (2018 :2.88 million litres) and 0.9 million litres at Kolomela (2018: 0.61 million litres). Energy savings in 2019 were 0.563 million GJ against a targeted 1.1 million GJ. Emissions saved were 0.0715 Mt CO2e against a targeted 0.1145 Mt CO2e. The resultant energy cost savings amounted to approximately R85.4 million (2018: R36.05 million) and the Company's tax allowance claim exceeded R46 million.

Cost to realize opportunity

18,550,000

Strategy to realize opportunity and explanation of cost calculation

Energy efficiency projects are captured in Kumba's energy and carbon emissions management tool (ECO2MAN). The tool also tracks energy savings achieved by implemented projects. A selection of these projects have been identified as appropriate for the section 12L tax incentive. Kumba, however, will consolidate all savings to form part of the tax relief application. We continue to benefit from tax incentives for businesses that demonstrate measurable energy savings. We have achieved significant energy savings through a range of emission reduction and fuel efficiency initiatives across our haulage and loading fleet. These have included payload improvement project for the haul trucks, drill low-idle optimisation, contractor mining monitoring and targeting and improved shovel truck matching . Anglo American's board supports the 'Aiming for A' Initiative and states that it will continue to reduce carbon emissions and energy where possible. The appropriate cost of M&V for the implemented carbon reduction project is R2.85 million. The cost to implement all the projects identified to claim the 12L tax incentive was covered in the contract that Kumba has with the diesel energy efficiency management system (DEEMs) contractors at a cost of R5.2 million in 2019 (FY2018 :R15.7 million).

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Markets

Primary climate-related opportunity driver

Primary potential financial impact

Other, please specify

Increased stock price

Company-specific description

Kumba's transparent disclosure of business operations and work done to address global issues, such as climate change, present an opportunity to the company to enhance its reputation among investors, communities and other stakeholders. For this reason, Kumba continues to disclose to the CDP and has been participating since 2008. Disclosing in the CDP on climate change issues allows Kumba to meet various objectives of its engagement with stakeholders. This opportunity allows Kumba to promote itself as an investment of choice. This has the potential to enhance Kumba's share price and hence increase its market capitalisation and access to capital.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

50,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

For investors every increase of 1% in share price can add R50 million to Kumba's market capitalisation. Transparent reporting will assist in facilitating Kumba's social licence to operate with communities and add confidence to authorisations and approvals from other stakeholders

Cost to realize opportunity

4,600,300,000

Strategy to realize opportunity and explanation of cost calculation

Kumba has prioritised climate change reporting through CDP (Climate Change and Water). Kumba has implemented robust formal stakeholder identification and engagement strategies to manage its reputation. These strategies drive how Kumba's reputation is perceived amongst investors and enable them to effectively involve stakeholders in identifying, understanding & responding to material issues, such as climate change. Anglo American board supports 'Aiming for A' and ensures to continue to engage proactively and constructively on climate change issues with investors and stakeholders. Periodic meetings, stakeholder engagement days/workshops, and participation in dedicated local and regional environmental management forums are part of Kumba's engagement platforms. Kumba implements a comprehensive Exco-approved stakeholder engagement policy.

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Primary potential financial impact

Other, please specify

Better competitive position to reflect shifting consumer preferences, resulting in increased revenues

Company-specific description

Kumba's largest export market is China and thus China can have a significant impact on demand of iron ore from Kumba. The Chinese government has begun preparing for the 14th Five Year Plan which will be finalized by 2020 which details the country's development pathway from 2021 – 2025 with a strong focus on wellbeing, quality and sustainability. In addition, working towards a net-zero-carbon economy within the next 30 – 50 years with temperatures stabilizing below 2 degrees. China aims to incorporate sustainability to long-term investment and use green finance. This is expected to increase the demand for high quality iron ore. In addition, in December 2015, China submitted its intended nationally determined contribution to the United Nations as part of the Paris Agreement. In the steel and iron making sector of China, this target could be aided with higher lump to fines ratio. Kumba's iron ore has a high lump (particles bigger than 6mm in diameter) to fines (particles smaller than 6mm) ratio compared to international norms. Higher lump to fines ratios will help China, or any other producer of steel, improve their efficiency of steel making and reduce emissions. Both these plans present an opportunity to Kumba's business because demand for higher quality iron ore, with a larger lump to fines ratio, would increase. Kumba could build on this opportunity by ensuring that its product is marketed to areas with such plans in place

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

46,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Kumba captured a US$17/tonne
uplift from the lump, iron and market premia captured in the higher average realised price of US$97/tonne for 2019.Thus for every 1% increase of lump that Kumba can supply to its client it may result in an increase in revenue of R46 million per annum

Cost to realize opportunity

250,000

Strategy to realize opportunity and explanation of cost calculation

The Anglo American board acknowledges the annual general meeting that the demand for products change. Demand for high quality ore will increase. As such Kumba carries out continuous research and developments to enhance the opportunities offered by the iron ore resources. Research covers all processing steps including sintering, pelletising, agglomeration, blending and evaluation of raw materials. Kumba is able to analyse the effects the quality of its iron ore has on its clients in downstream processes. In FY2019 our iron quality was 64.2 % (2018:64.5%), while our lump:fine ratio was 67:33 (2018: 68:32). . Kumba is the world's only major iron ore producer that beneficiates its ore prior to sale. The highest quality and most important iron ore for steel-making are haematite (Fe_2O_3) and magnetite (Fe_3O_4). Haematite is the more sought-after ore and the preferred raw material in efficient steel-making mills. It accounts for approximately 95% of South Africa's iron ore production. Our iron ore reserves are all of high-quality haematite allowing us to produce both high-quality lump and high-grade sinter fines for the domestic and export markets. Kumba beneficiates its ore to sell niche products domestically and at a premium to international markets. The final physical properties of the ore are enhanced through beneficiation by removing impurities and improving product quality, this will also reduce Kumba's downstream emissions associated with steel making.

Comment

The costs of managing this opportunity are borne by the research and development department and the marketing arms of the business. Kumba follows a strategy based on the development and use of new technologies that will expand its potential to use its resources more fully. This will enable the company to improve its processing and cost efficiency, reduce mining cost and maximise its resource utilisation in a safe manner.

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?

Yes, and we have developed a low-carbon transition plan

C3.1a

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

Yes, qualitative

C3.1b

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

Climate-related scenarios and models applied	Details
RCP 8.5	Our operations are vulnerable to extreme weather events and variability associated with long-term climate change. Our climate-change strategy is designed to safeguard the business and host communities against climate-change risks, and to contribute to mitigating greenhouse gas (GHG) emissions. Kumba conducted a climate change risk assessment for both Sishen and Kolomela mines in 2017/2018 in order to understand the key climate – related risks that are likely to be relevant to the mines considering future climate change impacts. The analysis only looked at physical risks at an operational level. We made use of the RCP 8.5 pathway which represents high but plausible GHG emissions scenario. It assumes that emissions continue to rise throughout using radiative forcing to 8.5 W/m2 in 2100, it is consistent with a future of no policy changes to reduce emissions and is broadly aligned with current policies. A bottom-up risk identification process was used as the scenario analysis was conducted at site level. RCP 8.5 projections suggested that in the future both Sishen and Kolomela will experience higher temperatures across all months and seasons, and there will be more variable precipitation with longer periods between precipitation events but more intense events when they occur. The climate change risk assessment identified heavy rainfalls & flooding, drought, dust and fires, temperature extremes, water availability and storms as potential physical climate change effects to Sishen and Kolomela mine. After identifying climate change related effects, Kumba analysed current controls to investigate if they will withstand the identified physical risks. For example, it was identified that high rainfall could result in instability of tailings dam, there are controls currently

	present to mitigate these climate risk, however climate risk study suggested improvement project to evaluate control as tailings dam wall instability is a priority risk. Since the study was conducted at site level, results of the scenario analysis were reported to site health and safety managers. Each site is responsible for the compilation and submission of a risk and control register, of which the most material risks are rolled up into the business unit risk and control register and ultimately the company risk and control register. An action plan has been developed to identify individuals who will be responsible for managing the newly identified climate risks. Regarding Kumba's portfolio resilience, carbon pricing is shifting consumer behaviour and driving the need for good quality iron ore with a high Lump-to-Fine ratio, as this generates fewer GHG emissions in the steelmaking process. During 2018, Kumba's product maintained a high Lump-ore to Fine-ore ratio at 68:32. This reduces the amount of sintering required on the product and consequently increases the efficiency in the steelmaking process, enabling a reduction in emissions generated by our clients. Kumba is one of the largest iron ore producers that beneficiates its ore prior to sale. In 2019, we beneficiated approximately 69% of our ore (2018:68%). 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.

C3.1d

(C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Climate change remains to be a challenge and as a result companies are pressured to be more environmental aware. Customers behaviour is shifting for low carbon products. In the steel making industry, there will be a demand for good quality iron ore with high lump to fine ratio as it generates fewer GHG emissions.. Our Fe quality was 64.2%, and lump:fine ratio isto 67:33 in 2019 (2018 : 68:32). . Good quality iron ore reduces the amount of sintering required on the product and consequently increases the efficiency in the steelmaking process enabling our clients to reduce emissions. As a result, Kumba's ore improve efficiency of steel making and reduce emissions. These present an

		opportunity for Kumba's business because demand for higher quality iron ore, with a larger lump to fines ratio will increase which will increase our sales revenues.
Supply chain and/or value chain	Yes	Products are shipped from Sishen and Kolomela using railway line to the port of Saldanha. Climate related events such as heavy rainfalls and severe storms have the potential to interrupt shipment and delay product from getting to the customer on time. Specifically in 2018, at Saldanha port, severe weather disruptions together with the scheduled upgrade of the ship-loader, which resulted in single loading over a six-week period, contributed to total shipment decreasing by 4% to 40.0 Mt (2017: 41.6 Mt). To partly mitigate these events, 1.4 Mt of iron ore was shipped through the multi-purpose terminal. Shipment delays may affect production targets due to accumulation of product in storage.
Investment in R&D	Yes	Kumba supports the development of low-carbon technologies through partnerships, including with the industrial development corporation and government and as an industry partner in university research projects. Kumba has supported a South African energy market with an independent power plants namely the 100 MW Kathu concentrated solar thermal plant with energy storage capacity. The solar project was transferred to ENGIE and the plant started commercial operation in January 2019. Once fully operational, it will reliably supply more than 179,000 South African homes with stable electricity during their peak demand period. Kumba benefits from carbon credits associated with the project. 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. Anglo American group believes 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.

Operations	Yes	Physical risks such as changes in precipitation patterns and extreme variability in weather patterns affect our operations. Mining infrastructure is at risk of damage from flooding events. This may include destabilizing tailing dams; flooding of mining pits and resulting in damaged and unusable haul roads. Damaged equipment could potentially result in increase in operational cost and damaged haul roads could lead to potential delays in raw materials delivery which affects production targets. These risks could be further exacerbated as highlighted through the climate risk assessment conducted at our Kolomela and Sishen mine in 2017/2018. Findings from this study were reviewed in 2019 and helped inform Kumba's business climate change strategy.

C3.1e

(C3.1e) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Indirect costs Capital expenditures Acquisitions and divestments Access to capital	Revenues :The regulatory changes in the Chinese market (i.e. Risk 3 and Opp 3) have been factored into our revenues. Climate change is a challenge that the world is facing. As a result companies are pressured to be more environmental aware and customers behaviours is shifting for good quality iron ore with high lump to fine ratio as it generates fewer GHG emissions in the steel making process. The potential impact of changing market demands for products driven by the transition to an increasing carbon constrained global economy will impact demand for iron ore. Our flexible and efficient production system has made it possible this year to enhance our product portfolio and maximise the value of tonnes to market. Our iron quality increased to 64.5%, while our lump:fine ratio increased to 68:32 up from 66:34 last year. Our focus on delivering quality has allowed us to secure a valuable price premium on our competitors, providing an uplift of US$2/dmt. This has been aided by strong demand for high-grade products, driven in part by continued tightening of emission controls in China. Indirect costs : South Africa's regulatory environment (including carbon taxes etc.) as well as various incentives (i.e. Risks 1, 2, 5, and Opp 1)

		have been factored into our operating costs. Regulatory changes and uncertainty continue to present challenges, including financial costs associated with managing legal developments. We engage regularly with all relevant authorities and neighbouring communities and we participate in the Minerals Council South Africa (formerly known as the Chamber of Mines) and other bodies to ensure that we stay abreast of developments and to lobby for favourable industry positions on proposed legislation and policies. Operational costs could increase because regulatory risks such as currently introduced regulations, i.e. mandatory GHG reporting and emerging regulations such as carbon tax. A central aspect of our approach is the energy and carbon management (ECO2MAN) programme, which we have been implementing at our operations since 2011. The programme is centred on identifying and carrying out projects to reduce energy use and GHG emissions. We are working towards the following 2020 targets, which are aligned to our mine plans and diesel and electricity usage forecasts: a 10.7% reduction in GHG emissions and 11.7% reduction in our energy consumption, against projected business-as-usual (BAU). Capital expenditures : South Africa's regulatory environment (including carbon taxes etc.), reputational risks as well as various incentives (i.e. Risks 1, 2, 5, 6 and Opp 1) have been factored into our capital expenditure/capital allocation. Kumba has set targets to reduce its GHG emissions and energy consumption. In order to meet these ambitious targets, Kumba has set capital allocation for energy efficiency projects. A central aspect of our approach is the energy and carbon management (ECO2MAN) programme, which we have been implementing at our operations since 2011. The programme is centred on identifying and carrying out projects to reduce energy use and GHG emissions. We are working towards the following 2020 targets, which are aligned to our mine plans and diesel and electricity usage forecasts: a 10.7% reduction in GHG emissions and 11.7% reduction in our energy consumption, against projected business-as-usual (BAUThe tool also tracks energy savings achieved by implemented projects. We continue to benefit from tax incentives for businesses that demonstrate measurable energy savings. Acquisitions and divestments :South Africa's regulatory environment (including carbon taxes etc.), reputational risks as well as various incentives (i.e. Risk 1, 2, 5, 6 and Opp 1, 2, 3) have been factored into our acquisitions and divestments. By using leading-edge exploration technologies, we have further improved our understanding of the full potential of the Northern Cape region. Over the longer term, we believe that current production levels could be sustained through further development in the Northern Cape, unlocking the region's full potential by extending our Kolomela activities and realising opportunities for joint

		ventures and acquisitions of appropriate rights beyond Kumba's current footprint. The full potential of Sishen is dependent on how successful we are in identifying and developing methodologies to beneficiate low-grade haematitic iron ore material. The magnitude of this impact is low. Acess to capital :Our reputational risks and opportunities (i.e. Risk 6 and Opp 2) have been factored into our access to capital planning. Climate change continues to be a global challenge and as a result, companies are pressurised to reduce their emissions and be more environmentally aware. Stakeholder relationship could be negatively affected if stakeholders sees Kumba as not doing enough about climate change issues. This could present a reputational risk for Kumba. Although access to capital has not been impacted by our climate change performance but we actively engage and respond to shareholder concerns in this regard. As part of the Anglo American group, we are responding to the recently issued recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) is an example. This area is currently not yet impacted and therefore a magnitude level has not be classified. Assets :Extreme weather events such as increased temperatures (Risk 4 and 5) have been factored into our process of understanding our assets. Heavy rainfalls and severe storms may lead to damaged assets and delay in maintenance of assets, which could delay production targets. For example, in FY2018 at Saldanha port, severe weather disruptions together with the scheduled upgrade of the ship-loader, which resulted in single loading over a six-week period, contributed to total shipment decreasing by 4% to 40.0 Mt (2017: 41.6 Mt). Liabilities :South Africa's regulatory environment (including carbon taxes etc.), reputational risks as well as various incentives (i.e. Risk 1, 2, 3, 4, 5, 6 and Opp 1, 2, 3) have been factored into our liabilities financial models. Our 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. This area is currently not yet impacted and therefore a magnitude level has not be classified.

C3.1f

(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

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

Year target was set

2017

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (location-based)

Base year

2016

Covered emissions in base year (metric tons CO2e)

950,000

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)

100

Target year

2020

Targeted reduction from base year (%)

8.3

Covered emissions in target year (metric tons CO2e) [auto-calculated]

871,150

Covered emissions in reporting year (metric tons CO2e)

1,000,000

% of target achieved [auto-calculated]

-63.4115409004

Target status in reporting year

Underway

Is this a science-based target?

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

Please explain (including target coverage)

Anglo group energy and carbon targets for 2015 were set at 7% and 19% below business as usual (BAU) respectively and Kumba's targets, forming part of that, was set at 4% (energy) and 5% (carbon). Kumba achieved these interim targets by saving 4.6% energy and 5.7% carbon on our BAU baseline. The 2015 targets were set as intermediate targets with the goal to firstly fully implement and embed the ECO2MAN program at all operations and then set further targets for 2020 to align with government commitments. In 2016, we have set new long-term targets for energy (extended to 11.7%) and GHGs (extended to 10.7%) reduction by 2020. These targets are aligned with the Anglo American process to resubmit more realistic targets for 2020. 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. This understanding formed the basis for setting our ambitious target to reduce GHG emissions by 10.7% against our adjusted 2020 baseline consumption (subject to divestments and significant business changes). ECO2MAN is supported by an Anglo American carbon and energy technical standard and related guidance. The Group is currently developing a Sustainability Strategy and, subject to management review, it includes longer-term (2030) aspirational energy- and carbon-reduction targets aligned with an end goal for a carbon-neutral mine set in 2019. , Kumba's operations were responsible for 1.00 million tonnes of CO2-equivalent emissions (Mt CO2e) from electricity purchased, and the combustion of fossil fuels at operations, and GHGs emitted as a result of industrial processes in 2019. This represented an absolute 4% increase in absolute emissions compared to the 0.96 Mt CO2e emitted in 2018 and a 8.3% saving against the BAU targeted 10.5%.

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Other climate-related target(s)

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number
Oth 1

Year target was set
2015

Target coverage
Company-wide

Target type: absolute or intensity
Absolute

Target type: category & Metric (target numerator if reporting an intensity target)
Energy productivity
Other, please specify
GJ

Target denominator (intensity targets only)

Base year
2016

Figure or percentage in base year
8,450,000

Target year
2020

Figure or percentage in target year
7,461,350

Figure or percentage in reporting year
9.03

% of target achieved [auto-calculated]
854.6999413341

Target status in reporting year
Underway

Is this target part of an emissions target?

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

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

As part of our commitment to mitigate GHG emissions, we aim to reduce our energy consumption by 11.7% This target is aligned with the Anglo American process to resubmit more realistic targets for 2020. 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 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. Kumba's total energy consumption was 8.78million GJ (2018: 8.85 million GJ), representing a 0.79% decrease

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 initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	1	69,379
To be implemented*	2	67,838
Implementation commenced*	0	0
Implemented*	4	56,298
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

Other, please specify

Other, please specify

Energy efficiency -processes; process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

10,624

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

104,204,024

Investment required (unit currency – as specified in C0.4)

38,348,766

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

In 2019, Kumba continued implementing emission reduction and energy efficiency initiatives such the truck payload optimisation project. 762 864 GJ of energy was saved and 10 625 tCO2e was avoided.

Initiative category & Initiative type

Other, please specify

Other, please specify

Energy efficiency -processes; process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

5,504

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

81,173,424

Investment required (unit currency – as specified in C0.4)

19,687,570

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

With the Out-of-Cycle Waste Reduction and DOH improvement initiative : Kumba has sought out to reduce in out-of-cycle travelling and idling by optimisation of direct operating hours (DOH) through various on-going initiatives

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Initiative category & Initiative type

Other, please specify

Other, please specify

Energy efficiency -processes fleet management;process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

18,217

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

With the Fleet Movement and Traffic Management initiative there was a reduction of Mandatory Stops on-route, implementation of Modular Mining 6 and dynamic dispatching per mine region

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Initiative category & Initiative type

Other, please specify

Other, please specify

Energy efficiency -processes

Estimated annual CO2e savings (metric tonnes CO2e)

21,183

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

Truck payloads were adjusted between between 110% and 115% of the rated payload which were accounted for varying payload management readings at the loading zone with the loading optimisation initiative. The overload truck settings were aligned with the original equipment manufacturer 10-10-20 principle. The monthly payload distributions and averages were monitored to ensure alignment with manufacturer's standards and no overloading.

Initiative category & Initiative type

Other, please specify

Other, please specify

Energy efficiency

Estimated annual CO2e savings (metric tonnes CO2e)

770

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

Investment required (unit currency – as specified in C0.4)

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

The Auto-Drilling and Autonomous Drilling Optimisation initiative is part of a greater technology programme called FutureSmartTM that aims to help Kumba sustainably unlock further mineral potential and create added value for its stakeholders. The benefits of this project include:
• 23% gain of direct operating hours;
• 18% gain in drill rate (the actual time to drill the hole and to move, setup and start the next hole);
• 25% reduction in total drills required;
• 19% reduction in drilling cost; and 70% less injuries and fatalities – helping Kumba achieve our goal of zero harm.

C4.3c

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

Method	Comment
Financial optimization calculations	The impact of the implemented carbon tax and emission reduction opportunities are included in optimisation models when assessing projects.
Internal price on carbon	Projects are assessed for financial viability using forecast Carbon prices in all financial models.
Employee engagement	The ECO2MAN methodology, as outlined in Group Technical Standard 23, allocates roles and resources to monitor and track energy and efficiency initiatives at Kumba.
Marginal abatement cost curve	Kumba maintains an up-to-date project register as part of the procedure to determine the order in which energy efficiency projects are implemented. This project register details the costs and calculates the emissions savings related to the energy efficiency projects. Each project has an associated status such as “Approved, idea, viable, parked and completed”. Kumba uses the project register to produce MACC curves, as part of the energy and carbon emissions management consolidation tool (ECO2MAN), which are used to prioritise the projects. This allows Kumba to determine which projects should be fast tracked and implemented, or which projects should be postponed. The projects that have a cost savings associated with them as a result of emission savings made are prioritised in light of the emission reduction targets set by Kumba.

C4.5

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

Yes

C4.5a

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

Level of aggregation

Product

Description of product/Group of products

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 the reporting year Kumba maintained a high lump ore-to-fine ore ratio at 67:33. The lump to fines ratio impacts on the amount of energy associated with emissions sintering downstream in the value chain to produce steel. With a high lump to fines ratio of iron ore, significant reduction of emissions in the steel making process is possible. In 2019, we beneficiated approximately 69% of our ore. 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 in line with the GHG Protocol Standards for emissions accounting

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

67

Comment

Our high grade Iron is sold to the steel industries, which uses the iron to make low carbon products.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. Our Fe quality increased to 64.2%, while our lump:fine ratio decreased to 67:37 (2018 :68:32). Our focus on delivering

quality has allowed us to secure a valuable price premium on our competitors, providing an uplift of US$2/dmt. 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.

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, 2015

Base year end

December 31, 2015

Base year emissions (metric tons CO2e)

693,860.77

Comment

Scope 2 (location-based)

Base year start

January 1, 2015

Base year end

December 31, 2015

Base year emissions (metric tons CO2e)

509,736.35

Comment

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.2

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

IPCC Guidelines for National Greenhouse Gas Inventories, 2006
ISO 14064-1
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

530,000

Comment

Actual scope 1 emissions have been calculated and rounded off.

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 have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

Comment

Market-based emissions are not applicable to Kumba's operations as all electricity has to be purchased from the Eskom, South Africa's electricity utility. Any independent power producer that applies for generation licence for the sale of electricity to private sector buyers must get approval from the Minister of Energy. This approval covers the deviation from the integrated resource plan (IRP) published by the government. This is

an onerous process and to date only one such permission has been given in South Africa. As such market-based electricity is not yet readily available in South Africa.

C6.3

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

Reporting year

Scope 2, location-based

470,000

Comment

Actual scope 2 emissions (location based) have been calculated and rounded off. Market-based emissions are not applicable to Kumba's operations as all electricity has to be purchased from the Eskom, South Africa's electricity utility. Any independent power producer that applies for generation licence for the sale of electricity to private sector buyers must get approval from the Minister of Energy. This approval covers the deviation from the integrated resource plan (IRP) published by the government.
This is an onerous process and to date only one such permission has been given in South Africa. As such market-based electricity is not yet readily available in South Africa.

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

Head office in Centurion

Relevance of Scope 1 emissions from this source

Emissions are relevant but not yet calculated

Relevance of location-based Scope 2 emissions from this source

No emissions from this source

Relevance of market-based Scope 2 emissions from this source (if applicable)

No emissions from this source

Explain why this source is excluded

The small corporate office is excluded from the reporting boundary due to low energy usage at that office. Its emissions are deemed negligible compared to the overall carbon footprint of Kumba. Energy data for offices situated at our Sishen and Kolomela mines is included in the disclosure.

C6.5

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

Purchased goods and services

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

151,202

Emissions calculation methodology

Kumba identified its top four purchased goods by operational spend. These goods were explosives, steel, tyres and cement. Activity data: Supplier invoices were used to obtain the total mass in tonnes of each purchased good used in the reporting year. Emissions factors: The emission factors for other indirect emissions and their respective sources are: Explosives: 2.51 tCO2e/tonne product (CCaLC Tool Manual (V1.1) Carbon Calculations over the Life Cycle of Industrial Activities (page 178)). Steel: 1.9 tCO2e/tonne product (Greenhouse Gas Abatement in Energy Intensive Industries, page 5, Integrated steel mill average). Tyres: 1.09 tCO2e/tonne (Michelin Annual Report - 2015 Performance, Pg101). Cement: 0.853 tCO2e/tonne product (Pretoria Portland Cement 2018 Integrated Annual Report Pg 115). GWP values: Carbon dioxide = 1. Methodology: The mass of each purchased good was multiplied by the emission factor associated with extraction and production of that good. 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: Financial control approach.

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

100

Please explain

Not applicable

Capital goods

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

0

Emissions calculation methodology

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

Please explain

Not applicable

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

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

133,008

Emissions calculation methodology

This category relates to the extraction, production, and transportation of diesel, LPG and petrol, AVGAS, used oil and electricity transmission and distribution (T&D) losses. Activity data Supplier invoices were used to obtain the total quantities of the fuels and electricity consumed during the reporting year. Other indirect emissions factors: Diesel (extraction, production, and transportation): 0.626 kgCO2e/litre (DEFRA Factors 2019, Department of Energy and Climate Change, UK Government, GHG Conversion Factors for Company Reporting: Methodology Paper for Emission Factors). Petrol (extraction, production, and transportation): 0.596 kgCO2e/litre (DEFRA Factors 2019). LPG (extraction, production, and transportation): 0.369 tCO2e/tonne (DEFRA Factors 2019). AVGAS (extraction, production, and transportation): 0.523 kg CO2e/litre (DEFRA Factors 2019). 0.602kgCO2e/litre (DEFRA Factors 2019) 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. The quantity of electricity purchased was multiplied by the T&D emission factor of the South African electricity grid. Calculations were performed in accordance with ISO 14064 Part 1, The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard and the GHG Protocol Scope 2 Guidance following the location-based methodology for the scope 3 emissions from electricity. Assumptions: No assumptions were made in the calculation of the emissions in this category. Allocation methods: Financial control approach.

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

100

Please explain

Not applicable

Upstream transportation and distribution

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

817

Emissions calculation methodology

This category relates to the transportation of purchased goods to Kumba's operations. Activity data: Purchased goods included diesel along with other products which were billed as purchased transport services in kilometres. Supplier invoices were used to obtain the total volume of diesel transported to each of the operations in the reporting year. The actual distance travelled between Kumba's diesel supplier to each mining operation was used. Emissions factors: The emission factors for other indirect emissions used for the transport of goods in a Heavy Articulated vehicle was 0.224 kgCO2e/vehicle km, (DEFRA Factors 2019; Department of Energy and Climate Change, UK Government, GHG Conversion Factors for Company Reporting: Methodology Paper for Emission Factors). GWP values: Carbon dioxide = 1 Methodology: The emission factor for a Heavy Goods Vehicle was divided by the assumed 30m3 volume of the purchased goods transported per trip to get the emission factor in terms of volume and then multiplied by the single distance travelled from Sasolburg to Kumba's operations. 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: It was assumed that all purchased goods are transported to Kumba's operations in a Heavy Articulated Vehicle >33 tonne. The tanker delivery capacity was assumed to be 30 m3 for all goods being transported to the operations. All transportation of diesel was assumed to originate from Sasolburg, South Africa. The distance from Sasolburg to Sishen was assumed to be 542 km. The distance from Sasolburg to Kolomela was assumed to be 580 km. The distance from Sasolburg to Thabazimbi was assumed to be 302 km. Allocation methods: Financial control approach.

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

50

Please explain

Not applicable

Waste generated in operations

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

9,886

Emissions calculation methodology

This category relates to the waste generated in Kumba's operations. Note that this excludes mining residues. Activity data: The amount of waste generated per person in the reporting year was estimated from data provided by the Institute of Waste Management South Africa. Supplier invoices were used to obtain the total volume of lubricant consumed at each of the operations in the reporting. Emissions factors: The emission factors for other indirect emissions associated with the waste generated in operations for the reporting year are: Lubricants: 0,002625 tCO2e/litre (DEFRA Factors 2019; Department of Energy and Climate Change, UK Government, GHG Conversion Factors for Company Reporting: Methodology Paper for Emission Factors). Waste disposal: 0.17 tCO2e/tonne waste (US Environmental Protection Agency). GWP values: Carbon dioxide = 1. Methodology: The emissions associated with the waste generated in operations were determined from two sources: The emission factor associated with combustion of the waste lubricant was converted from tCO2e/tonne to tCO2e/litre by dividing the DEFRA 2019 lubricant emission factor for by an average lubricant density of 825kg/m3. The quantity of lubricants used in litres was then multiplied by the emission factor in tCo2e/litre of lubricant. The second source of waste originated from the tonnages of waste generated per person in the company per year. The estimated tonnage of waste generated per person was then multiplied by the number of employees at Kumba along with the emission factor. 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: It was assumed that the average density of the waste lubricant was 825kg/m3 (http://www.machinerylubrication.com/Read/29319/measuring-relative- density). It was assumed that the average amount of waste generated per employee at Kumba's operations was 0.26 tonnes per year. Allocation methods: Financial control approach.

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

50

Please explain

Not applicable

Business travel

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

1,122

Emissions calculation methodology

This category relates to the emissions associated with air travel for long, medium and short haul flights as well as car rentals and reimbursed road travel. Activity data: The number of flights and their respective destinations and distance travelled were obtained from Kumba's travel agent. Car rental: The distances travelled by hire cars were provided by Kumba's car rental agent. The reimbursed travel claims were based on claim forms listing the number of kilometres travelled by the employee. Emission factors: Domestic flights (economy): 0.156kgCO2e/p.km (DEFRA Factors 2019; Department of Energy and Climate Change, UK Government, GHG Conversion Factors for Company Reporting: Methodology Paper for Emission Factors). Short haul flights (economy class): 0.015kgCO2e/p.km (DEFRA Factors 2019) Long haul flights (economy class): 0.073 kgCO2e/p.km (DEFRA Factors 2018). Long haul flights (business class): 0.212 kgCO2e/p.km (DEFRA Factors 2019). Upper Medium Car (unknown fuel): 0.177 kgCO2e/vehicle 100.00% km (DEFRA Factors 2019) GWP values: Carbon dioxide = 1. Methodology The total distance travelled per flight type in kilometres (short haul, medium haul and long haul) was summarised according to flight class (economy or business). The total number of kilometres travelled per distance classification and flight class was multiplied by the associated emission factor to determine the emissions associated with air travel. The emissions associated with car travel for both car rentals and reimbursed employee travel were calculated by multiplying the distance travelled per trip (sourced from invoices and travel claims) and multiplying it by the emission factor of a medium sized car with an unknown fuel type to determine the emissions associated with business travel. Assumptions: All vehicles used for business travel were assumed to be a medium sized car with an unknown fuel type. Allocation methods: Financial control approach.

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

100

Please explain

Not applicable

Employee commuting

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

5,948

Emissions calculation methodology

This category relates to emissions associated with employee travel to work. Activity data: The data used is the distances that employees travel from home to work every day, and the number of employees working at each of Kumba's operations. Emission factors: The emission factor for an 'average car' with unknown fuel is 0.177 kgCO2e/km (DEFRA Factors 2019). The emission factor for a taxi (Specification sheet of Toyota Quantum 2.7GL 14 seater bus) is: 0.02421 kg CO2e/passenger.km. The emission factor

associated with a local bus is: 0.121 kg CO2e/ km (DEFRA Factors 2019). GWP values: Carbon dioxide = 1. Methodology: The number of employees travelling per trip type was multiplied by the distance of the trip, by the number of trips per year and by the associated emission factor (EF) for that trip type. For e.g. the number of employees at Sishen travelling by taxi was multiplied by the distance to Sishen mine, then by the number of trips in a year and then by the EF for the Toyota Quantum. 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: In FY2013 a survey was conducted to ascertain how employees travel to work and back. It was assumed that these percentages remain the same for FY19. It was assumed that each employee takes 480 working trips per year. This was based on 48 working weeks in which 2 trips are made per day. It was assumed that all corporate employees travel the same distance to work (20.25 km per trip). It was assumed that all employees working at Sishen mine travel 6 km/trip/day. The average travel distance per trip for employees working at Kolomela mine is 20 km, employees working at Thabazimbi mine travel 7 km, employees working for technical services travel 20 km. The average travel distance per trip for employees working under the projects group was 20.25 km. The average travel distance per trip for employees working under the Saldanha group was 22 km. Allocation methods: Financial control approach.

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

50

Please explain

Not applicable

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

Kumba fully controls any leased assets and as such emissions associated will fall into Scope 1 & 2 therefore Scope 3 emissions are zero.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

6,612,007

Emissions calculation methodology

The transportation and distribution of Kumba's sold product include: the railway transport of iron ore from Sishen and Kolomela to Saldanha, railway transport of iron ore from Sishen and to Vanderbijlpark and Newcastle and the export of product via ship to China, Japan, Korea and Western Europe. Activity data: The tonnes of product sold both locally and internationally were sourced from sales invoices at each of Kumba's operations. The distance from Kumba's operation to the product destination was determined from internet distance calculations. Emissions factors: Rail: 0.1389 kgCO2e/tonne.km (DEFRA Factors 2019 – the DEFRA emission factor for rail was divided by the UK GEF and multiplied by SA GEF to produce a factor more South African specific). Shipping: 0.254 kgCO2e/tonne.km (DEFRA Factors 2019). GWP values: Carbon dioxide = 1. Methodology: The emissions associated with the local transportation and distributions of products by rail was calculated by multiplying the rail emission factor by the total tonnes of product transported to the destination and by the distance between Kumba's operation and the destination. The emissions associated with the shipping of products to foreign countries were determined by multiplying the shipping emission factor by the total tonnages transported from the operation to its destination and by the total distance between the operation and the destination. 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: It was assumed that all the product which is transported via ship is transported via a Bulk Carrier 200,000t + dry weight tonnage (dwt) ship classification used in DEFRA. It was assumed that 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: Financial control approach

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

50

Please explain

Not applicable

Processing of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

101,919,035

Emissions calculation methodology

The emissions for downstream processing of Kumba's products were calculated, up to steel production. It includes emissions from the production of sinter to steel. Activity data: The activity data is the amount iron ore sold in the reporting year. Emissions factors: The emission factors associated with the processing of the sold product are: Iron Production (in a Blast Furnace): 1.35 tCO2e/tonne pig iron (2006 IPCC Guidelines, Vol 3; Chap 4, Table 4.1). Steelmaking (in a Basic Oxygen Furnace): 1.46 tCO2e/tonne

steel (2006 IPCC Guidelines, Vol 3; Chap 4, Table 4.1). Steel Products (Average between production of plates, sections and tubes): 0.845 tCO2e/tonne ore (https://www.tatasteelconstruction.com/en_GB/sustainability). Sintering Combined Emission Factor: 0.202 tCO2e/tonne sinter (2006 IPCC Guidelines, Vol 3; Chap 4, Table 4.1 and Table 4.2. GWP values: Carbon dioxide = 1. Methane = 25. Methodology: The emissions resulting from the processing of sold products are calculated from two sources, the processing of steel and the processing of steel into steel products: Steel production consists of emissions resulting from sintering along with emissions from production of the sintered material into iron and steel using a blast furnace and basic oxygen furnace. The process of sintering produces both carbon dioxide emissions and methane emissions. The sintering emissions were calculated by multiplying the total tonnes sintered by the sintering emission factor. The blast furnace emissions were determined by multiplying the total iron production by the iron production emission factor and the steelmaking emissions were determined by multiplying the steel production emission factor by the total quantity of steel produced. The second source of emissions included, is that of the emissions associated with the production of steel products (such as plates, sheets and tubes). This is determined by multiplying the total quantity of steel produced by the average steel product emissions factor. 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: Assumed that the conversion from pig iron to steel is a 1 to 1 ratio. Allocation methods: Financial control approach.

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

100

Please explain

Not applicable

Use of sold products

Evaluation status

Not relevant, explanation provided

Please explain

There are no direct emissions associated with the use of the iron ore (sold product) from Kumba. The emissions associated with the processing of the iron to produce iron and steel are accounted for in the processing of sold products section above.

End of life treatment of sold products

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

650,490

Emissions calculation methodology

The end of life treatment of Kumba's sold products consists of the recycling and subsequent smelting of the recycled steel products. Activity data: The activity data is the amount of iron ore sold in the reporting year, which was sourced from invoices. Emissions factors: The emission factor associated with the end of life treatment for Kumba's sold products is: Processing of scrap metal in an Electric Arc Furnace: 0.25 tCO2e/tonne iron (2006 IPCC Guidelines, chapter 4, Table 4.1). 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 multiplied by the amount of the electric arc furnace emission factor. 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% was assumed as is stated in the in the World Steel Association report from 2012. It was assumed that the steel is recycled once. It was assumed that all sold iron ore product was processed to produce steel. Allocation methods: Financial control approach

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

50

Please explain

Not applicable

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

The company does not lease out any of its own assets to lessees, therefore emissions associated with downstream leased assets are not relevant.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

Kumba does not use the franchise model in any of its businesses, thus the emissions associated with franchises are not relevant.

Investments

Evaluation status

Not relevant, explanation provided

Please explain

Kumba primarily has investments in holding companies without any direct operational footprints.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Please explain

Kumba has no other upstream emissions relevant to operational footprints.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Please explain

Kumba has no other downstream emissions relevant to operational footprints.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic 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

0.00001556

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

1,000,000

Metric denominator

unit total revenue

Metric denominator: Unit total

64,285,000,000

Scope 2 figure used

Location-based

% change from previous year

47.97

Direction of change

Decreased

Reason for change

Total revenue increased by 40% to R64.2 billion compared to R45.7billion for 2018, mainly as a result of a weaker Rand which boosted US$-based ire ores. The average Rand/US$ exchange rate to R14.45/US$1 (2018: R13.24/US$1).and as result of a 35% increase in the average realised iron ore price of US$97/tonne (2018:US$72/tonne).

Scope 1 and 2 GHG emissions increased by 4% in 2019 (2018 : Scope 1 and 2 GHG emissions decreased by 4%).The increase in emissions is a result of increased electricity consumption of 11.9% from the previous year. A lower emission intensity is as a result of increased revenue.

Intensity figure

0.0235

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

1,000,000

Metric denominator

Other, please specify

Tonnes product sold

Metric denominator: Unit total

42,400,000

Scope 2 figure used

Location-based

% change from previous year

1.66

Direction of change

Increased

Reason for change

In 2019, Kumba's operations were responsible for 1.00 million tonnes of CO2-equivalent emissions (Mt CO2e) from electricity purchased, and the combustion of fossil fuels at operations, and GHGs emitted as a result of industrial processes. This represented an absolute 4% increase in absolute emissions compared to the 0.96 Mt CO2e emitted in 2018 and an 8.3% saving against the BAU targeted 10.5%.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

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
Other, please specify CO2,CH4,N20	530,000	IPCC Third Assessment Report (TAR - 100 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
South Africa	530,000

C7.3

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

By facility

C7.3b

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

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Sishen Mine	400,000	-27.72627	23.008728
Kolomela Mine	130,000	-28.381872	22.964944

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	Comment
Metals and mining production activities	530,000	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 for in Scope 2 market-based approach (MWh)
South Africa	470,000		450,000.36	

C7.6

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

By facility

C7.6b

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

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Sishen Mine	400,000	
Kolomela Mine	70,000	

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

Metals and mining production activities	470,000		Market-based emissions are not applicable to Kumba's operations as all electricity has to be purchased from the Eskom, South Africa's electricity utility. Any independent power producer that applies for generation licence for the sale of electricity to private sector buyers must get approval from the Minister of Energy. This approval covers the deviation from the integrated resource plan (IRP) published by the government. This is an onerous process and to date only one such permission has been given in South Africa. As such market-based electricity is not yet readily available in South Africa.

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				Kumba did not consume any renewable energy in the reporting year.
Other emissions reduction activities	71,400	Decreased	8.3	A 8.3% saving against the business as usual target of 10.5% was achieved in 2019. This was attributed to the implemented fuel efficiency initiatives in haulage and loading fleet. Some of the projects included payload improvement project for the haul trucks, drill low-idle optimisation, contractor mining monitoring and targeting and improved shovel truck matching. There were no new registrations in 2019 and some 2018 projects

				continued in 2019.
Divestment				Kumba had no divestment in the reporting year
Acquisitions				Kumba had no acquisitions in the reporting year
Mergers				Kumba had no Mergers in the reporting year.
Change in output	7,140	Decreased	1.6	Kumba's total production at Sishen and Kolomela has decreased from 45 Mt in 2017 to 43.1 Mt in 2018 and decreased further to 42.4 Mt in 2019 This is a 1.6 % decrease in production.
Change in methodology				There was no change in methodology in the reporting year
Change in boundary				There was no change in boundary the reporting year.
Change in physical operating conditions				There was no change in physical operating conditions in the reporting year.
Unidentified				There was no change in unidentified in the reporting year.
Other				There were no other changes in the reporting year.

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 15% but less than or equal to 20%

C8.2

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

	Indicate whether your organization undertook this energy-related activity in the reporting year
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	No

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 (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	1,988,890.48	1,988,890.48
Consumption of purchased or acquired electricity		0	450,000.36	450,000.36
Total energy consumption		0	2,438,890.84	2,438,890.84

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)	1,988,890.48
Consumption of purchased or acquired electricity		450,000.36

Consumption of self-generated non-fuel renewable energy		0
Total energy consumption		2,438,890.84

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	No
Consumption of fuel for the generation of heat	No
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

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

Fuels (excluding feedstocks)

Distillate Oil

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1,988,890.48

Emission factor

20.2

Unit

kg CO2 per GJ

Emissions factor source

IPCC

Comment

Fuels (excluding feedstocks)

Motor Gasoline

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

4.29

Emission factor

18.9

Unit

kg CO2e per GJ

Emissions factor source

IPCC

Comment

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

76

Emission factor

17.2

Unit

kg CO2e per GJ

Emissions factor source

IPCC

Comment

C9. Additional metrics

C9.1

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

Description

Energy usage

Metric value

8.78

Metric numerator

Million GJ

Metric denominator (intensity metric only)

% change from previous year

0.79

Direction of change

Decreased

Please explain

In 2011 we implemented an energy and carbon management (ECO2MAN) programme at our operations and set an energy reduction target of 11.7%. This was a response to addressing climate change issues and reducing operational GHG emissions. We achieved an energy saving of 9.03% against the 10.6 BAU target in 2019. This was largely due to diesel use efficiencies.

Description

Other, please specify

Non-hazardous waste to landfill

Metric value

2.4

Metric numerator

Kilotons

Metric denominator (intensity metric only)

% change from previous year

92

Direction of change

Increased

Please explain

Kumba continued with our waste recovery, reuse and recycling initiatives and applied alternative technologies to avoid generating waste for landfill disposal. In particular, we engaged with our suppliers to seek out better strategies of collecting, reusing and recycling waste packaging at our operations. Kumba remains committed to achieving zero waste to landfill by 2020, which is a national target. A new waste management strategy will be finalised by Kumba , which will improve reporting of waste especially at Sishen where some figures were only reported in 2019.

Description

Other, please specify

Hazardous waste to landfill

Metric value

16.72

Metric numerator

Kilotons

Metric denominator (intensity metric only)

% change from previous year

Direction of change

Please explain

Hazardous waste to landfill has increased to 16.72 kilotons (2018: 0.27 kiltons). The management of hazardous waste is strictly regulated and controlled at our operations. It is sorted on site and analysed to determine the appropriate hazard ratings and the disposal methods. A new waste management strategy will be finalised by Kumba , which will improve reporting of waste especially at Sishen where some figures were only reported in 2019.

Description

Other, please specify

Hazardous bio-mediated

Metric value

0.81

Metric numerator

Kilotons

Metric denominator (intensity metric only)

% change from previous year

49

Direction of change

Decreased

Please explain

We have biomederation facilities at all our operations to treat soil that has been impacted by hydrocarbons that would have otherwise be taken to a hazardous landfill site. In particular, Sishen strongly focused on inspecting equipment on a daily basis with regular maintenance and raised awareness around mandatory procedures for hydrocarbon and chemical management and reporting and management of all spillage incidents in 2018. 8 111 tonnes of contaminated soil was treated by Kumba compared (2018 : 1 644 tonnes)

Description

Other, please specify

Waste recycled

Metric value

10.56

Metric numerator

Kilotons

Metric denominator (intensity metric only)

% change from previous year

Direction of change

Please explain

Waste recycled increase to 10.56 kilotons in 2019 (FY2018 : 0.8 kilotons). The mine has established and improved facilities for collection, recycling, treatment and disposal of solid waste. In striving with zero waste to landfill, Sishen mine has increased its waste recycling activities, achieving a material reduction in waste to landfill. Two recycling initiatives were implemented in 2019 at Kumba. Metal and paper air filter installed in trucks at bioremediation sents were separated, cut and sent for recycling. 600 legacy tyres were shredded at Waste Bureau Beneficiation Service, a service provided Kumba

identified in 2019. This helps with addressing the 20 000 tonne tyre stockpile and meeting legal requirements. The shredded tyre by-products will be used in the cement industry. Kumba continues to engage with industry on how to address the issue of tyre disposal as no sustainable solution exists presently.

C-MM9.3a

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

Output product

Iron ore

Capacity, metric tons

Production, metric tons

42,400,000

Production, copper-equivalent units (metric tons)

141,036

Scope 1 emissions

530,000

Scope 2 emissions

470,000

Scope 2 emissions approach

Location-based

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 for 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 does not report capacity.

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	Kumba has moved from a volume to a value strategy, reconfiguring its mines to reduce the amount of waste mined & save costs in all operational areas. Redesigning the pits allows Kumba to use less water & energy resources to extract the valuable products more efficiently. Kumba uses technology & efficient production methods to ensure production of high-grade products in order to help it's customer in reducing GHG gases. There is currently a study underway to explore solar PVs and energy storage at Sishen. It is however difficult to estimate the investment amount and low carbon investment percentage at this stage.

C-MM9.6a

(C-MM9.6a) Provide details of your organization's investments in low-carbon R&D for metals and mining production activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Other, please specify Increase lump to fine ore ratio	Large scale commercial deployment	41 - 60%		Kumba has moved from a volume to a value strategy, reconfiguring its mines to reduce the amount of waste mined and save costs in all operational areas. Redesigning the pits allows Kumba to use less water and energy resources to extract the valuable products more efficiently. Kumba uses technology and efficient production methods to ensure production of high-grade products in order to help it's customer in reducing GHG gases. It is however difficult to estimate the investment amount and low

				carbon investment percentage at this stage.

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 emissions, and attach the relevant statements.

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

Kumba Iron Ore Sustainability-report-2019 Final.pdf

Page/ section reference

122

Relevant standard

ISAE 3410

Proportion of reported emissions verified (%)

100

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

Page/ section reference
122

Relevant standard
ISAE 3410

Proportion of reported emissions verified (%)
100

C10.1b

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

Scope 2 approach
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

Kumba Iron Ore Sustainability-report-2019 Final.pdf

Page/ section reference
122

Relevant standard
ISAE 3410

Proportion of reported emissions verified (%)
100

Scope 2 approach

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

Page/ section reference

122

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
C11. Carbon pricing	Other, please specify Total energy used in million GJ	• ISAE3000 • ISAE 3410	As part of our 2019 sustainability reporting process, Limited assurance was undertaken on our total energy used (GJ). Assurance on this metrics is undertaken on an annual basis due to its materiality for our operations. The assurance statement can be obtained on page 122 of our 2019 Sustainability Report attached.

C9. Additional metrics	Other, please specify Total energy used in million GJ	● ISAE3000 ● ISAE 3410	As part of our 2019 sustainability reporting process, Limited assurance was undertaken on our total energy used (GJ). Assurance on this metrics is undertaken on an annual basis due to its materiality for our operations. The assurance statement can be obtained on page 122 of our 2019 Sustainability Report attached.

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.

South Africa carbon tax

C11.1c

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

South Africa carbon tax

Period start date

June 1, 2019

Period end date

December 31, 2022

% of total Scope 1 emissions covered by tax

56

Total cost of tax paid

11,500,000

Comment

The Carbon Tax of South Africa is being implemented in phases, with 1 June 2019 to the end of 2020 marking the first phase. The second phase is set to begin from 2023 - 2030. The initial tax rate is set at R120/ tonne of CO2-equivalent, the carbon tax law allows for various allowances, with taxpayers eligible for allowances on up to 95% of their emissions. In this first phase there was no impact on the price of electricity. A tax rate of R120 per tonne of carbon dioxide equivalent from fuel and coal use was.

Allowable tax breaks reduced the effective rate to R48 per tonne of CO2. Kumba paid tax on the price at the pump which was equivalent to 10c/litre for diesel and 9c/litre for petrol. The potential carbon tax liability and carbon tax calculations are assessed in budget guidance and project evaluations.

In 2019, Kumba paid R11.5 million in carbon tax. It is estimated that the tax for 2020 will be around R20.4 million.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

The South African carbon tax which came into effect on June 2019. In South Africa, carbon tax is proposed an initial rate of R120/tonne CO2e, with 10% per annum escalation up until 2022 with a 60% basic tax free threshold initially that will be phased out over time. The South African Carbon Tax Act allows for the use of domestic offset credits against 10% of tax exposure. Kumba is evaluating options to source cost-effective carbon credits. This presents opportunities to mitigate risk (reduce our carbon tax liability) but also to potentially generate an additional income stream. A validation process is underway to enable Kumba to secure carbon credits for the Kathu solar park project. Moreover, Kumba we have already started preparing by implementing carbon reduction emissions and incorporated the impacts of the upcoming South African carbon tax into business decisions and financial plans through the integration of Anglo American's internal carbon price in financial models to assess the impact the carbon tax and emission reduction opportunities may have on the viability of projects. Kumba has also implemented the Anglo American energy and carbon management (ECO2MAN) programme at our operations since 2011. The ECO2MAN programme is centred on site level energy and GHG emissions reduction. In addition, and we have set a GHG emissions reduction target of 10.7% and energy reduction target of 11.7% for 2020. This ensures Kumba's preparedness for the risk and opportunities faced by carbon tax.

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

Anglo American's board supports the use of internal carbon pricing instruments as part of the "Aiming for A" initiative. Kumba has integrated the internal carbon price in financial models to access the impacts of carbon tax.

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

120

Variance of price(s) used

The price will vary as carbon tax systems evolve. The carbon tax rate will increase as the amount of consumer price inflation plus two percent annually from the launch year of 2019 until 2022. After 2022, only inflationary adjustments are envisioned.

Type of internal carbon price

Implicit price

Impact & implication

Anglo American's board supports the "Aiming for A" initiative and is thus in full support of the use of fair and well-designed market-based instruments, such as carbon pricing. As such Kumba has incorporated the impacts of the South African carbon tax into business decisions and financial plans. As a strategic initiative, Kumba has integrated an internal carbon price in financial models to assess the impact the carbon tax and emission reduction opportunities may have on the viability of projects. This ensures Kumba's preparedness for the risk and opportunities faced by such a tax.
The Carbon Tax of South Africa is being implemented in phases, with 1 June 2019 to the end of 2020 marking the first phase. The second phase is set to begin from 2023 - 2030. The initial tax rate is set at R120/ tonne of CO2-equivalent, the carbon tax law allows for various allowances, with taxpayers eligible for allowances on up to 95% of their emissions. In this first phase there was no impact on the price of electricity. A tax rate of R120 per tonne of carbon dioxide equivalent from fuel and coal use was. Allowable tax breaks reduced the effective rate to R48 per tonne of CO2. Kumba paid

tax on the price at the pump which was equivalent to 10c/litre for diesel and 9c/litre for petrol. The potential carbon tax liability and carbon tax calculations are assessed in budget guidance and project evaluations. In 2019, Kumba paid R11.5 million in carbon tax. It is estimated that the tax for 2020 will be around R20.4 million. Linked to Anglo American's support for the 'Aiming for A' initiative, Kumba also uses scenario planning to inform our view on climate and energy risks and opportunities, and continue to evaluate any future investments with climate risks in mind, including carbon pricing.

C12. Engagement

C12.1

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

Yes, our suppliers

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)

% of supplier-related Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

As Kumba, we aim to ensure that the goods and services we procure do not cause harm to individuals or the environment. At a minimum, we expect suppliers to demonstrate compliance with all local laws and regulations, as well as good practices, in all areas, including climate change. Our approach is guided by the Anglo American Responsible Sourcing Standards for Suppliers and various supporting policies. Based on a risk ranking, In the past years we have asked our most material suppliers to complete a self-assessment questionnaire, which includes questions on each supplier's environmental

performance, climate change risks, GHG data, air- quality management, and GHG-reduction strategies.

Impact of engagement, including measures of success

In 2019 we sent a questionnaire to our suppliers in efforts to further understand what various risks and opportunities our suppliers deal with. This was specifically in relation to climate change and water. Currently, we may assess how suppliers adhere to our supplier code through requesting proof of statements where suppliers have demonstrated that they follow the code. In addition, we may also conduct site visits and audits to verify whether suppliers are compliant. Should a supplier fail to meet the standard, corrective actions need to be implemented. Kumba can also terminate contracts of suppliers who do not comply with the standards or any legislated requirements.. Examples of successful measures to work with our supply chain to reduce direct and indirect risks include, shifting a fuel contract from one supplier to another. This decision was driven by several considerations, one being that the new fuel includes an additive that improves fuel efficiency and reduces related GHG emissions. We require that service providers transporting employees meet requirements regarding the specification, operation and maintenance of buses. This requirement incorporates efficiency targets (with emissions benefits) in addition to the primary safety objectives. We work with suppliers to source more efficient products that minimise operating costs and reduce GHG and other emissions.

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.

C12.3

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

Direct engagement with policy makers
Trade associations
Funding research organizations

C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Carbon tax	Support with major exceptions	Kumba participates in various policy discussions partnering to climate change and climate change readiness. This is facilitated through Anglo American's membership of Business Unity South Africa, the Energy Intensive User Group and the Industry Task Team on Climate Change (ITTCC). The South African government has approved the Carbon tax which was effective from June 1, 2019. Anglo American plc Group in association with Kumba have previously engaged on regulations related to this tax. The Carbon tax has implications on our profitability and investment decisions	Kumba's proposed solution is to work with government to create policy environments that support long-term investment in mining, which in-turn sustains jobs, stimulates economic growth and extends the future tax base. Kumba hopes to see a transparent approach to the benchmarking index used to determine a carbon tax.

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

Mineral Council of South Africa (previously Chamber of Mines)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The Mineral Council of South Africa is a mining industry employers' organisation established to support and promote African mining sector. Kumba's CEO is a council member of the Mineral Council of South Africa , which holds a range of positions on carbon policy issues. In general, the Mineral 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 Mineral Council of South Africa was not supportive of the carbon tax as proposed.

How have you influenced, or are you attempting to influence their position?

Kumba provided commentary into the process and is supportive of carbon mitigation mechanisms in a way that does not compromise socio-economic imperatives. Through this, Kumba emphasises the importance of a policy environment that supports long-term investment in mining, in turn sustains jobs, stimulates economic growth and maintains industry competitiveness. Kumba's Group Environmental Manager was a member of the Minerals Council's Environmental Policy Committee in 2016, which deals with environmental policy issues, including climate change issues. Kumba will continue to engage proactively and constructively on climate change issues with investors and proactively and constructively on climate change issues with investors and other stakeholders.

C12.3d

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

No

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?

Climate change is integrated across all Kumba's operations and functions through the recognition thereof in all relevant strategies and business considerations. The Kumba Board has an oversight role on climate change while the operational control thereof lies with the CEO. The CEO directly influences industry bodies on climate change issues through its direct involvement with the Mineral Council of South Africa. Anglo American's policy and position on climate change is approved by the General Management Committee and the Board Sustainability Committee. As such, Kumba is responsible for ensuring that direct and indirect activities are consistent with the Group climate change policy and position. Anglo American established a Climate Change Adaptation Steering Committee at group level, of which Kumba is a member. By participating in this steering committee, Kumba ensures that climate change policies remain consistent with Kumba's overall climate change strategy and throughout the Anglo American group of companies. Through this steering committee Kumba ensures alignment of all its engagements with the overall climate change strategy of the business. The group's adaptation programme facilitates understanding and responses to the most significant physical climate-change risks. Sishen and Kolomela conducted a climate risk assessment in 2017/2018 study aimed at providing a better understanding of the risk that climate change might pose for our operations and help us to plan for different scenarios and reviewing existing

control measures. Key findings and recommended responses from the study area included the following:

· rising temperatures – further investigate the impacts on occupational health and the operation of equipment, with the aim of developing additional actions and controls;
· intense rainfall and more frequent major floods – further investigate the adequacy of controls to prevent and mitigate water accumulation in operating areas, and address slope stability and tailings dam failure;
· increased frequency of drought – assess the impact of a lower water table on mine operations, external stakeholders and the environment, with special consideration of the water demands for dust suppression and mine rehabilitation; and
· more extreme storms, rainfall, winds and lightning – evaluate and enhance current controls, with special consideration of the resultant increase in work interruptions

The use of climate risk assessments and scenario planning help inform Kumba's climate change strategy and implement recommendations of the TFCD. Moreover ,at the end of 2019 Kumba updated its risk bowties to reflect impacts of climate change on operations.

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

Kumba Iron Ore Sustainability-report-2019 Final.pdf

Page/Section reference

20-28,86-91

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

C15. 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.

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Executive Head :Safety and Sustainable Development Board/Executive board	Board/Executive board

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

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I have read and accept the applicable Terms