# Module: Introduction

## Page: Introduction

### CC0.1

**Introduction**
Please 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. It is the fifth largest supplier of seaborne iron ore in the world, exporting more than 37 million tonnes per annum to steelmakers in Europe, the Middle-East and Asia. It also supplies 4 million tonnes to the local market.

The company has three mining operations, namely Sishen mine (Lat:-27.726270; Long: 23.008728), Thabazimbi Mine (Lat: -24.595456; Long: 27.404512) and Kolomela Mine (Lat:-28.381872; Long: 22.964944). Both Sishen and Kolomela are long-life operations with current life of mine estimates of 19 and 25 years respectively. Kumba has a 73.9% interest in Sishen Iron Ore Company Proprietary Limited (SIOC), an entity which Kumba manages. SIOC, in turn, owns the operating assets of the company. The remaining 26.1% interest in SIOC is held by black economic empowerment (BEE) shareholders. In November 2013 SIOC signed an agreement with ArcelorMittal SA that will allow the Thabazimbi Mine the opportunity to extend its life of mine beyond 2023.

At the end of 2013, the group reported total attributable Ore Reserves of 1.07 billion tonnes and attributable Mineral Resources of 1.2 billion tonnes. Kumba's strategy for growth comprises two parts. First, in South Africa, we aim to leverage our current mining right holdings and existing infrastructure to develop a project pipeline that enables optimal levels of production. In addition we also need to grow to meet the requirements of the market. While this strategy remains intact, there has been a reprioritisation in the phasing of projects and specific deliverables of various components of this pipeline. Second, in partnership with Anglo American plc, Kumba is continuing with exploration for potential expansion into west and central Africa to develop a second footprint.

Kumba has been participating in the CDP since 2008. The annual reports are available at http://www.angloamericankumba.com/investor_fin_reports.php

### CC0.2

**Reporting Year**
Please state the start and end date of the year for which you are reporting data.
The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.
We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.
Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

| Enter Periods that will be disclosed |
| --- |
| Tue 01 Jan 2013 - Tue 31 Dec 2013 |

**CC0.3**

**Country list configuration**

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

| Select country |
| --- |
| South Africa |

**CC0.4**

**Currency selection**

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

ZAR (R)

## CC0.6

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

## Further Information

# Module: Management

## Page: CC1. Governance

## CC1.1

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

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

## CC1.1a

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

The Kumba board has overall responsibility for the sustainability of the business with the ultimate responsibility resting with the CEO, Norman Mbazima. The Social and Ethics Committee, which is now a statutory committee, is responsible for dealing with all matters that are broadly referred to as sustainable development within the company. This includes a focus on Anglo core values which include climate change, energy and footprint management as part of the underlying ethos.
This committee is chaired by Ms Dolly Mokgatle, a member of the board of directors. The Kumba Energy and Climate champion in 2013 was the Executive Head of Technical Services, Billy Mawasha. He is a member of the Executive committee appointed by the Board. The Executive Head of Technical Services' responsibility is to ensure that the Mines' General Managers, as energy champions of their operations, are fully supported by the Kumba technical support team, the Anglo American

group and the environmental steering committee in the identification, evaluation and implementation of climate related projects.

## CC1.2

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

Yes

## CC1.2a

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

| Who is entitled to benefit from these incentives? | The type of incentives | Incentivized performance indicator |
|---|---|---|
| Board/Executive board | Monetary reward | The company has an emission reduction target set against the business as usual baseline. This forms part of the Corporate Executives performance contract. The Chief Executives performance targets have a 25% weighting towards personal Key Performance Assessments that included strategic targets, people targets and energy and water savings targets. |
| Management group | Monetary reward | Senior Management is incentivised to ensure that technical and regulatory support is given to the energy reduction implementation teams. This contributes a defined percentage to their overall performance in their contract. |
| Energy managers | Monetary reward | Energy management teams are incentivised to ensure that energy reduction projects are completed to meet energy reduction strategies. |
| All employees | Monetary reward | Kumba has initiated the the Laurel Awards to celebrate the outstanding achievements of individuals and teams who are helping deliver strategic priorities. The awards recognise exceptional effort in five categories: safety, sustainable development, partnership, innovation and the achiever category. Employees are nominated by peers and receive recognition based on the nomination. This is in the form of monetary reward or peer recognition. |

## Further Information

# Page: CC2. Strategy

## CC2.1

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

Integrated into multi-disciplinary company wide risk management processes

## CC2.1a

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

| Frequency of monitoring | To whom are results reported | Geographical areas considered | How far into the future are risks considered? | Comment |
|---|---|---|---|---|
| Six-monthly or more frequently | Individual/Sub-set of the Board or committee appointed by the Board | South Africa, Asia, Europe, Middle East and global shipping areas. | > 6 years | The management of climate change related risks and opportunities remains a priority for Kumba, particularly in light of the changing and unpredictable environment we work in, as this will ensure that we adapt and improve our planning process, and performance, in a more proactive manner. Risk, the likelihood of experiencing loss, injury or damage, will always exist in any industrial environment, including mining. Specific risks may not be accurately predictable or entirely avoidable, but their incidence may be minimised and their outcomes mitigated. Our approach is to anticipate risks to the fullest extent possible by achieving the right balance between identifying and understanding our key risks, allocating the right levels of resources to manage them, and aligning the risks we take and manage towards the achievement of business strategies and objectives, thereby achieving a competitive advantage. |

## CC2.1b

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

Our risk-assessment process is carried out through a structured risk management framework and methodology that is used to identify key risks at group business units (company), operations (assets) and projects. The risk management process includes risk workshops at least once a year at business units and sites, and at crucial stages of every project. A board risk workshop is also held annually to provide a top-down view of risks and align this to management views, taking into account internal and external factors.

A prioritised register of risks is drawn up from each assessment process. Records of risks assessments are maintained that form the basis for our reporting protocols. In line with our policies and methodology, our risks are then rated in order of importance, while on-going monitoring and escalation of key risks become more robust with greater clarity and enhanced consistency across all functions.
Enhanced reporting to the executive management team and to the board has become increasingly important and plays a major role in decision making across the organisation.

We also understand the careful balance between risks and opportunities, and try to use our management of risks to find insight into opportunities that allow us to develop as a company and achieve our strategic objectives. When considering opportunities, we look not only at current opportunities but also at future ones that can help strengthen our strategy in years to come.

**CC2.1c**

**How do you prioritize the risks and opportunities identified?**

Our risk management process follows five methodical and integrated steps:
1. Identifying principal risks and opportunities that significantly affect achievement of the company's strategic objectives
2. Assessing the likelihood of risks and opportunities materialising
3. Ensuring that appropriate controls and responses are in place to mitigate the risks and to manage identified opportunities
4. Regularly analysing and monitoring the effectiveness of our current controls and introducing improvements
5. Regular and timely reporting to Exco, the risk committee and the board

To determine the priorities of climate change related risks Kumba follows the procedure of identifying the nature of the risk such as an event risk and describing this risk. A climate change related risk example would be a pit wall collapse due to extreme rainfall caused by an increase in extreme weather events as outlined in the IPCC's 5th Working Group Assessment released in March 2014.
Kumba would assess the impact of the risk such as not being able to mine and hence impacts on our ability to serve our customers. Together with the impact an assessment of the likelihood of the event occurring is documented.
Once the impact and likelihood are captured the risk team will develop a mitigation plan dependent on the ranking of the risk. Mitigation plans may vary from business-interruption insurance to pit wall redesign depending on the priority.
This climate related risk is continuously monitored and reported by capturing on-site data of rainfall and resulting work stoppages due to increased rainfall.

## CC2.1d

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

| Main reason for not having a process | Do you plan to introduce a process? | Comment |
|---|---|---|

## CC2.2

**Is climate change integrated into your business strategy?**

Yes

## CC2.2a

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

(i) Kumba engaged with climate change research teams, both in the private sector and with academic institutions, to understand the effect that climate change could have on its operations and its business. This process helped inform the company of climate related issues that could affect its business and growth strategy.

(ii) Kumba's mission is to supply high-quality iron ore to a global market, while creating value for all our stakeholders. Our strategy has seven measures of value:

Safety and health;
Our people;
Corporate Governance;
Footprint Management;
Corporate Social Investment;
Innovation research and
Production and Sales.

All of these measures of value have been influenced by climate change through physical and regulatory impacts. The impacts of climate change on these measures

are:
Safety and health – Physical climate change impacting employee safety and health;
Our People – Response to policy can impact reputation and hence affect the retention of top talent;
Corporate Governance – This is impacted by regulatory developments such as mandatory greenhouse gas reporting and mitigation action plans;
Footprint Management – Kumba understands that climate change is having an impact globally and subscribes to reducing emissions as much as possible to avoid the on-going increase in global CO2 emissions;
Corporate Social Investment – Kumba acknowledges that climate change can amplify the existing vulnerabilities that exist in the communities in which it operates. Corporate social investment is aimed at improving the resilience of these communities and implementing adaptation projects, such as the Rekgarathile hydroponic vegetable farm and the Thabazimbi vegetable farm, to further enhance this resilience;
Innovation & Research - Through innovation and research Kumba is able to inform customers and create awareness of the carbon emissions of its downstream processes. Kumba does this through research into sintering, pelletising, agglomeration, blending and evaluation of raw materials. Customers of Kumba are informed of this research to help them make informed process optimisation decisions to mitigate a portion of their emissions.
Production and Sales – Production can be impacted by physical climate events and as such procedures are in place to mitigate the impact of these events. Kumba operates in a market that is continually moving towards pricing carbon into the economy. As such Kumba maintains a view on these climate change related developments and incorporates them into our strategy.

(iii) Kumba continues to manage the short term strategy and the risks associated with climate change in a phased approach. In the short term (next 3-5 years), Kumba continues to focus on implementing and improving energy, greenhouse gas and water management through the ECO2MAN and WETT processes. ECO2MAN is an energy and CO2e management system that determines carbon and energy performance management standards with regards to measuring, monitoring, reporting and target setting and assists in managing the targets. WETT is a Water Efficiency Target Tool. The short term business strategy of Kumba is therefore directly linked to achieving the emission reduction targets. Hand in hand with ECO2MAN is WETT that is used to improve the mining site's management of water that will make the company more resilient to the risks associated with water withdrawal volumes, one of the effects of climate change. Kumba continues to use a carbon price model when new projects are planned and evaluated to ensure that the cost of carbon influences business decisions. Key elements of the approach to addressing climate change-related issues during this period will be:

Factoring of climate adaptation measures and costs into business plans.
Formation of low-carbon technology partnerships with key stakeholders (IDC and Government) and acting as industry partner to university research projects.
Implementation of carbon offset projects. These are projects such as the bamboo plantation and the camel thorn preservation project aimed at creating an offset area to preserve the trees.
Investing in energy efficiency and carbon savings projects.

(iv) Kumba's long term strategy (from a 5 year plus horizon) is to ensure a resilience to supply of utilities, commodities and operational interruptions due to climate related events.
Kumba has embarked on a strategy to develop greenfields projects in central and West Africa. A consequence of this greenfields expansion is that Kumba will diversify the risk that its operations face from extreme weather events. In future a catastrophe at Saldanha would not impact West African operations.

(v) Kumba believes that a well-conceived and executed environmental strategy, effectively integrating climate change, provides a competitive advantage. Kumba ensures its competitive advantage in a carbon constrained world by incorporating:

Energy efficiency in mining (through its ECO2MAN programme). This programme has developed a 2015 target reduction in CO2e emissions translated into annual targeted emission reductions;
Optimising product mix. Iron ore with a lower carbon lifecycle footprint will be a competitive advantage as consumers become more aware of climate change and its impacts. Emission reduction activities also result in savings in energy cost, thus lowering the cost of production. Kumba has recently been able to offer our clients a

lump ore to fine ore ratio of 67:33. This increases the efficiency of the steelmaking process and hence could reduce the emissions of our clients.

(vi) Kumba has integrated emission reduction targets into its strategy measure to manage our footprint. The impending carbon tax has driven this decision to reduce exposure to carbon tax liability that Kumba may face. Kumba has a dedicated focus to increase and replenish its mineral resource portfolio through the exploration for greenfield deposits in prospective mineral belts such as west and central Africa. This will diversify potential exposure to climate change extreme events that could disrupt the entire supply chain in South Africa and diversify the portfolio to areas that would have different climate change impacts and timing of those impacts.

## CC2.2b

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

## CC2.3

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

Direct engagement with policy makers
Trade associations
Funding research organizations

## CC2.3a

**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 works through Anglo American to negotiate at the ITTCC (Industry Task Team on Climate Change) on its behalf regarding carbon tax in South Africa. | Kumba would like to see a transparent approach to the benchmarking index used to determine a carbon tax. |
| Mandatory | Support with | Currently the proposed structure for benchmarking is unclear so | The results of the study will enable the Carbon Tax |

| Focus of legislation | Corporate Position | Details of engagement | Proposed legislative solution |
|---|---|---|---|
| carbon reporting | minor exceptions | Kumba is supporting a move to get a better understanding of benchmarking. Kumba funded a study to determine the impacts of benchmarking in the mining industry. | benchmarking portion to be better understood and applied in the South African Carbon Tax regulations. |

**CC2.3b**

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

Yes

**CC2.3c**

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

| Trade association | Is your position on climate change consistent with theirs? | Please explain the trade association's position | How have you, or are you attempting to, influence the position? |
|---|---|---|---|
| Chamber of Mines | Consistent | The Chamber of Mines is an industry organisation established to examine policy issues in the mining sector. The most significant climate policy affecting Kumba's business is the impending South African carbon tax. The imposition of this tax has been delayed to 2016 allowing adequate time to: • Align the tax with the country's proposed desired emission reduction outcomes; and • Ensure adequate time for consultation on draft legislation. The Chamber of Mines understands the need to implement a carbon tax to reduce the country's carbon footprint. However, it has said that the method of taxation should balance the country's tax needs with industry's need to remain competitive. In a statement released after the 2014 budget speech, the Chamber said that it 'looks forward to the opportunity of making further inputs during the second round of public comment and | Kumba supports and endorses the Chamber of Mines of South Africa, the principal advocacy organisation for policy positions affecting employers in the mining industry. Kumba's CEO, Norman Mbazima, is a member of the Council of the Chamber while our non-executive director, Khanyisile Kweyama, serves as the council's vice president. |

| Trade association | Is your position on climate change consistent with theirs? | Please explain the trade association's position | How have you, or are you attempting to, influence the position? |
|---|---|---|---|
| | | consultation on the issue of carbon taxes'. | |

**CC2.3d**

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

No

**CC2.3e**

**Do you fund any research organizations to produce or disseminate public work on climate change?**

Yes

**CC2.3f**

**Please describe the work and how it aligns with your own strategy on climate change**

Kumba funded research into the pilot testing of the WRI's GHG Protocol Mitigation Goals Accounting and Reporting Standard as well as the GHG Protocol Policy and Action Accounting and Reporting Standard. This funding was provided to build capacity in understanding the effects that national and company greenhouse gas policies could have on a company's emissions. By testing the goals and reporting standard the company was able to gain a better understanding of the link between national targets and company targets and how these could be linked to the targets set by Kumba.

**CC2.3g**

**Please provide details of the other engagement activities that you undertake**

## CC2.3h

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

ADDRESSING CLIMATE CHANGE
Kumba has considered the potential impacts of climate change on the integrity and performance of our current and future operations. In 2012, Anglo American, Kumba's major shareholder, established a Climate Change Adaptation Steering Committee at group level, of which Kumba is an active member. The development of an adaptation strategy, specifying risks and associated mitigation plans continued during 2013 with completion expected during 2014. Temperature, rainfall and potential evaporation are all projected to increase in the Northern Cape (Sishen and Kolomela mines) region. Rainwater reclamation might be a viable adaptation strategy. To reduce our impact on climate change, Kumba is also exploring renewable energy alternatives. 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. Kumba participates in policy discussions through its membership of Business Unity South Africa (BUSA), the Energy Intensive User Group (EIUG) and the Industry Task Team on Climate Change (ITTCC).

## CC2.3i

**Please explain why you do not engage with policy makers**

## Further Information

# Page: CC3. Targets and Initiatives

## CC3.1

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

Absolute target

## CC3.1a

**Please provide details of your absolute target**

| ID | Scope | % of emissions in scope | % reduction from base year | Base year | Base year emissions (metric tonnes CO2e) | Target year | Comment |
|---|---|---|---|---|---|---|---|
| Abs1 | Scope 1+2 | 100% | 3.6% | 2013 | 1127682 | 2013 | A Business-As-Usual (BAU) baseline projection has been established based on energy consumption/carbon emissions from 2011 to 2020. This takes into consideration factors such as life-of-mine plans and growth projects. Every year Kumba sets a BAU baseline based on the current mining conditions and calculates performance against the target. In 2013 the target was 40,596 tCO2e (3.6%) out of a BAU forecast of 1.13 MtCO2e. |

## CC3.1b

**Please provide details of your intensity target**

| ID | Scope | % of emissions in scope | % reduction from base year | Metric | Base year | Normalized base year emissions | Target year | Comment |
|---|---|---|---|---|---|---|---|---|

## CC3.1c

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

| ID | Direction of change anticipated in absolute Scope 1+2 emissions at target completion? | % change anticipated in absolute Scope 1+2 emissions | Direction of change anticipated in absolute Scope 3 emissions at target completion? | % change anticipated in absolute Scope 3 emissions | Comment |
|---|---|---|---|---|---|

## CC3.1d

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

| ID | % complete (time) | % complete (emissions) | Comment |
|---|---|---|---|
| Abs1 | 100% | 75% | The projected BAU baseline has been calculated from 2011 to 2020 taking into consideration factors such as LoM plans and growth projects. The BAU projection assumes no energy efficiency improvements and is baselined against projected production metrics. The target is then converted into an absolute target on an annual basis. The targeted emission reductions were not achieved because some projects were commissioned later than anticipated and planned emission reduction savings were overestimated. |

## CC3.1e

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

## CC3.2

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

Yes

## CC3.2a

**Please provide details of how the use of your goods and/or services directly enable GHG emissions to be avoided by a third party**

(i) The Kumba Value-in-Use department continuously researches methods to assist the steel making process and reduce emissions as a result of using Kumba's product. Kumba has recently increased the lump ore to fine ore ratio to 63:37. This reduces the amount of sintering required on the product and hence reduces the scope 1 emissions associated with sintering Kumba's product.

(ii) Sintering contributes approximately 4% of the emissions associated with the steelmaking process. By reducing the fines portion from 40% to 37% Kumba has able to avoid approximately 250,000 tCO2e emissions from its customers during 2013.

(iii) The methodology used to calculate these avoided emissions was based on the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 3, Chapter 4: Metal Industry Emissions. The methane GWP of 25 was used as per IPCC 4th assessment.

(iv) CERs or ERUs are not considered by Kumba because emission savings are achieved and owned by a third party.

## CC3.3

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

Yes

## CC3.3a

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

| Stage of development | Number of projects | Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *) |
|---|---|---|
| Under investigation | 44 | |
| To be implemented* | 31 | 7817 |
| Implementation commenced* | 12 | 815 |
| Implemented* | 43 | 30574 |
| Not to be implemented | 14 | |

**CC3.3b**

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

| Activity type | Description of activity | Estimated annual CO2e savings (metric tonnes CO2e) | Annual monetary savings (unit currency - as specified in CC0.4) | Investment required (unit currency - as specified in CC0.4) | Payback period | Estimated lifetime of the initiative, years | Comment |
|---|---|---|---|---|---|---|---|
| Transportation: fleet | Diesel energy efficiency management (DEEMS): This is an ongoing project that monitors haul truck fuel efficiency and continuously tracks the results of operational interventions to reduce Scope 1 emissions. This is through the use on-board diagnostic monitoring systems. These interventions are voluntary interventions to reduce the overall scope 1 emissions of the fleet. | 2050 | 8000000 | 4000000 | <1 year | This is an ongoing initiative that results in savings every year. The magnitude of the savings is dependent on recorded savings that are verified. | The annual monetary savings have been calculated on a levelised diesel price of R12 to the litre. Savings related to improved wear and tear and servicing intervals have not been incorporated into this calculation. |
| Energy efficiency: Processes | Spray Water: This project was commissioned to control the spray water on the coarse and fine lines through a gravity feed. This was implemented voluntarily to reduce Scope 2 emissions. | 4546 | 3400000 | 80000 | <1 year | The project is expected to last for the life of the plant. | This programme was made up of 2 projects and was implemented as a result of improved reporting and idea sharing platforms. |
| Energy efficiency: Building services | Solar Geysers: Kumba installed Solar geysers on change houses, mine houses and hostels. This programme was run voluntarily to reduce scope 2 emissions. | 3491 | 2029000 | 28000000 | 11-15 years | The expected lifetime of the project is the lifetime of the solar water geysers, which is on average | This programme consisted of 4 different projects that covered Sishen and Kolomela. |

| Activity type | Description of activity | Estimated annual CO2e savings (metric tonnes CO2e) | Annual monetary savings (unit currency - as specified in CC0.4) | Investment required (unit currency - as specified in CC0.4) | Payback period | Estimated lifetime of the initiative, years | Comment |
|---|---|---|---|---|---|---|---|
| | | | | | | 6-10 years. | |
| Energy efficiency: Building services | Energy Efficient Lighting: Installation of LED lights throughout workshops and offices. This programme was voluntarily completed by Kumba to reduce scope 2 emissions. | 25 | 14000 | 28000 | 1-3 years | LED lights should last for over 20,000 hours. Based on an 8 hour occupation in offices this could extend to 10 years. | The building services energy efficiency programme consisted of 9 projects to reduce scope 2 emissions and covered Sishen, Kolomela and Thabazimbi. |
| Energy efficiency: Processes | Sishen Mine: Optimisation of quaternary crusher operation with variation in feed stockpile levels. This project was done voluntarily to reduce scope 2 emissions as a result of increased collaboration between operators, managers and consultants. | 585 | 525000 | 0 | <1 year | This intervention has been captured in Standard Operating Procedures so this practice will continue for the life of plant. | Kumba has the internal Laurel Awards acknowledging teamwork and idea sharing. The quaternary screen project was nominated for the collaboration shown between all parties involved. |
| Transportation: fleet | Haul truck replacement Thabazimbi. Older haul trucks were replaced with newer, larger; more fuel efficient trucks to reduce scope 1 diesel emissions. This was a voluntary procurement with the objective of reducing overall fleet emissions and emissions per tonne of ore moved. | 150 | 672000 | 150000000 | 4-10 years | The machinery is expected to last for more than 10 years. | The CO2e savings due to fleet replacement were not the only driver for the purchase but formed part of a comprehensive business case approach adopted by Kumba that incorporates emissions savings into business case reviews. |
| Energy efficiency: Processes | Kumba continues to implement energy efficiency technology wherever possible. (i) Compressed air leak detection. This is an ongoing project to reduce the amount of | 168 | 130400 | 0 | <1 year | This is an ongoing project that will last the lifetime of the plant. | This project forms part of a programme covering the various aspects of energy efficiency within the plant. |

| Activity type | Description of activity | Estimated annual CO2e savings (metric tonnes CO2e) | Annual monetary savings (unit currency - as specified in CC0.4) | Investment required (unit currency - as specified in CC0.4) | Payback period | Estimated lifetime of the initiative, years | Comment |
|---|---|---|---|---|---|---|---|
| | compressed air leaks throughout the plant. This voluntary programme reduces the overall scope 2 emissions of the plants. | | | | | | |
| Energy efficiency: Processes | Together with the focus on energy efficiency technology and interventions Kumba conducts a process of continuous improvement of processes to reduce overall electricity consumption and hence scope 2 emissions. In 2013 this programme resulted in savings from the optimisation of the process module operation. This intervention was not mandatory and done voluntarily to reduce scope 2 emissions. | 765 | 800000 | 0 | <1 year | These interventions have been captured in Standard Operating Procedures so this practice will continue for the life of plant. | This project was part of 3 initiatives all involving process control optimisation. There was no direct cost involved as it formed part of ongoing efficiency improvement activities by employees. |
| Energy efficiency: Processes | Kumba has realised the opportunity latent in the management of water and pumping. Part of this focus resulted in a project that reduced the power requirements for the water supply for the direct reduction/ direct reduction shipping plants. This voluntary action reduces the scope 2 emissions of the group. | 44 | 1500000 | 17000000 | 4-10 years | These interventions will remain in place for the life of plant. | During 2013 our water-management initiatives gave rise to water savings of 7.7 million $m^3$, against our water savings target of 2.5 million $m^3$. |
| Energy efficiency: Processes | Energy efficiency presents opportunity for immediate savings. In 2013 Kumba optimised conveyor belt control to stop them running empty at jig dewatering bunkers. | 390 | 207000 | 0 | <1 year | This intervention has been captured in Standard Operating Procedures so this | This project was part of 3 initiatives all involving process control optimisation. There was no direct cost involved as it |

| Activity type | Description of activity | Estimated annual CO2e savings (metric tonnes CO2e) | Annual monetary savings (unit currency - as specified in CC0.4) | Investment required (unit currency - as specified in CC0.4) | Payback period | Estimated lifetime of the initiative, years | Comment |
|---|---|---|---|---|---|---|---|
| | This voluntary action reduced scope 2 emissions. | | | | | practice will continue for the life of plant | formed part of ongoing efficiency improvement activities by employees. |
| Other | Kumba expanded the hot seat swapping process to the Thabazimbi mine to reduce fuel consumption during shift change. Instead of trucks having to go to designated shift change areas drivers are now taken to the trucks. This reduces the direct scope 1 emissions from haul trucks. | 20 | 80000 | 0 | <1 year | This intervention will remain in place for the life of mine. | |
| Behavioral change | Kumba continued to implement measures for optimised lighting control throughout its operations. These voluntary interventions resulted in savings of scope 2 indirect emissions. | 189 | 100000 | 0 | <1 year | These interventions will remain in place for the life of plant. | |
| Energy efficiency: Processes | In 2013 Kumba optimised the quarternary screening house control systems. These voluntary interventions resulted in savings on scope 2 indirect emissions. | 780 | 400000 | 0 | <1 year | This intervention has been captured in Standard Operating Procedures so this practice will continue for the life of plant. | This project was part of 3 initiatives all involving process control optimisation. There was no direct cost involved as it formed part of ongoing efficiency improvement activities by employees. |
| Transportation: fleet | Load delivery vehicle replacement. Kumba realised the potential for fuel savings by updating its LDV fleet. As a result fuel savings were achieved with newer vehicles. This voluntary | 429 | 1800000 | 160000000 | >25 years | This initiative has been in place since 2011 and is ongoing to ensure that the fleet is using the | |

| Activity type | Description of activity | Estimated annual CO2e savings (metric tonnes CO2e) | Annual monetary savings (unit currency - as specified in CC0.4) | Investment required (unit currency - as specified in CC0.4) | Payback period | Estimated lifetime of the initiative, years | Comment |
|---|---|---|---|---|---|---|---|
| | action resulted in savings on scope 1 direct emissions. | | | | | most efficient vehicles available. | |

**CC3.3c**

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

| Method | Comment |
|---|---|
| Financial optimization calculations | The cost of carbon is included in optimisation models to assess the impacts of carbon tax and emission reduction opportunities on projects. |
| Internal price of carbon | Carbon price forecasts are used in all financial models when projects are assessed for financial viability. |
| Employee engagement | Use of ECO2MAN methodology as outlined in Group Technical Standard 23 to allocate roles and resources to monitor and track energy and efficiency initiatives within the organisation. |

**CC3.3d**

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

**Further Information**

For the calculation of savings a normalised cost of electricity and diesel was used across the projects.

## Page: CC4. Communication

**CC4.1**

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

| Publication | Page/Section reference | Attach the document |
|---|---|---|
| In mainstream financial reports (complete) | Sustainable Development Report 2013 ; Pages 84-97 | https://www.cdp.net/sites/2014/50/10350/Investor CDP 2014/Shared Documents/Attachments/CC4.1/Q4.1 Kumba SD Report 2013.pdf |
| In mainstream financial reports (complete) | Integrated Report 2013; Page 75 | https://www.cdp.net/sites/2014/50/10350/Investor CDP 2014/Shared Documents/Attachments/CC4.1/Q4.1 Kumba Integrated Report 2013.pdf |

**Further Information**

# Module: Risks and Opportunities

## Page: CC5. Climate Change Risks

**CC5.1**

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

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

**CC5.1a**

**Please describe your risks driven by changes in regulation**

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| Carbon taxes | The South African Carbon tax is a policy to place a tax on the greenhouse gas emissions of a company. The tax is scheduled to be implemented in 2016. Although there is certainty in the implementation of the tax the risk rests in the uncertainty on how the tax on scope 2 electricity emissions will be managed. The current policy allows Eskom to pass through the taxes paid and hence does not | Increased operational cost | 1 to 3 years | Direct | Virtually certain | Low | Kumba is currently exposed to an estimated additional R24 million in tariffs with the current scope 2 tax design. This is 8% of the current electricity costs of Kumba. This will decrease headline earnings of the company. | Kumba is actively managing scope 2 emission reductions through the use of its Energy and Carbon Management Tool (ECO2MAN). This enables Kumba to monitor its emissions profile and capture the impact of projects on its scope 2 emissions. Kumba has implemented a number of energy efficiency projects to reduce its scope | The cost of implementing the energy efficiency projects is borne within the operating costs of the business. |

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | allow Kumba to access any of the relief measures available to scope 2. This will result in an increase in the tariffs paid by Kumba and hence reduce the headline earnings of Kumba. This means that Kumba would not have access to the relief measures available to offset emissions associated with electricity consumption. | | | | | | | 2 emissions to reduce this risk exposure. Kumba also participates directly in the Energy Intensive User Group (EIUG) and, through a proxy with Anglo American, in the Industry Task Team on climate Change (ITTCC). | |
| International agreements | Iron Ore is shipped in bulk to all international markets. In 2012 the International Maritime Organization (IMO) adopted new regulations to manage energy efficiency of ships. As a result, discussions have emerged as to the pricing of carbon in | Increased operational cost | 1 to 3 years | Direct | Virtually certain | Medium | The emissions associated with shipping of Kumba's ore are approximately 4 million tCO2e per annum. Assuming a tax rate of $2 per tonne of ore this could impact revenue by 1.5% based on a sales price of $133/tonne. This | The group has adopted an ocean freight management strategy that will create value and protect free-on-board margins through the use of various long-term freight instruments and potential investment through port | In 2013 Kumba increased non-current assets in Singapore to R2 million. Shipping optimisation is one of the focus areas of the Singapore office. |

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | the international shipping market. Kumba recognise this as a risk due to the possibility that a carbon price will either be imposed on them for shipping or this price will be paid by customers who in turn may want it deducted from the sales price. Kumba recognises that this development will impact on its competitive position with respect to the location of South Africa relative to the other major iron ore producing regions like Australia and its major markets like China. | | | | | | could result in a negative effect of R540 million on revenue. | stockpiles. In 2013, Kumba relocated its commercial organisation to Singapore and introduced a triangular shipping strategy to minimise the effect of dead legs in its supply chain. Triangular shipping focuses on increasing the utilisation of ships to decrease emissions associated with shipping. | |
| Cap and trade schemes | China has opened its sixth exchange for trading carbon emission permits. Companies are required to obtain | Reduced demand for goods/services | 1 to 3 years | Direct | Virtually certain | Medium-high | The expected average price for permits this year is expected to be 32 Yuan (US$ 5). For every tonne | Kumba is able to supply a high grade product with a lump-to-fine ratio and continues to | In 2013 R2 million was attributed to Research and Development costs in the |

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | permits for their emissions with each permit covering a metric tonne of carbon dioxide. Free permits are issued and then more are auctioned at a price. If a company planned to emit more tCO2e it would need to purchase a permit. Should they exceed their allowance they would pay a fine on the emissions exceeding their allowance. Industries specifically targeted in these schemes in China include power producers and steelmakers. The composition of iron ore has an affect on the amount of CO2 released when producing steel through the reduction process. If Kumba are | | | | | | of sinter supplied 1.95 tCO2e is emitted to create lump. For every 1% extra of fines supplied this could translate into a $2.5m negative impact on revenue if it is incorporated into the pricing. This means each 1% extra of fines could negatively affect revenue by 0.05%. | explore further opportunities to increase this ratio. In 2013, with better process control, Kumba was able to increase this ratio from 60:40 to 63:37 hence reducing the downstream emissions from sintering for its clients. | operating profit statement. |

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | unable to supply a high quality ore then clients may look to pass on the carbon cost of increased processing to Kumba or look for alternate suppliers. This may impact on Kumba's competitive position or operating margin. | | | | | | | | |

**CC5.1b**

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

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| Change in precipitation extremes and droughts | The recently released IPCC 5th Assessment report confirms that the science of climate change as predicted in | Inability to do business | >6 years | Direct | About as likely as not | Medium-high | A prolonged interruption affecting export sales could negatively affect revenue by R140 million per day if | Kumba has drafted and implemented water guidelines and procedures. These procedures include standards | Included in Sishen's infrastructure spend of R57 million in 2013 R19 million was spent on improving |

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | 2007 is becoming a reality. Part of this report indicates an increase in extreme weather events including rainfall. Extreme rainfall at Kumba's existing operations in the Northern Cape (Sishen and Kolomela) could result in flooding and dangerous working conditions. This results in work stoppages which could impact on annual export volumes if production is significantly affected. | | | | | | annual supply volumes are impacted. | for managing storm water and maintaining safe working conditions for 1:50 year flooding events. In 2013 Kumba used the Anglo American procedure for Climate Risk And Adaptation In Operations Recommended Practice to perform updated climate risk assessments across its operations to manage the impact of this risk. | roads and storm water drainage at Mapoteng and Olifantshoek. |
| Change in temperature extremes | Global climate change models using a worst possible scenario predict | Reduction/disruption in production capacity | >6 years | Direct | More likely than not | Medium | Fatigue could result in driver accidents causing loss of vehicles and | In 2013 Kumba's operations continued to implement interventions | There have been no project specific costs associated |

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | a possible increase in maximum temperature of over 5.5°C. Fatigue Management: Sishen and Kolomela experience generally high temperatures, up to 50°C in summer. Increasing maximum temperatures that could be attributed to climate change can significantly affect employee fatigue and hence employee safety and productivity. | | | | | | life. Vehicle damages could escalate to R30 million if a vehicle is written off as a result of an accident. | aimed at enhancing fatigue management and site-specific plans focused on people, systems and technology. Fatigue centres have been built for employees to take fatigue breaks. Risk assessments have been concluded and fatigue management plans developed. The predictive risk intelligent safety module (PRISM) has been implemented for tired drivers. | with managing this risk. The costs of implementing this programme form part of the operating expenses of the company of R24 billion per annum. |
| Change in precipitation extremes and droughts | Dust Suppression: At all operations (Northern Cape and Limpopo) prolonged dry periods caused by climate change will cause increased | Increased operational cost | 1 to 3 years | Direct | Very likely | Low | Dust suppression management could make up to 1% of the operating expenses of the group. Any initiatives to reduce the | All secondary roads, principally those in the pit, are treated with a product of blended emulsified co-polymers and ionic modifiers. This is water- | There has been no cost associated with the management of this risk. The result of mitigating this risk has resulted in |

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | dust generation from mining operations including loading and hauling. The impact of increased dust generation if no corrective action is taken lies in an increase in health hazard and environmental impact both inside and outside of the operation. The dust generation is mitigated by water spraying, which requires water, equipment and fuel. Increased dust suppression requirements leads to increased costs. | | | | | | effect of dust on operations will directly improve operating profit. Excessive dust levels could result in temporary closure of operations until dust levels are mitigated. Every day of lost production could result in lost revenue at an average of R140 million per day. | soluble and, when sprayed onto a road, forms a durable surface by binding small dust particles to form larger, heavier ones that are less prone to becoming airborne. The use of both these products has delivered water savings at Kolomela mine of 1,518,500m3 in 2013.These savings are attributable to the approximate R200 million spent on dust control throughout the business. | savings against the approximate R200 million spent on dust control throughout the business. |

**CC5.1c**

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

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated Financial Implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| Reputation | The community reputational risks associated with non-disclosure or lack of attention to climate change is significant to Kumba's business. If Kumba's response to climate change and the associated impacts on its surrounding communities within which it operates is perceived to be lacking, Kumba may lose its "licence to operate" on existing operations from surrounding communities. A loss of its 'license to operate' might result in labour strikes, but also forced discontinuation of its operations by Government. Labour strikes might result in damage to the mine property, as well as lost revenue due to the disruption. This will affect the labour as well as | Inability to do business | Up to 1 year | Direct | Unlikely | Medium | In 2012 a strike resulted in damage of R34 million to equipment. Sales volumes in Quarter 1 of 2013 were slightly affected by the strike resulting in a 2% drop in sales from the previous years quarter. | The IPCC 5th assessment report states with a high confidence that the effects of climate change on crop and food production are evident in several regions of the world. In 2013 Kumba engaged in a number of projects to increase the resilience of the surrounding communities and the environment in which it operates to climate change effects on food production: 1. The Manyeding cultivation programme teaches local communities to farm sustainably and to date has 159 beneficiaries. 2. The Thabazimbi operation now has an organic vegetable farm that is able to supply local business as well as the mine | In 2013 Kumba spent R254 million in host communities and a further R85 million on social and labour plan projects. |

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated Financial Implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | surrounding communities. | | | | | | | with produce. 3. The Kolomela Mine has funded the development of the Rekgarathile hydroponic vegetable farm to be run as a local enterprise. 4. Kumba funded the establishment of a honey bee farm to ensure the continued biodiversity of the area and produce export grade organic honey. | |
| Reputation | Over 20% of Kumba's external shareholders are signatories to the principles for responsible investment. These principles will affect the investment decisions of shareholders. If Kumba does not show leadership in environmental and social governance investors may move funds to competing companies thereby | Reduced stock price (market valuation) | 1 to 3 years | Direct | About as likely as not | Medium-high | If investors and asset managers were to move funds every 1% drop in share price will reduce the market capitalisation of Kumba by R1.2 billion. | Kumba subscribes to the following reporting guidelines: G4 Guidelines of the Global Reporting Initiative (GRI); GRI's Mining and Metals Sector Supplement; and endorses the principles of the International Council on Mining and Metals and the United Nations Global Compact. Kumba actively participates in the | 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 2013 Kumba spent approximately R500,000 on initiatives to support the CDP and WDP |

| Risk driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated Financial Implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | reducing availability of capital and share price. | | | | | | | CDP and WDP to enable its climate change responses to be presented to shareholders. In 2013 Kumba was part of the Global 500 Climate Disclosure Leadership Index. | processes. |

**CC5.1d**

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

**CC5.1e**

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

**CC5.1f**

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

**Further Information**

## Page: CC6. Climate Change Opportunities

### CC6.1

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

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

### CC6.1a

**Please describe your opportunities that are driven by changes in regulation**

| Opportunity driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| Other regulatory drivers | Carbon Offsets: The proposed South African Carbon Tax policy includes a number of relief measures for | Reduced operational costs | 3 to 6 years | Direct | Likely | Low-medium | Kumba's potential exposure to carbon tax without relief measures could be in excess of | One of the proposed types of projects that would qualify for offsets are agriculture, forestry and | In 2013 Kumba spent R100,000 on the policy research and in 2013 spent R2 million on |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | companies to access to increase their tax free threshold. The relief measures are process emissions, trade exposure, offsets and benchmarking. Carbon offsets typically involve investment in specific projects or activities that reduce, avoid, or sequester emissions. By accessing these relief measures the carbon tax exposure of Kumba could be reduced. | | | | | | R50 million per year on both Scope 1 and Scope 2 emissions. This is 0.6% more than Kumba currently contributes to the South African fiscus. Should Kumba be able to access offsets on Scope 1 emissions this would result in a reduction of R6.9 million on carbon tax. If Kumba were able to access offsets related to scope 2 emissions it could provide an additional R6 million of relief on its carbon tax. | other land use (AFOLU) projects. Kumba is actively engaging in projects that may be able to be used as offset projects to access the offset allowance in the policy. These projects include carbon sequestration projects and renewable energy projects In 2013 Kumba established an organic vegetable farm with a 2 ha bamboo plantation that has the potential to register as an offset project. | the establishment of the organic vegetable farm and bamboo plantation. |
| Carbon taxes | The Carbon Tax relief measures associated with benchmarking provide an opportunity for | Reduced operational costs | 1 to 3 years | Direct | Likely | Low | If Kumba are able to perform better than its industry peers the carbon tax liability could | In 2013 Kumba commissioned a study to evaluate the methods that could be used to determine the | In 2013 Kumba contributed R100,000 to the WRI pilot study. |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | Kumba to have a better benchmark than its competitors. A superior benchmark index will result in a reduction in carbon tax payable. | | | | | | reduce by approximately R6 million per year. | benchmark for mining companies. This formed part of a pilot study by the WRI into the testing of GHG Protocol's Policy and Action Accounting and Reporting Standard and the Mitigation Goals Accounting and Reporting Standard. Kumba received recognition from the WRI for this participation. | |
| Fuel/energy taxes and regulations | In November 2013 Section 12L of the South African Income Tax Act was promulgated. The 12L regulation sets out the process for determining the quantum of energy efficiency savings, and the requirements for claiming the | Reduced operational costs | 1 to 3 years | Direct | Likely | Low | The expected tax relief would be a 45 cents deduction on taxable income per equivalent kilowatt hour of energy saved in the first year of operation. Based on the target of saving approximately 35,000 tCO2e this is equivalent | Kumba has identified projects that could be eligible for this tax relief and is actively engaging with monitoring and verification professionals to conduct the audits. Kumba currently captures the savings on all | The cost to audit and verify the savings of a project vary according to project complexity but can typically account for between 20% and 50% of the achieved savings for a single year. |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | proposed tax deduction. Section 12L incentives include all energy efficiency projects that reduce energy use and is claimable until 2020. It is important to note that the tax incentive is available for savings in all energy forms and not only electricity. This regulation can directly increase the allowed deductions on taxable income thereby increasing net profit after tax. | | | | | | to 35,000 MWH which could translate into a tax reduction of R15m. | energy efficiency projects in its ECO2MAN system and will consolidate all savings to form part of the tax relief application. | |

**CC6.1b**

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

| Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| Change in precipitation pattern | Climate change has the potential to alter the rainfall patterns and hence cause shortages of easily accessible ground water or rain water in communities. Kumba has recognised this as an opportunity to build resilience to this scenario in its communities. Kumba has invested in infrastructure to support the local, low income communities to promote a better relationship with communities. Kumba also provides the local water authority with water from its operations. By providing this infrastructure and water Kumba enhances the surrounding community's resilience to drought and enhances its | Wider social benefits | Up to 1 year | Direct | More likely than not | Low | Kumba has the opportunity to supply potable water to the local water authorities and recover the cost of supplying this water. Pumping water forms part of Kumba's R305 million spent on energy in 2013. Any cost recovery will offset a portion of this cost and reduce operating expenses thereby increasing earnings. | In 2013 Kumba continued with the implementation of water infrastructure in the Thabazimbi area. The Sishen and Kolomela mines supply bulk water to the Gamagara municipality who in turn distribute the water to local communities. | In 2013 Kumba continued with the R24 million funding of the Thabazimbi infrastructure project. Water infrastructure formed part of the R88 million spent on infrastructure in local communities. |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | stakeholder relationships. | | | | | | | | |

**CC6.1c**

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

| Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| Reputation | Kumba's reputation among investors presents an opportunity for the company. In 2013 Kumba was the leading mining company in terms of disclosure in the Global 500 CDP report. This shows Kumba's commitment to addressing climate change and the impacts that it may have on its business. Kumba has the opportunity to use | Increased stock price (market valuation) | 1 to 3 years | Direct | Virtually certain | Medium | Every increase of 1% in share price can add R1.2 billion to Kumba's market capitalisation. | In addition to results presentations and financial statements delivered to investors Kumba engage the investment community in site visits. The site visits enable investors to see the results of Kumba's efforts to reduce the community's vulnerability to climate change related impacts. | Investor relations form part of the employee expenses of R3 billion across the group. In 2013 Kumba spent approximately R1 million on investor related reports, research and presentations. |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | this performance to educate the investment and asset manager industry as to the initiatives that Kumba is undertaking to address climate change. Becoming an investment of choice will enhance Kumba's share price and hence increase its market capitalisation and access to capital. | | | | | | | | |
| Changing consumer behaviour | In 2013 China released its "Twelfth Five-Year Plan" on air pollution prevention and control in key regions. Climate change can affect the impacts of air pollution by altering the distribution patterns of air pollution and hence affect water resources | Increased demand for existing products/services | 1 to 3 years | Indirect (Client) | More likely than not | Medium | There is potentially a 33% ($40) per tonne price premium on lump ore over fine ore so for every percent more of lump that Kumba can supply it may increase revenue by R160 million per annum. | In 2013 Kumba implemented better process and quality control and currently supplies a 63:37 lump-to-fine ratio ore to customers. | The costs of managing this opportunity are borne by the research and development department and the marketing arms of the business. In 2013 R2 million was spent on research and development costs overall. |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | and communities not previously affected. Part of this air pollution plan includes “the elimination of small soil sintering machines and sintering machines smaller than 400 m3”. This indicates that the demand for lump ore will increase with consumers hesitant to procure too many fines for their plants. Kumba produces a high lump to fine ratio ore and hence could build on this opportunity by ensuring that its product is marketed to areas with such plans in place. | | | | | | | | |
| Other drivers | Post Mine Life Closure: The IPCC 5th assessment report has | Wider social benefits | >6 years | Direct | About as likely as not | Unknown | Kumba currently has provision of R1.5 billion for environmental | Kumba currently allocates a portion of land for biodiversity offset. This land | The biodiversity offset management formed part of the R254 million |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | estimated that the AFOLU sector is responsible for just under a quarter of anthropogenic GHG emissions globally. Kumba has over 86,000 ha of land under management excluding surrounding communities. All mines have closure plans as well as biodiversity action plans developed in consultation with Anglo American and Fauna and Flora International. The opportunity exists for Kumba to develop alternate post mine closure AFOLU scenarios for its land that would benefit from potential biodiversity or bioenergy mitigation solutions. These opportunities | | | | | | rehabilitation. Alternate land use scenarios could reduce some of this provision. If 10% could be reduced this could equate to R150 million. | is then eradicated of invasive and alien plant species and endemic species are planted and animal species reintroduced. | spent on CED in 2013. |

| Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact | Estimated financial implications | Management method | Cost of management |
|---|---|---|---|---|---|---|---|---|---|
| | could reduce Kumba's environmental rehabilitation provision for mine closure. | | | | | | | | |

## CC6.1d

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

## CC6.1e

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

## CC6.1f

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

**Further Information**

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

### Page: CC7. Emissions Methodology

**CC7.1**

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

| Base year | Scope 1 Base year emissions (metric tonnes CO2e) | Scope 2 Base year emissions (metric tonnes CO2e) |
|---|---|---|
| Tue 01 Jan 2013 - Tue 31 Dec 2013 | 582723 | 527112 |

**CC7.2**

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

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

| Please select the published methodologies that you use |
|---|
| ISO 14064-1 |
| Other |

**CC7.2a**

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

Kumba also uses guidance from Anglo American on emission factors.

**CC7.3**

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

| Gas | Reference |
|---|---|
| CO2 | IPCC Third Assessment Report (TAR - 100 year) |

**CC7.4**

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

| Fuel/Material/Energy | Emission Factor | Unit | Reference |
|---|---|---|---|
| Diesel/Gas oil | 2.68 | metric tonnes CO2e per m3 | DEFRA Factors 2012 |
| Motor gasoline | 2.31 | metric tonnes CO2e per m3 | DEFRA Factors 2012 |
| Liquefied petroleum gas (LPG) | 2.98 | metric tonnes CO2e per metric tonne | DEFRA Factors 2012, using density |
| Aviation gasoline | 2.54 | kg CO2e per liter | DEFRA Factors 2013 |
| Other: Explosives | 0.17 | metric tonnes CO2e per metric tonne | National Greenhouse Accounts Factors, Jan 2008, www.climatechange.gov.au |
| Other: Used Oil to Combustion | 3.28 | metric tonnes CO2e per m3 | DEFRA 2012, Fuel Oil/Density |
| Electricity | 1.05 | metric tonnes CO2e per MWh | Eskom Annual Report as guided by Anglo American |

**Further Information**

## Page: CC8. Emissions Data - (1 Jan 2013 - 31 Dec 2013)

**CC8.1**

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

Operational control

**CC8.2**

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

582725

**CC8.3**

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

527112

## CC8.4

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

Yes

## CC8.4a

**Please provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure**

| Source | Relevance of Scope 1 emissions from this source | Relevance of Scope 2 emissions excluded from this source | Explain why the source is excluded |
|---|---|---|---|
| Exploration | Emissions are not relevant | Emissions are not relevant | The emissions from exploration activities are not considered material because the activity is conducted by a subsidiary. |

## CC8.5

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

| Scope 1 emissions: Uncertainty range | Scope 1 emissions: Main sources of uncertainty | Scope 1 emissions: Please expand on the uncertainty in your data | Scope 2 emissions: Uncertainty range | Scope 2 emissions: Main sources of uncertainty | Scope 2 emissions: Please expand on the uncertainty in your data |
|---|---|---|---|---|---|
| Less than or equal to 2% | Metering/ Measurement Constraints | Diesel contributes 95.5% of scope 1 emissions and is measured through an energy efficient diesel management system. The system is continuously monitored and audited. An expression of reasonable assurance was given by the independent auditor (PWC) on the total CO2 emissions from processes and fossil fuels for Sishen, Kolomela and Thabazimbi. Hence this data is considered to be reasonably accurate. | Less than or equal to 2% | Metering/ Measurement Constraints | Electricity data is based on Eskom invoices which is generated from the actual metering of the electricity consumption, hence this data has a high degree of accuracy. The independent auditor (PWC) gave an expression of reasonable assurance on the CO2 emissions from electricity purchased. |

**CC8.6**

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

Third party verification or assurance complete

**CC8.6a**

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

| Type of verification or assurance | Attach the statement | Page/section reference | Relevant standard | Proportion of reported Scope 1 emissions verified (%) |
|---|---|---|---|---|
| Reasonable assurance | https://www.cdp.net/sites/2014/50/10350/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Q8.6a Kumba Scope 1 Assurance.pdf | Forms part of SD Report. Page 100. | ISAE3000 | 100 |

## CC8.6b

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

| Regulation | % of emissions covered by the system | Compliance period | Evidence of submission |
|---|---|---|---|

## CC8.7

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

Third party verification or assurance complete

## CC8.7a

**Please provide further details of the verification/assurance undertaken for your Scope 2 emissions, and attach the relevant statements**

| Type of verification or assurance | Attach the statement | Page/Section reference | Relevant standard | Proportion of Scope 2 emissions verified (%) |
|---|---|---|---|---|
| Reasonable assurance | https://www.cdp.net/sites/2014/50/10350/Investor CDP 2014/Shared Documents/Attachments/CC8.7a/Q8.7a Kumba Scope 2 Assurance.pdf | Forms part of SD Report. Page 100. | ISAE3000 | 100 |

## CC8.8

**Please identify if any data points other than emissions figures have been verified as part of the third party verification work undertaken**

| Additional data points verified | Comment |
|---|---|
| Other: Total Energy Used | Total energy consumed formed part of the assurance statement. |

## CC8.9

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

No

## CC8.9a

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

## Further Information

## Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2013 - 31 Dec 2013)

### CC9.1

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

No

### CC9.1a

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

| Country/Region | Scope 1 metric tonnes CO2e |
|---|---|

### CC9.2

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

By facility

### CC9.2a

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

| Business division | Scope 1 emissions (metric tonnes CO2e) |
|---|---|

## CC9.2b

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

| Facility | Scope 1 emissions (metric tonnes CO2e) | Latitude | Longitude |
|---|---|---|---|
| Head Office | 0 | -25.866290 | 28.188499 |
| Value In Use | 2 | -25.773836 | 28.154973 |
| Sishen Mine | 451974 | -27.726270 | 23.008728 |
| Kolomela Mine | 100426 | -28.381872 | 22.964944 |
| Thabazimbi Mine | 30323 | -24.595456 | 27.404512 |

## CC9.2c

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

| GHG type | Scope 1 emissions (metric tonnes CO2e) |
|---|---|

## CC9.2d

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

| Activity | Scope 1 emissions (metric tonnes CO2e) |
|---|---|

CC9.2e

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

| Legal structure | Scope 1 emissions (metric tonnes CO2e) |
|---|---|

**Further Information**

## Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2013 - 31 Dec 2013)

**CC10.1**

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

No

CC10.1a

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

| Country/Region | Scope 2 metric tonnes CO2e | Purchased and consumed electricity, heat, steam or cooling (MWh) | Purchased and consumed low carbon electricity, heat, steam or cooling accounted for CC8.3 (MWh) |
|---|---|---|---|

**CC10.2**

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

By facility

**CC10.2a**

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

| Business division | Scope 2 emissions (metric tonnes CO2e) |
|---|---|

**CC10.2b**

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

| Facility | Scope 2 emissions (metric tonnes CO2e) |
|---|---|
| Head Office | 2316 |

| Facility | Scope 2 emissions (metric tonnes CO2e) |
|---|---|
| Value In Use | 422 |
| Sishen Mine | 442292 |
| Kolomela Mine | 52315 |
| Thabazimbi Mine | 29766 |

### CC10.2c

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

| Activity | Scope 2 emissions (metric tonnes CO2e) |
|---|---|

### CC10.2d

**Please break down your total gross global Scope 2 emissions by legal structure**

| Legal structure | Scope 2 emissions (metric tonnes CO2e) |
|---|---|

### Further Information

## Page: CC11. Energy

### CC11.1

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

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

## CC11.2

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

| Energy type | MWh |
|---|---|
| Fuel | 2087010 |
| Electricity | 502011 |
| Heat | 0 |
| Steam | 0 |
| Cooling | 0 |

## CC11.3

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

| Fuels | MWh |
|---|---|
| Diesel/Gas oil | 2062108 |
| Motor gasoline | 9310 |
| Liquefied petroleum gas (LPG) | 71 |
| Aviation gasoline | 15521 |

## CC11.4

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

| Basis for applying a low carbon emission factor | MWh associated with low carbon electricity, heat, steam or cooling | Comment |
|---|---|---|
| No purchases or generation of low carbon electricity, heat, steam or cooling accounted with a low carbon emissions factor | 0 | |

## Further Information

# Page: CC12. Emissions Performance

## CC12.1

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

Increased

## CC12.1a

**Please identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year**

| Reason | Emissions value (percentage) | Direction of change | Comment |
|---|---|---|---|
| Emissions reduction activities | 3 | Decrease | Emission reduction projects accounted for savings of 31,254 tCO2e in 2013. |
| Divestment | 0 | No change | No divestments |
| Acquisitions | 0 | No change | No acquisitions |
| Mergers | 0 | No change | No mergers |

| Reason | Emissions value (percentage) | Direction of change | Comment |
|---|---|---|---|
| Change in output | 15 | Increase | Total tonnes mined increased by 23% thereby increasing diesel and electricity consumption. |
| Change in methodology | 0 | No change | |
| Change in boundary | 0 | No change | |
| Change in physical operating conditions | 5 | Decrease | The mine design was optimised to improve waste hauling efficiencies. |
| Unidentified | 0 | No change | |
| Other | 0 | No change | |

**CC12.2**

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

| Intensity figure | Metric numerator | Metric denominator | % change from previous year | Direction of change from previous year | Reason for change |
|---|---|---|---|---|---|
| 0.0000198 | metric tonnes CO2e | unit total revenue | 5 | Decrease | The average dollar price for Iron Ore increased and there was a weakening of the currency improving overall revenue in ZAR. |

**CC12.3**

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

| Intensity figure | Metric numerator | Metric denominator | % change from previous year | Direction of change from previous year | Reason for change |
|---|---|---|---|---|---|
| 79.41 | metric tonnes CO2e | FTE employee | 7 | Decrease | The total number of employees increased due to the growth in employees at the Kolomela Mine. Emission reduction activities contributed to the decrease. |

**CC12.4**

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

| Intensity figure | Metric numerator | Metric denominator | % change from previous year | Direction of change from previous year | Reason for change |
|---|---|---|---|---|---|
| 0.00356 | metric tonnes CO2e | Other: Total Tonnes Mined | 7 | Decrease | Total tonnes mined increased by 23% mainly driven by the increase in waste mined. More material was able to be moved more efficiently. |

**Further Information**

## Page: CC13. Emissions Trading

**CC13.1**

**Do you participate in any emissions trading schemes?**

Yes

## CC13.1a

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

| Scheme name | Period for which data is supplied | Allowances allocated | Allowances purchased | Verified emissions in metric tonnes CO2e | Details of ownership |
|---|---|---|---|---|---|
| European Union ETS | Tue 01 Jan 2013 - Tue 31 Dec 2013 | 0 | 0 | 0 | Other: The project is being developed by a third party on land owned by Kumba but the project has not been commissioned so is not delivering credits yet. |

## CC13.1b

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

A PoA for Solar CSP has been registered and is being managed by the Carbon Protocol of South Africa. This project is CPA1 of the PoA and Kumba will own all of the credits generated by the project.
The project is being brought to financial close by a third party developer and Kumba anticipate trading the carbon credits from the project.

## CC13.2

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

No

## CC13.2a

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

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

**Further Information**

## Page: CC14. Scope 3 Emissions

**CC14.1**

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

| Sources of Scope 3 emissions | Evaluation status | metric tonnes CO2e | Emissions calculation methodology | Percentage of emissions calculated using primary data | Explanation |
|---|---|---|---|---|---|
| Purchased goods and services | Relevant, calculated | 300118 | This section was completed in accordance with the Scope 3 Accounting and Reporting Standard by The Greenhouse Gas Protocol Initiative. The emissions are associated with the production of the purchased cement, tyres and explosives. Factors were obtained through literature research and benchmarking. Activity data was obtained from supply chain records. | 0.00% | |
| Capital goods | Relevant, calculated | 20460 | i) Supply chain information on purchase of trucks was used. These are the largest moveable capital investments. (ii) To get a factor, the total emissions of Caterpillar were used and allocated according to assumed percentage revenue that Kumba contributed to Caterpillar. (iii) Transport was ignored and allocation was on a cost apportionment. | 0.00% | |

| Sources of Scope 3 emissions | Evaluation status | metric tonnes CO2e | Emissions calculation methodology | Percentage of emissions calculated using primary data | Explanation |
|---|---|---|---|---|---|
| Fuel-and-energy-related activities (not included in Scope 1 or 2) | Relevant, calculated | 179093 | This section was completed in accordance with the Scope 3 Accounting and Reporting Standard by The Greenhouse Gas Protocol Initiative. The emissions associated with the production of the purchased fuel - the direct supplier emissions are estimated by multiplying the amount of purchased fuel by the Scope 3 emission factor associated with the production of the fuel. The activity data was obtained from supply chain records and the emission factors from DEFRA. Transmission and distribution losses have been accounted for in Scope 2 due to policy guidance from Anglo American. | 0.00% | |
| Upstream transportation and distribution | Relevant, calculated | 172 | Kumba has initiated communication with suppliers to further understand the footprint associated with the delivery of goods to operations. For this calculation the supply chain information relevant to transport costs was used to calculate emissions associated with transport using an assumption of vehicle size of Heavy Articulated >33t. | 0.00% | |
| Waste generated in operations | Relevant, calculated | 102 | This section was completed in accordance with the Scope 3 Accounting and Reporting Standard by The Greenhouse Gas Protocol Initiative. The figures were obtained from the operations. The factor for lubricants was obtained from DEFRA 2012 and for municipal waste from research by the US EPA. | 0.00% | |
| Business travel | Relevant, calculated | 1337 | This section was completed in accordance with the Scope 3 Accounting and Reporting Standard by The Greenhouse Gas Protocol Initiative. The source data was obtained by the appointed Kumba travel agent and DEFRA 2012 factors assigned to the passenger kilometres. The total vehicle km's claimed for travel was obtained from the HR department. All allocations were made per class of travel. | 0.00% | |
| Employee commuting | Relevant, calculated | 8013 | This section was completed in accordance with the Scope 3 Accounting and Reporting Standard by The Greenhouse Gas Protocol Initiative. Data was sourced from total employment figures. The split of modes of transport was assumed based on employee profiles. The factors were obtained from DEFRA 2013 factors with occupancy assumptions. | 0.00% | |

| Sources of Scope 3 emissions | Evaluation status | metric tonnes CO2e | Emissions calculation methodology | Percentage of emissions calculated using primary data | Explanation |
|---|---|---|---|---|---|
| Upstream leased assets | Not relevant, explanation provided | 0 | | 0.00% | Kumba fully controls any leased assets and as such emissions associated will fall into Scope 1 & 2 therefore emissions are zero. |
| Downstream transportation and distribution | Relevant, calculated | 4006340 | This was completed in accordance with the Scope 3 Accounting and Reporting Standard by The Greenhouse Gas Protocol Initiative, the transportation and distribution of sold products in vehicles not owned or controlled by the reporting company were included. 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 ore from Thabazimbi to Vanderbijlpark and Newcastle and the export of product via ship to mainly China, Japan, Korea and Western Europe. | 0.00% | |
| Processing of sold products | Relevant, calculated | 100220022 | This section was completed in accordance with the Scope 3 Accounting and Reporting Standard by The Greenhouse Gas Protocol Initiative. The emissions for down-stream use of Kumba products were calculated, up to steel production. It includes emissions from the production of sinter to steel. Factors from the 2006 IPCC guidelines were used. | 0.00% | |
| Use of sold products | Not relevant, calculated | 0 | | 0.00% | There are no direct emissions associated with the use of steel is it forms part of other products with direct emissions. |
| End of life treatment of sold products | Relevant, calculated | 631486 | Data from the World Steel Association was used to obtain recycling rates. The emission factor from the IPCC was used for Electric Arc furnaces and apportioned to the amount of steel produced from product sold by Kumba in 2013. | 0.00% | |
| Downstream leased assets | Not relevant, explanation provided | 0 | | 0.00% | The company does not lease out any of its own assets to lessee's |

| Sources of Scope 3 emissions | Evaluation status | metric tonnes CO2e | Emissions calculation methodology | Percentage of emissions calculated using primary data | Explanation |
|---|---|---|---|---|---|
| | | | | | therefore emissions are zero. |
| Franchises | Not relevant, explanation provided | 0 | | 0.00% | Kumba does not use the franchise model in any of its businesses. |
| Investments | Not relevant, explanation provided | 0 | | 0.00% | Kumba primarily has investments in holding companies without any direct operational footprints. |
| Other (upstream) | Not relevant, explanation provided | 0 | | 0.00% | Kumba has no other upstream emissions relevant to operations. |
| Other (downstream) | Not relevant, explanation provided | 0 | | 0.00% | Kumba has no other downstream emissions relevant to operations. |

**CC14.2**

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

Third party verification or assurance complete

**CC14.2a**

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

| Type of verification or assurance | Attach the statement | Page/Section reference | Relevant standard | Proportion of Scope 3 emissions verified (%) |
|---|---|---|---|---|
| Reasonable assurance | https://www.cdp.net/sites/2014/50/10350/Investor CDP 2014/Shared Documents/Attachments/CC14.2a/Q14.2a Kumba Scope 3 Assurance.pdf | Page 100 of SD Report | ISAE3000 | 100 |

**CC14.3**

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

Yes

**CC14.3a**

**Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year**

| Sources of Scope 3 emissions | Reason for change | Emissions value (percentage) | Direction of change | Comment |
|---|---|---|---|---|
| Purchased goods & services | Change in output | 33 | Increase | More tonnes were moved hence more explosives were used. |
| Capital goods | Other: Capital Procurement | 73 | Increase | Increase in number of trucks purchased from 2013. |

| Sources of Scope 3 emissions | Reason for change | Emissions value (percentage) | Direction of change | Comment |
|---|---|---|---|---|
| Fuel- and energy-related activities (not included in Scopes 1 or 2) | Change in output | 18 | Increase | There was a 30% increase in fuel purchased due to increase in total tonnes moved. |
| Waste generated in operations | Emissions reduction activities | 45 | Decrease | Kumba has adopted a higher level of lubricant recycling and management to reduce overall consumption of lubricants. |
| Business travel | Emissions reduction activities | 39 | Decrease | Kumba continues to encourage the use of video conferencing across operations and has developed a strategy to optimise operations by ensuring staff travel to operations less frequently. |
| Employee commuting | Change in output | 53 | Increase | The total FTE headcount has increased year on year due to full production at Kolomela Mine. |
| Downstream transportation and distribution | Change in output | 3.6 | Increase | Volumes shipped to China increased which is the longest shipping route in Kumba's supply chain. |
| Processing of sold products | Change in output | 0.9 | Decrease | Total Sales volumes decreased marginally. |
| End-of-life treatment of sold products | Change in output | 1.4 | Decrease | Directly proportional total sales volumes that decreased slightly. |

**CC14.4**

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

Yes, our suppliers

**CC14.4a**

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

Kumba has engaged with suppliers to determine whether its suppliers know their own footprints and whether they know what proportion of their footprint is related to the goods and services that they provide to Kumba.

Kumba has communicated with every supplier via correspondence to determine whether they have a footprint or not. Kumba will prioritise suppliers by volume and value to determine further engagement with every supplier.
Kumba will determine from the responses of suppliers the maturity of the carbon footprints of each supplier. This metric will be based on an evaluation of the data integrity and completeness of each of the suppliers GHG Inventory.
This information will determine the level of engagement with suppliers and opportunities for emission reduction activities within the supply chain.

**CC14.4b**

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

| Number of suppliers | % of total spend | Comment |
|---|---|---|
| 2523 | 100% | Communication was sent to all suppliers registered with Kumba hence the coverage is 100% of spend. Suppliers will be prioritized according to value of spend, volume of supplies and footprint. |

**CC14.4c**

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

| How you make use of the data | Please give details |
|---|---|
| Identifying GHG sources to prioritize for reduction actions | Kumba will use the information to engage with suppliers who are implementing emission reduction strategies as well as those whose emissions indicate opportunities for reduction initiatives. |

**CC14.4d**

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

**Further Information**

## Module: Sign Off

### Page: CC15. Sign Off

**CC15.1**

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

| Name | Job title | Corresponding job category |
|---|---|---|
| Alex Mgadzah | Executive Head of Safety and Sustainable Development | Board/Executive board |

**Further Information**

**CDP 2014 Investor CDP 2014 Information Request**