Sibanye Stillwater - Climate Change 2021

C0. Introduction

C0.1

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

Sibanye-Stillwater is an independent, global, precious metals mining company producing a unique mix of metals that includes platinum group metals (PGMs) and gold. The mining house is a top tier gold producer, ranking 3rd globally on a gold-equivalent basis, and is also one of the world's largest primary producers of platinum and rhodium. The Group is also a leading global recycler and processor of spent PGM catalytic converter materials, and produces iridium, ruthenium, chrome, copper and nickel as by-products. Sibanye-Stillwater also recently entered the battery metals industry by investing in a lithium hydroxide project in Finland in 2021.

Sibanye-Stillwater has aligned its environmental priority of "improving life through the sustainable use of our natural resources, driving environmental consciousness and continuous improvement, with measured transition to a carbon neutral future" with the Group's environmental, social and governance (ESG) strategy. ESG is core to the 6 strategic focus areas for the Group. Sibanye-Stillwater creates and shares value to improve lives through our business activities. In so doing, we invest in and optimise the responsible use of our capital inputs, to ensure sustained value creation for all stakeholders in the long term.

Sibanye-Stillwater recognises that global warming and associated climate change are realities that require global action. The company is equally committed to contributing to a global solution through deployment of responsible strategies and actions which are outlined in our ESG policy and supporting 'Climate Change' and 'Energy and Decarbonisation' position statements, endorsed by our CEO and published on our website. Notably in 2020, Sibanye-Stillwater published the Group 2040 net-zero emissions target. The target is the outcome of extensive research and considerations of how best to position the Group as both a climate and mining leader. Sibanye-Stillwater has also introduced an interim emission reduction target, starting in 2021, which is linked to executive remuneration.

Furthermore, the Sibanye-Stillwater CARES values underpin our strategy, how we conduct business and interact with stakeholders. In living these values, we show that we care about safe production, our stakeholders, environment, company and our future.

Sibanye-Stillwater operates a number of mining complexes across South Africa and the United States of America, together with a number of smaller mining projects across in the globe. The primary operations are organised in three following segments.

US PGM segment:

The East Boulder and the Stillwater (including Blitz) mines are located in Montana. The Columbus Metallurgical Complex, also located in Montana, which smelts the material mined to produce PGM-rich filter cake, also recycles PGMs from auto catalysts. The US PGM operations primarily produce palladium and platinum (78% palladium and 22% platinum). The PGM-bearing ore mined is processed and smelted to produce a PGM-rich filter cake. A third party refines the filter cake.

Southern Africa PGM segment:

The Kroondal (95.3% stake), Marikana operation (95.3% stake) and Rustenburg operations are located on the western limb of the Bushveld Complex in South Africa, while the Mimosa (50% joint venture) is situated on the southern portion of the Great Dyke in Zimbabwe. Platinum Mile (91.7% stake) is a retreatment facility, which reprocesses tailings arisings from Rustenburg. The primary PGMs produced at the operations in South Africa and Zimbabwe are platinum, palladium, rhodium and gold. The PGM-bearing ore is processed to produce PGMs-in-concentrate, which is processed and refined both by Sibanye-Stillwater's Marikana smelter and Brakpan Precious Metal Refinery and by third parties.

South Africa gold segment:

The Driefontein, Kloof and Cooke surface operations and associated processing facilities are located on the West Rand of the Witwatersrand Basin, while Beatrix is in the southern Free State goldfields. Sibanye-Stillwater also has an interest in surface tailings retreatment facilities located from the East Rand to the West Rand through a 50.1% stake in DRDGOLD Limited.

Sibanye-Stillwater mines, extracts and processes gold-bearing ore at its South African gold operations to produce a beneficiated product, doré, which is then refined at Rand Refinery Pty Ltd into gold bars with a purity of at least 99.5% in accordance with the London Bullion Market Association's standards of Good Delivery. Sibanye-Stillwater holds a 33.1% interest in Rand Refinery, one of the largest refiners of gold globally, and the largest in Africa. Rand Refinery markets and sells refined gold on international markets to customers around the world. DRDGOLD holds an 11.3% share in Rand Refinery.

Sibanye-Stillwater has its primary listing on the JSE, South Africa, where it is included in the FTSE/JSE Responsible Investment Index. The company is also listed on the NYSE, with its shares quoted as American Depositary Receipts.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2020	December 31 2020	No	<Not Applicable>

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.
South Africa
United States of America

C0.4

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

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.
Operational control

C-MM0.7

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

Row 1

Mining
Gold
Platinum group metals

Processing metals

C1. Governance

C1.1

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

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board-level committee	At Sibanye-Stillwater, the Social, Ethics and Sustainability Committee (SESC) as well as the Risk Committee, both Board-level committees, are responsible for addressing climate-related issues. The SESC is a statutory committee which assists the Board in guiding and monitoring the Group's performance in relation to corporate citizenship, environmental, social and governance factors, the Sustainable Development Goals and sustainability and ethics, which includes climate-related issues. The Environmental, Social and Governance Committee, constituted in 2019, is dedicated to reviewing sustainability issues. This committee reports into the SESC. The Risk Committee oversees risk management on behalf of the Board. The committee is responsible for ensuring the Group sustainability by evaluating and overseeing implementation of efficient risk management processes and controls to identify, monitor and mitigate risks and to act on opportunities identified. Climate-related issues are integrated as part of the risk management and opportunity identification processes. We are cognisant that climate change is impacting on environmental conditions at our operating sites to an increasingly greater extent. For example, water scarcity may have a more substantial effect on our South African operations, while extreme weather events such as increasingly intense winter storms may be experienced at our United States operations. In line with this, notable examples of climate-related decision made by the SESC in 2020 include adoption of the 2040 net-neutral target as well as the decision to develop of a Tailings Management Working Group, mandated to design and implement a Group tailings management framework aligned to the requirements of the Global Industry Standard for Tailings Management and the ICMM. Climate change impact mitigation and adaptation are key components of a comprehensive Group tailings management framework. Another example is the SESC's climate-related decision to consider a broader water management strategy across our SA operations that will enable water deficits to be offset by water surpluses in other districts. Our aim is to ensure efficient and effective utilisation of water resources with minimum impact on surrounding water resources and ensure water availability for affected ecosystems, surrounding communities and our operations.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues Other, please specify (The Board contributes to and approves the mission, vision and strategy of the company)	<Not Applicable>	The Board is responsible for evaluating, determining and ensuring the implementation of corporate strategy and policy. The Board defines the strategic policy intent and objectives of the Company as a business enterprise as well as its values and approves the mission, vision and strategy of the company. The Board satisfies itself that the strategy and business plans do not give rise to risks that have not been thoroughly assessed by management and considers sustainability as a business opportunity that guides strategy formulation. The Group's strategy is consistent with integrated thinking, which links different capitals and ensures sustainable outcomes. Notably, the 'Natural Capital' resource incorporates climate-related matters, which are thus considered at the highest levels of the organisation. The Board participates in an annual strategy session, in which the Group's strategy, assessed risks and opportunities are deliberated. Progress of implemented strategies are also considered, to ensure alignment with Group values with a view to ensuring the long term success of the Group. For example, the Board is actively pursuing strategic opportunities in mining metals that aid in the global low-carbon transition. Accordingly, the Group entered the battery metals industry in 2021 by investing in a lithium hydroxide project in Finland. The Social, Ethics and Sustainability Committee, a Board-level committee, assists the Board in monitoring the fulfilment of this mandate. It is a statutory committee which assists the Board in guiding and monitoring the Group's performance in relation to corporate citizenship, environmental, social and governance factors, the SDGs as well as sustainability and ethics matters, which include climate-related issues. The Committee meets on a quarterly basis and reports directly to the Board of Directors. The quarterly Social and Ethics Report and the ESG Board reports include climate change risks and opportunities affecting the company, major climate-related management plans and performance on objectives and targets. An example of governance oversight in 2020 on climate change matters included the endorsement of a 2040 Group-wide carbon neutral target. Sibanye-Stillwater has also committed to a Group target to reduce absolute Scope 1 and 2 GHG emissions by 27% by 2025 from a 2010 base year. The SBTi approved the Group target, demonstrating that our emissions reduction targets conform to the required science-based calculation methodology and further contribute to the global climate change challenge. In addition, Sibanye-Stillwater's board has endorsed the Group-wide Environmental, Sustainable Development, Carbon Management, Water Management, Tailings Stewardship Policy and ESG Policy. In 2021 position statements related to: Climate Change, Waste Management, Energy and decarbonisation, Water Health, Biodiversity, Water Conservation and Water Demand Management, Air Quality, Heritage and Socio-economic closure were finalised.

C1.2

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

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Other, please specify (Executive Vice Presidents – SA Gold; SA PGM and US PGM segments)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Other, please specify (Sustainability Vice Presidents – SA Gold; SA PGM and US PGM segments)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly

C1.2a

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

Below Board-level, our CEO carries the highest-level management position with responsibility for climate-related issues for the Group. The CEO reports directly to the Board on a quarterly basis. The embedding of our values, underpinning our corporate culture and driving decision-making throughout the organisation is led by the CEO and senior leadership, supported by the Board. The Social, Ethics and Sustainability Committee and the Risk Committee, both Board-level committees, have a role in advising on our climate change response strategies. The Committees provide strategic direction and oversight. Our CEO provides leadership in the area of policy and strategic direction and provides the Board with comprehensive information, analysis and advice on all aspects of the business, which includes climate-related issues. The responsibilities of our CEO include endorsement of our carbon management policy statement; 2040 carbon neutral target, interim year-on-year emission reduction targets (initiated in 2021) and the commitment to contributing to a global climate solution through the deployment of responsible strategies which filters down to the operations.

Rationale for assigning responsibility for climate-related issues at management level to the CEO: the CEO, in conjunction with the respective Executive Vice Presidents, leads and manages daily operations and is therefore able to report important climate-related issues identified at operational level to the Board where strategic decisions are made (bottom-up approach). At the same time, the CEO's mandate is to guide the efficient and correct implementation of strategy as approved by the Board (top-down approach).

At the US PGM, SA Gold and SA PGM operations, the Executive Vice President carries the overall responsibility for climate-related issues at the respective operations, specifically the monitoring and reporting thereof. His/her responsibilities include assessment of the regulatory framework and changes therein, annual monitoring and performance assessments against both the longer 2040 carbon neutrality target and the new interim target, and progress on emission reduction initiatives. At the US PGM operations, the monitoring and reporting tasks are delegated via the Vice President - Legal, Environment and Governmental Affairs, who sits below the Executive Vice President, who reports to the Group Social, Ethics and Sustainability Committee on a quarterly basis, or where board oversight is sought.

At the SA Gold and SA PGM Operations, the Executive Vice Presidents delegate these tasks to their respective environmental department through the Senior Vice President: Environment. The Senior Vice President: Environment reports to the Executive Vice Presidents who then report to the Social, Ethics and Sustainability Committee on a quarterly basis, or where board oversight is sought.

Rationale for assigning management responsibility for climate-related issues to the Executive Vice President of the respective operations: they are responsible for providing an enabling environment to achieve emissions reductions throughout the business. At the US PGM operations, the combined responsibilities of the Vice President – Legal, Environment and Government and the Sibanye-Stillwater leadership ensure alignment with the Group climate change strategy. At the SA Gold and SA PGM operations, Sibanye-Stillwater climate change issues are best monitored through the environmental department, who escalate important findings directly to the Board, which are integrated into the broader enterprise risk management process.

Group Technical, headed by the Chief Technical Officer (CTO) provides technical support to the operations, and is a dedicated central function whose objective is to formulate and accelerate Group-wide climate change and decarbonisation strategies. The Chief Technical Officer (CTO) reports to the Chief Executive Officer (CEO), and supports the CEO in key decision-making by ensuring that strategic climate-related objectives translate into operational initiatives. This takes place in conjunction with the Senior Vice President (SVP): Sustainability and the SVP: Environment, who oversee the integration of sustainability and environmental considerations, respectively, across the business.

The SVP: Sustainability oversees and drives overall sustainability within the Group including strategic issues on climate change. The SVP: Environment, reports into the CTO and is responsible for setting and driving the strategic direction on a range of environmental issues, including our climate change response and GHG emissions reduction strategy. The SVP guides and supports the operational Executive Vice Presidents (EVPs) and SVPs in driving strategic climate change objectives, ESG objectives and long-term environmental incentives.

The management, budgeting and operational compliance activities reside with each of the EVPs for the SA gold, SA PGM and US PGM operations respectively.

C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	This forms part of the overall incentive scheme for the company and is linked to our performance management system. Performance assessments are held annually.

C1.3a

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

Entitled to incentive	Type of incentive	Activity inventivized	Comment
Board/Executive board	Monetary reward	Behavior change related indicator Other (please specify) (Environmental performance)	Sibanye-Stillwater's Board of Directors are monetarily rewarded for values-based decision-making through which Sibanye-Stillwater is able to achieve the Group's strategic objectives. Our incentive system also aims to actively support the associated change in leadership behaviour which is required for value-based decision-making. Accordingly, Sibanye-Stillwater has linked executive remuneration with a new, interim operational emission reduction target which was initiated in 2021. This target is interim to the Group's broader 2040 net-neutral target. The interim target aims to reduce the 2021 Group-level scope 1 and 2 emissions by 1.5% relative to a 2020 baseline adjusted for COVID-19 production impacts. This target will increase in subsequent years to align to the medium-term SBTi target and long-term carbon neutrality target.
Corporate executive team	Monetary reward	Emissions reduction project Emissions reduction target Energy reduction project Efficiency project Behavior change related indicator	Sibanye-Stillwater's corporate executive team is rewarded for cost reduction optimisations, including efficiencies from reducing energy consumption, emissions reduction and risk mitigation and management. In addition, Sibanye-Stillwater's corporate executive team receives external recognition for climate change related efforts in the form of awards, such as the CDP Climate A-List, Dow Jones Sustainability Index leader, FTSE Green Revenues Index listing and Carbon Rankings by Environmental Investment Organisations. This type of recognition provides additional incentives that have the potential to positively change behaviours and attitudes to environmental stewardship.
Energy manager	Monetary reward	Energy reduction project Efficiency project	Sibanye-Stillwater's energy managers, also known as engineering managers, are monetarily rewarded for meeting energy, emission reduction targets and generating business related to the Group climate change strategy. The performance indicator is the implementation of projects resulting in effective energy and carbon emission reductions. Engineering (Energy) Management's balance scorecards are related to these performance indicators.
Environmental, health, and safety manager	Monetary reward	Energy reduction project Efficiency project	Sibanye-Stillwater's environment/sustainability managers are monetarily rewarded for identifying and managing (on a continuous basis) risks and opportunities related to climate change (the indicator is whether relevant risks and opportunities have been identified and communicated to the Senior Management) and meeting emission reduction targets. The Environmental Managers' balanced scorecards are related to the performance indicators presented above.

C2. Risks and opportunities

C2.1

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

Yes

C2.1a

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

	From (years)	To (years)	Comment
Short-term	0	5	Sibanye Stillwater conducted a TCFD scenario-analysis and developed a low carbon plan. This timeframe was used in the aforementioned processes and informs the company's risk and opportunity assessment process.
Medium-term	5	10	Sibanye Stillwater conducted a TCFD scenario-analysis and developed a low carbon plan. This timeframe was used in the aforementioned processes and informs the company's risk and opportunity assessment process.
Long-term	10	15	Sibanye Stillwater conducted a TCFD scenario-analysis and developed a low carbon plan. This timeframe was used in the aforementioned processes and informs the company's risk and opportunity assessment process.

C2.1b

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

Sibanye-Stillwater considers **substantive impact** (or what is defined as "material" in the group's mainstream filings) as stakeholder concerns that can have major importance to the financial, economic, reputational and legal aspects of our business and, in terms of integrated reporting, are those issues which may impact our ability to create value in the short, medium and long term. It also informs our stakeholders' assessments of and decisions about our business. Sibanye-Stillwater has a well-formulated risk management process supported by the company's governance structure that comprises experienced and skilled teams who are committed to the delivery of our strategic objectives. Material issues are identified through materiality workshops, supported by research and analysis of our internal and external environments and stakeholder feedback, which in turn enables us to review our risk register on a biennial basis. The materiality process takes account of related international guidelines such as the International Integrated Reporting Framework, King IV and GRI.

Through the aforementioned process, Sibanye-Stillwater has defined strategic or substantive financial impact as the realisation of any risk or opportunity related to earnings or capital with a value above R500 million. The quantifiable indicators that have been used to define a substantive financial impact are linked to both the income statement (revenues and expenditures) as well as the balance sheet (assets and liabilities and capital) of the business. Any climate related occurrence that has an impact of R500 million or more on the company's income statement or balance sheet is considered to be substantive. In addition, climate change risks have been identified as having potential strategic impacts, for example related to market-risks, and hence these are considered to be substantive. Additionally, a key consideration/indicator is also our business strategy. Our starting point of our 2020 materiality process was to assess our strategy so that material issues could be considered in the context of each of the six strategic focus areas. Particular emphasis was given to environmental, social and governance issues, which includes climate change related aspects on the basis that embedding ESG excellence is central to our strategy.

The Group perspective on climate risks has been informed by the recent TCFD assessments and scenario analyses, as well as an independent TCFD-alignment audit undertaken in 2021. Sibanye-Stillwater's first comprehensive TCFD assessment was completed in 2019. The Group has committed to a climate change response programme which will entail regular reviews and updates of climate risks and opportunities. These reviews will be undertaken through the enterprise-wide risk identification and management process and through ongoing TCFD-based scenario analysis, which continued through 2020 and 2021. The ongoing TCFD analyses are assisting the Group with the financial planning required to manage identified climate change risks and opportunities. For example, the Board is actively pursuing strategic opportunities in mining metals that aid in the global low-carbon transition. Accordingly, the Group has entered the battery metals industry in 2021 by investing in a lithium hydroxide project in Finland. The independent TCFD-alignment audit has further identified opportunities to improve climate activities and reporting.

C2.2

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

Value chain stage(s) covered
Direct operations

Risk management process
A specific climate-related risk management process

Frequency of assessment
More than once a year

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
The Sibanye-Stillwater Board is responsible for risk governance and sets the tone for overseeing the entire risk management process. The Risk Committee is appointed with delegated powers from the Board to assist the Board with the risk management process. The Risk Committee convenes quarterly or as required to review the risk management processes. Sibanye recognises that climate change has an uncertain and unpredictable nature and that the investment decisions made today, could be significantly affected by weather variability associated with long-term climate change in the future. Climate related risks are identified through evaluations of input from the business environment, enterprise risk management, stakeholder engagement, market analyses and scenario analysis. In 2019, Sibanye conducted climate change scenario analysis aligned with the recommendations of the Task Force on Climate-related Financial Disclosures aimed at identifying and assessing the various climate change related risks and opportunities that may have a substantive financial impact on its business model. As a member of the International Council on Mining and Metals (ICMM), the analysis also drew from the principles of the ICMM report: Adapting to a changing climate: implications for the mining and metals industry, which includes an assessment of the impact that climate change will have on Sibanye-Stillwater's direct (core) operations, value chain, as well as it's broader community. The assessment included an analysis of both the physical risks (acute and chronic) as well as the transitional risks (regulatory, markets and technology and reputational) that climate change presents for Sibanye-Stillwater's direct operations based on three scenarios which included the IPCC's RCP 8.5, RCP4.5 and RCP 2.6 scenarios. This process has allowed Sibanye-Stillwater to not only identify, but also assess the various climate change related risks and opportunities under different climatic scenarios. As a response to the assessment, we have developed an updated Climate Change Position Statement, which acknowledges the key risks identified in the scenarios analysis and outlines objectives aimed at managing the risks identified during the scenario analysis process. Physical Risk Case Study: Based on the findings of the scenario analysis, the greatest chronic physical risks that climate change presents for Sibanye-Stillwater are changes in precipitation levels for our South African operations and drought-induced forest fires and flooding due to extreme precipitation or snowpack at our US operations. Changes in precipitation extremes and droughts in South Africa have the potential to impact on surface infrastructure as well as underground mining at Sibanye-Stillwater's' operations. The greatest acute physical risks that Sibanye faces are extreme weather events such as thunderstorms and hail storms. Hail with diameters between 25 mm and 37.5 mm could cause damage to PV modules. Based on these physical risks, Sibanye modelled a case study which indicated that the company's operating expenditure could increase due to climate change impacts such as increased cooling requirements on deep level mines as well as repair work to infrastructure such as its solar power systems. This could have a substantive financial impact on Sibanye's income statement, as well as its balance sheet. In order to manage these risks, environmental audits and inspections are conducted regularly and monthly operational reports are compiled for information and action. Additionally, Sibanye-Stillwater is planning to identify and share trends and climate related performance at business unit and operational levels, at regular intervals, to drive awareness and enable the implementation of effective initiatives increase the climate resilience of the Group. Transitional Risk Case study: From transitional risk perspective, our direct operations will primarily be impacted by the regulatory aspects such as the South African Carbon Tax Act 15 of 2019. South Africa's carbon tax legislation came into effect on 1 June 2019. Sibanye's carbon tax liability estimates for ZAR 1.6 million for seven months in 2019 and ZAR 1.4 million for the full 2020 calendar year. The group had provided for a carbon tax liability of R5 million for 2020 (2019: R13 million). The decrease in the estimated carbon tax payable was largely due to the exclusion of fugitive mine methane from the Greenhouse Gas reporting regulations for the gold operations, as well as the replacement of the coal boiler at Beatrix with an electric boiler during August 2020 which resulted in reduced emissions. The 2020 tax liability estimate was calculated based on the basic carbon tax rate of R127 per tonne of CO_2e. As stated in our Climate Change Position Statement, uncertainty pertaining to the first phase of the carbon tax (June 2019 – December 2022) remains a concern for the company. As such, the group will be implementing measures to reduce our exposure to an increased carbon tax liability. These measures include leveraging our decarbonisation efforts; developing a carbon offsets policy and implementing appropriate carbon trading schemes to offset our carbon emissions as detailed in the Energy and Decarbonisation Position Statement.

Value chain stage(s) covered
Upstream

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
More than once a year

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
Upstream risks are always considered as it is critical for the business. Sibanye-Stillwater's cost of sales, before amortisation and depreciation comprise mainly labour and contractor costs, power and water, processing and smelting and consumables which include, inter alia, explosives, timber, cyanide, chemicals and steel balls. The TCFD Scenario analysis considered the impact of climate change on Sibanye-Stillwater's upstream value chain. The assessment was based on the main materials used by Sibanye-Stillwater, which include timber, cyanide, explosives, lime, cement, diesel and water. Sibanye-Stillwater expects that its input costs related to these consumables are likely to continue to increase in the near future and will be driven by inflation, general economic trends, market dynamics and other regulatory changes. Physical Risk case study From a physical risk perspective, climate change poses a risk to the production of mining timber. The timber is required for safe mining and any disruption in supply can affect safety and production. As a practical case study, the supply of mining timber relies on the growing of trees which can be impacted by physical climatic changes such as prolonged periods of drought and fire. Areas such as Mpumalanga, Limpopo and KwaZulu-Natal, key timber production areas, have all recently suffered longer periods of drought and all face increased fire risk as a result of climate change. However, the TCFD Scenario analysis found that the climate risks associated with the supply of timber is low and the insurance cover sufficient. In order to manage this risk, the TCFD Scenario analysis found that the climate change risks associated with timber should be reassessed every 5 years. Sibanye Stillwater also engaged with its timber supplier, Bedrock, that have a diversified operations footprint across 6 provinces in South Africa in order to take advantage of different climatic conditions, thereby mitigating potential climate risks associated with certain provinces. Transitional risk case study: Sibanye-Stillwater's upstream value chain will also be faced with certain transitional climate change risks. Predominantly, the transitional risks are regulatory changes in the form of carbon pricing instruments such as the South African carbon tax. The production of certain upstream products such as cement, lime and explosives are also subject to the South African carbon tax. As such, producers of upstream materials will likely pass through the increased costs associated with the production of such products to end-users such as Sibanye, thereby increasing the company's expenditure on such products. Sibanye-Stillwater's mature South African mines are by nature energy intensive and without any reasonable alternatives, are dependent on upstream carbon intensive power from the national utility, Eskom. Although Eskom will not be impacted by the carbon tax for the first phase of the carbon tax (1 June 2019 – 31 December 2022), the entity will be taxed from 2023 onwards, and could pass through its carbon tax liability to its consumers. This regulatory transitional risk will have a substantive financial impact on Sibanye Stillwater's operations from 2023 onwards, as we expect to pay approximately R320 million (c.5%) more for electricity based on a case study conducted by the Minerals Council. In order to manage the impact of the carbon tax pass-through on electricity, Sibanye-Stillwater is committing to increase the use of renewable energy at its operations. As determined in the internal strategic energy sourcing and decarbonisation roadmap, Sibanye-Stillwater is actively developing projects to substitute a minimum of 20% of the Group's total electricity requirements with renewable energy by 2030. In this regard, Sibanye-Stillwater has reinitiated development and negotiation of the SA Gold 50MW solar photovoltaic (PV) project, with construction anticipated to commence in 2022. Further, Sibanye-Stillwater is developing a further three embedded solar PV projects with an accumulative capacity of 175MW for its SA PGM operations and producing 250MW of remote wind energy. These projects are expected to come online in 2024. Furthermore and based on a case study that undertaken by the Minerals Council, the cumulative pass-through of carbon tax from products such as lime, cement, petrol and diesel will cost Sibanye approximately R1.3 million in 2019 escalating to potentially R12 million by 2030. These figures are reassessed regularly, to ensure they are up to date. The impact of such pass-through costs is particularly important for marginal business units where increased cost can affect their continued viability. In order to manage this risk, Sibanye-Stillwater's supply chain are engaged on climate change aspects (risks and opportunities). In order to restrict these cost inputs, there is a continuous programme driven by operational initiatives throughout the Group to improve efficiencies and productivity.

Value chain stage(s) covered
Downstream

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
More than once a year

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
Downstream risks are always considered in climate-related risk assessments and formed an integral part of Sibanye-Stillwater's TCFD Scenario analysis. As the largest primary producer of PGMs in the world, Sibanye-Stillwater's products are used in various downstream applications, chief of which is the production of catalytic converters in automobiles to remove noxious gases from exhaust fumes. In this regard, Sibanye-Stillwater's downstream value chain will be affected by an interplay between physical and transitional risks, where regulatory and technological changes in the automotive sector will be triggered by a need to respond to climate change as a result of emissions from the automotive sector. A trend towards the phasing out of emission intensive internal combustion vehicles is already observed as a result of regulatory and technological changes. Transitional risk case study: The TCFD Scenario analysis identified various scenarios pertaining to the phasing out of the internal combustion engine. In this regard, the report found that transitional risks associated with climate change to the platinum industry is high. A continuing decline in the market for internal combustion vehicles can significantly impact on the value of Sibanye-Stillwater's PGM business, as noted in our Integrated Report for 2020. However, our three-year investment into research and development of a tri-metal catalyst for gasoline cars, together with BASF, has been successful. The tri-metal catalyst is able to replace palladium with platinum in a 1:1 ratio. Based on current uptake estimates substitution of palladium with platinum could increase to over 1Moz by 2025. Better alignment of the PGM basket demand with supply will provide longer-term sustainability and greater price stability. While the core demand for PGM use in autocatalysts will not be affected substantially in the short to medium term, the company is well positioned to participate in the commodity requirements for the global energy transition, inclusive of emerging battery and fuel cell drivetrains and the green hydrogen economy. While the company has done substantial preparatory work on which to secure involvement in battery metals with an initial lithium-hydroxide transaction announced in February 2021, the green hydrogen economy linkage of electrolysers and fuel cells represents an attractive new application area for platinum and the minor PGM elements. Physical risk case study: From a physical risk perspective, mechanisms have been put place in order to reduce waste and the company's environmental footprint. Our vision for mineral and non-mineral waste management is to ensure that Sibanye-Stillwater is fully compliant with legislation, transparent in reporting, and innovative, efficient and effective in respect of our waste management practices. A Waste Position Statement was developed in 2020 and ratified in early 2021. The position statement includes the goal to drive waste minimisation initiatives to achieve our zero-waste-to-landfill for non-mineral related waste and to reduce the environmental impact of mineral waste while simultaneously limiting our associated risk exposure and supporting sustainable post-mining economies. In relation to post-mining land rehabilitation, Sibanye-Stillwater is also giving consideration to government's recently published Draft National Mine Closure Strategy of 2020, which states that certain mining operations must consider climate change as a key environmental impacts that need to be addressed in mine closure plans for selected regions. In this regard, Sibanye-Stillwater will assess climate change as part of land rehabilitation initiatives in order to increase the resilience of

communities who rely on the land, post-mining.

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Current legislation is always included in climate-related risk assessments as compliance is paramount and non-negotiable. Sibanye-Stillwater's South African PGM and gold operations are subject to South African environmental, health and safety laws and regulations that impose various duties on Sibanye-Stillwater's mines, while granting the authorities powers to, among other things, close or suspend operations in cases of non-compliance. An example of a regulatory risk: The TCFD Scenario analysis considered an in-depth analysis of current climate change related laws and policies which could impact on Sibanye-Stillwater's business operations. As an example, South Africa' Carbon Tax Act and the Carbon Offset Regulations have certain implications. The Carbon Tax is also linked to South Africa's National Greenhouse Gas Reporting Regulations, which were updated in September 2020. After having reassessed the amended provisions of the Greenhouse Gas Reporting Regulations, our carbon tax payable decreased due to the exclusion of fugitive mine methane from the Regulations for the gold operations, as well as the replacement of the coal boiler at Beatrix with an electric boiler during August 2020 which resulted in reduced emissions. The publication of the Carbon Offset Regulations has provided Sibanye-Stillwater with clarity on the eligibility of carbon offsets in the country. The Carbon Offset Regulations have provided Sibanye with a transitional opportunity to formulate a position on and investigate the feasibility of carbon offsets, in line with legislation and other principles that can be used to offset carbon emissions and which have the potential to offset the financial liability imposed by carbon tax. As the world's energy and transportation systems evolve at an unprecedented pace to support a credible climate change response in line with new regulatory measures, the application of minerals will evolve, creating substantial new demand opportunities as well as in some instances threats to demand. For example, the TCFD Scenario analysis also considered regulatory developments in the international and foreign markets which are relevant to Sibanye-Stillwater's operations. Numerous countries have published regulatory instruments indicating a ban on the sale and/or production of internal combustion vehicles in the long term, including Denmark, Iceland, France, Israel, Netherlands, Norway, Portugal and Spain to name a few.
Emerging regulation	Relevant, always included	Emerging regulations are always included in climate-related risk assessments and also formed part of the TCFD scenario analysis. Emerging regulations pose a financial and transitional risk to the company. Considering emerging regulations provides an opportunity to influence the legislative process and align practices and processes to proactively manage such risks. Examples of emerging regulatory risk: One emerging regulatory risks for our South African operations is the finalisation of the carbon budgeting system. Carbon budgets have been allocated to more than 20 companies by the Department of Forestry, Fisheries and Environment for the first phase (2016 – 2020) on a voluntary level. However, with the promulgation of the Draft Climate Change Bill, expected to be published in 2021, carbon budgets will become mandatory from 2023 onwards. Sibanye-Stillwater will have to increase expenditure on renewable energy and associated infrastructure in order to meet its carbon budget commitments, should the Group be required to submit a carbon budget. This may also result in increased spending on energy efficiency and could therefore affect the company's expenditures and capital. Sibanye-Stillwater has also noted the recent publication of the Draft National Mine Closure Strategy of 2020. As gold mining forms a part of our operations, the provisions of the Strategy are important as they require mine closure plans for gold mining operations in certain areas to consider climate change impacts. This includes the requirement that such plans should aim to be at least carbon neutral or that carbon-negative plans, via sequestration or offsetting, should be considered. Sibanye-Stillwater will assess the proposed Strategy and engage with the relevant stakeholders in order to ensure that once finalised, the Group has put the necessary measures in place in order to ensure that our mine closure plans do consider climate change. At our operations in Montana in the US, Governor Steve Bullock issued Executive Order 8-2019, which established the Montana Climate Solutions Council and joined Montana to the U.S. Climate Alliance. The Executive Order directed the Council to develop the Montana Climate Solutions Plan. Sibanye-Stillwater will monitor the developments of the Executive Order and implement the necessary measures to ensure compliance.
Technology	Relevant, always included	Technology is always included in climate-related risk assessments by Sibanye-Stillwater so as to keep abreast of latest developments. Technology is recognised as a key enabler of our energy and decarbonisation strategy. As such, the strategy calls for the investigation, ratification and implementation of technology solutions for operational problems and opportunities. For example, the accelerated deployment of digitalisation to enhance demand side energy management performance (such as digital twins, automated reporting and analysis), battery electric vehicles and commercially viable hydrogen technologies. Example of technology risks: As the world's largest producer of PGMs, technological changes in the automotive sector, such as the phasing out of internal combustion vehicles and the increased uptake of low-carbon automotive technologies can have a significant impact on Sibanye-Stillwater's revenue stream. While the core demand for PGMs use in auto catalysts will not be affected substantially in the short to medium term, the Group is well positioned to participate in the commodity requirements for the emerging battery and fuel cell drivetrains. Substantial preparatory work has been completed to secure involvement in battery metals. Most recently, the Group has entered the battery metals industry by investing in a lithium hydroxide project in Finland. Furthermore, the green hydrogen economy linkage of fuel cells represents an attractive new application area for platinum and the minor PGM elements. In addition, advances in energy technologies provide the company with an opportunity to diversify its electricity procurement. An example is at the South Africa operations, which are dependent on electricity purchased from the national utility provider, Eskom, which is primarily generated from coal. The coal-based electricity is emissions intensive and the supply is frequently and increasingly unreliable. With the cost of solar technologies decreasing and as part of the company's medium- to long-term energy management strategy, Sibanye-Stillwater undertook feasibility studies for prospective 30MW, 65MW and 80MW solar PV projects for the South African PGM Rustenburg and Marikana operations respectively. Furthermore, a request for information to test the market for 250MW of remote wind power with wheeling through the Eskom network has been conducted to take advantage of technological advancements in the renewables sector.
Legal	Relevant, always included	Legal aspects (regulation and legal liabilities) are always included in climate-related risk assessments as compliance with legal requirements is non-negotiable. Sibanye-Stillwater actively pursues compliance with climate change legislation and membership requirements of relevant voluntary industry bodies and programs. Example of a legal risk: An example where legal aspects is considered is in the management of return water facilities where overtopping frequencies are regulated. At the South African operation water balance management has been upgraded to include real-time monitoring of dam levels, cleaning of silted dams during the dry season to create more storage capacity and improving return pump capacities. An example of legal liabilities is on the maintenance of storage facilities where a breach of infrastructure can result in legal action (such as a failure of a tailings storage facility). Sibanye-Stillwater also takes pride in going beyond what is legally required in order to protect its immediate and surrounding environment. As an example, and unique within the mining industry in the US, the Good Neighbour Agreement provides an innovative framework for the protection of the natural environment while encouraging responsible economic development. It legally binds us to certain commitments and holds us to a higher standard than that required by federal and state regulatory processes. In order to keep track of all the legal requirements, an electronic legal aspect register has been developed and integrated into systems as of May 2020 at all SA gold and PGM operations as part of the company's ISO 14001 and ISO 45001 commitments.
Market	Relevant, always included	The demand for the metals produced by Sibanye-Stillwater is driven by various markets. These markets may be influenced by scenarios of climate change. Accordingly, Sibanye-Stillwater has taken the decision to align the Group strategy and business plans to global climate change requirements. For example, we have set a 2040, Group-wide, net neutral target. Furthermore, we intentionally do not mine those commodities, for example coal, that would contradict this strategy. Examples of market risks: The most relevant market for Sibanye-Stillwater is the automotive market. Sibanye-Stillwater scenario-analysis considered the effect climate change may have on the automotive market and the use of its primary PGM products across three different scenarios, including a 2°C pathway. Under this scenario, the most precarious outcome for Sibanye-Stillwater would be a scenario where there is disruptive market change based on a high uptake of battery powered vehicles. Such vehicles do not require the volumes of PGMs required in internal combustion or fuel cell technologies and could have a major impact on Sibanye's revenue stream. Sibanye-Stillwater has responded to this risk by laying the ground word to enter the battery metals sector through a partnership with and investment into Keliber, a leading European lithium company. The demand for lithium is expected to surge as a result of increasing digitalisation and electrification of transportation. Although there are some risks associated to a 2°C scenario for our PGM operations, other sources of our revenue stream such as gold and copper will perform well under changing market conditions. For example, copper demand is likely to exceed supply in the energy market under a 2°C scenario as a result of its applications in renewable technologies.
Reputation	Relevant, always included	Reputation risks are always included in climate-related risk assessments and Sibanye-Stillwater considers it to be a transitional risk linked to its response to the physical risks of climate change. We recognise the ever more stringent standards for responsible mining and business conduct to which stakeholders are holding companies accountable, and the increasing trends in responsible investment in low-carbon technologies. We aim to capitalise on the opportunity to strengthen our brand and reputation and to tap into the growing spectrum of responsible investment funds and low carbon technologies. In order to protect our reputation and our social license to operate, Sibanye-Stillwater will keep on disclosing its emissions in annual reports and to the CDP. In this regard, Sibanye-Stillwater submitted a Science Based Emission Target to the Science Based Target Initiative (SBTi). The SBTi approved our Group target in March 2019, demonstrating that Sibanye-Stillwater's emissions reduction targets conform to the required science-based calculation methodology and is aligned to contribute to the global climate change challenge. Example of a reputational risk: Our reputational risk also lies in our land rehabilitation and land management practices. Biodiversity, including biotic and abiotic components, is an important operational consideration for Sibanye-Stillwater, with significant strategic, financial and reputational implications for the Group and its mining operations. Environmental impacts have the potential to negatively impact our reputation. For this reason, we are also planning to implement appropriate and value-adding nature-based solutions to aid our land rehabilitation and post mine-closure solutions whilst also offsetting carbon emissions. Such measures will include carbon capture and storage/sequestration options which aligns with our expanding role in providing a cleaner and sustainable environment and improving lives.
Acute physical	Relevant, always included	Acute physical risks are always included in climate-related risk assessments because they have the potential to negatively impact operational performance and revenues. In addition, acute physical climate risks also have the potential to impact our host communities, creating increased reliance on the mining operations to provide support. Examples of acute physical risks: From the risk assessments conducted, the acute physical risks to Sibanye-Stillwater are changes in precipitation extremes and droughts. Changes in precipitation extremes and droughts in South Africa have the potential to impact on surface infrastructure as well as underground mining at Sibanye-Stillwater's operations. The likelihood of both, increased rainfall variability and increased intensity of rainfall events in the areas where Sibanye-Stillwater operates, have been assessed as part of our TCFD scenario-analysis. Severe storm events may also damage water infrastructure exacerbating water scarcity, especially at our South African PGM operations, with extreme winter storm conditions specifically affecting our Montana operations in the US. Other direct risks associated with acute physical climatic events also include risks to tailings facilities and increased water pumping costs. Acute physical risks may exacerbate water scarcity, especially at our South African PGM operations. To prepare our operations for any sudden acute climate change impacts that affect water supply, we have an active programme to reduce water consumption that will allow us to continue operating in a more water scarce environment. We also track weather-related environmental incidents, such as those caused by severe storm events, and highlight the remedial action to be taken to address the environmental incidents.

	Relevance & inclusion	Please explain
Chronic physical	Relevant, always included	Chronic physical risks are always included in climate change risk assessments because they have the potential to negatively impact operational performance and revenues. Examples of chronic physical risks: From the risk assessments conducted, climate change impacts in South Africa are likely to lead to increased temperatures, drought and water scarcity. We are taking into account the implications of potential variations in environmental conditions and temperatures for post-closure economic activity in the areas where we operate. This consideration is being used for example, in the selection of vegetation species for concurrent rehabilitation. We also report on the climatic conditions of our operations in our annual Mineral Resources and Reserves Report. Furthermore, to adapt to the potential climatic impacts of drought and water scarcity, our Water Heath Management Position Statement and Water Stewardship Position Statement aims to implement our water strategy across our operations that would enable us to preserve and protect water resources through the following high level initiatives: • responsible use of water resources to maintain our environmental and social licence to operate • encourage sound management of water systems and efficient water use • reduction in impact on water resources • drive environmental consciousness through awareness, stewardship and communication on environmental issues.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Chronic physical	Changes in precipitation patterns and extreme variability in weather patterns

Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Risk assessments indicate that South Africa is expected to experience chronic physical climate change impacts such as changes in precipitation patterns and extreme variability in weather patterns. These impacts have potential to disrupt the country's main supply of electricity, generated by the national utility, Eskom. Company specific description: Electricity is a vital component of the Sibanye-Stillwater operations. Our South African mines are particularly energy intensive, on account of their maturity and by nature of their depths where mining occurs up to 4.0km below surface. For historical, regulatory, and policy reasons, they are also reliant mainly on coal-fired electricity supply from Eskom. South Africa's electricity grid, predominantly coal-fried, is already under significant strain as a result of much-needed maintenance and a myriad of governance related challenges. The predicted chronic physical climate impacts are expected to worsen the electricity supply challenges from the utility. In particular, coal fired power stations also require significant volumes of water to operate. Long-term droughts and temperature increases will increase water scarcity in the country, which may impact the ability of coal-fired power stations to generate electricity. Extreme rain events may also interrupt primary energy supply to Eskom leading to generation capacity deficits. In terms of government regulations, in the event that Eskom cannot supply national electricity demand and initiates a system emergency, the operations are issued a 'load curtailment' instruction several hours in advance, requiring electricity consumption reduction of 10% (Stages 1 to 2), 15% (Stage 3) or 20% (stage 4), depending on the severity of the event. More locally, extreme wind may result in the failure of transmission infrastructure. The operational losses associated with these load curtailment or grid failure events can have substantive financial impacts on Sibanye-Stillwater's operational performance, and by extension lead to decreased revenues, as energy is the lifeblood of our operations.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

150450000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The potential financial impact of drought/water scarcity on Sibanye-Stillwater's electricity supply was calculated by assuming the impact of one day's lost revenue at the South African PGM operations. One day's loss of 2020 revenue at Sibanye's PGM operations in South Africa equates to about ZAR 150.45 million, assuming the mine operates 365 days per year.

Cost of response to risk

8000000000

Description of response and explanation of cost calculation
Sibanye-Stillwater has numerous mechanisms and plans in place in order to reduce its reliance on Eskom as its key energy supplier. Reductions in the purchase of Eskom electricity will also reduce the emissions associated with consuming electricity generated by the utility's predominant coal-based fleet. Example of response activities: A priority initiative during 2020 was the formulation of a SA-focused energy and decarbonisation strategy. As a large electricity consumer, energy management is the most fundamental way in which we as an organisation can contribute to mitigating climate change while also addressing the electricity constraint problems plaguing our SA operations. The following initial set of project activities form part of the roadmap and aim to achieve a minimum of 20% renewable penetration by 2030: • Reinitiated development and negotiation of the SA Gold 50MW solar photovoltaic (PV) project, with construction anticipated to commence in 2022; • Development of 30MW, 65MW and 80MW solar PV projects for the SA PGM Rustenburg and Marikana operations respectively; and • a Request for Quotation for up to 250MW of remote wind power with wheeling through the Eskom network. The costs of the measures, to date, associated with developing the renewable energy projects is c.ZAR 15 mn. The total capital costs of the projects are anticipated to be up to c.ZAR 8 bn. These projects will be third-party financed through power purchase agreement arrangements. The Beatrix operation, a deep-level gold mine in the Free State province of South Africa, intersects natural methane from underground sources as a result of its mining activities. The Beatrix methane project involves the utilisation of the methane to generate electricity that is used onsite. This project not only destroys the methane, but also serves to reduce our carbon emissions from purchased electricity as the methane-generated electricity is consumed by the mine and proportionally displaces electricity purchased from Eskom, which primarily uses coal-fired power stations. Methane is a cleaner-burning fuel than coal and therefore produces relatively less carbon emissions when used to generate electricity. In 2020, 2,157MWh of electricity was generated by the methane-fuelled generators, resulting in an emissions reduction or avoided Scope 2 emissions of 19,938 tCO2e for the Beatrix operation. The cost of purchased electricity from the Beatrix methane project in 2020 amounted to ZAR 1.7 mn.

Comment
None

Identifier
Risk 2

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

Risk type & Primary climate-related risk driver

Chronic physical	Changes in precipitation patterns and extreme variability in weather patterns

Primary potential financial impact
Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Water is a critical input in our operations. Our South African gold operations, South African PGM operations and US PGM operations each have unique and diverse water related challenges and risks. In particular, South Africa has a semi-arid climate, which means that the region's precipitation rate is below the potential rate of evapotranspiration. This implies that water resources are limited and that there is increased risk for higher water stress in areas that have high demand for water. Company specific description: High water stress is especially evident at our South African PGM operations where the Rustenburg, Kroondal and Marikana mines are located. These operations have limited ground- and surface-water sources, which are increasingly pressured by growing demand for water in the region as a result of expanding communities. This results in a material risk to the availability of water to these operations that requires proactive management to ensure water availability and security of supply to our operations. Prolonged droughts and water scarcity, especially at our South African PGM operations, have been identified as a key climate change-related water risk in the 2020 Integrated Annual Report. The impacts of insufficient water supplies or quality may include operational downtime or closures. Disruptions to operational performance lead to a decrease in revenues. Other risks related to water availability and quality include the risks of water restrictions and water cost increases imposed by municipalities, as water becomes scarcer.

Time horizon
Short-term

Likelihood
Very likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
150450000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The potential financial impact of drought/water scarcity on Sibanye-Stillwater's operations was calculated by assuming the impact of one day's lost revenue at the South African PGM operations. One day's loss of 2020 revenue at Sibanye's PGM operations in South Africa equates to about ZAR 150.45 million, assuming the mine operates 365 days per year.

Cost of response to risk
9950000

Description of response and explanation of cost calculation
Mitigation measures aimed at reducing the water scarcity risk facing our South African Operations include, among others, the implementation of actions to reduce water reliance from external suppliers and the development and responsible execution of Water Conservation and Water Demand Management plans, based on predictive modelling. The respective water security and independence strategies aim to reduce our impact on water resources without compromising water sources that have biodiversity value or are in sensitive areas. Independence from municipal water sources also means that there is more water available for our doorstep communities. Example of response activities: Sibanye-Stillwater pursued the following main projects in 2020 in order to reduce our risk associated with water stress - 1. Boreholes where installed at Kroondal and our Cooke Plant thereby reducing the water demand from our operations on external municipal water suppliers. 2. An extension to Driefontein's water treatment facility is underway. The 5Ml treatment extension will see Driefontein almost completely independent from municipal water supply by Q4 2021. 3. The Kloof

water treatment plant, which forms part of Phase 1 of the operation's independence drive, will reduce the reliance of the Kloof operations on Rand Water Board by approximately 33% in Q1 2021. 4. Alternative groundwater sources and the optimisation of water recovery from tailings storage facilities through scavenger wells are under investigation to ensure security of supply at the Marikana operation. 5. A major catchment water balance study has commenced for several catchments within the Upper Vaal Water Management Area, specifically around the SA gold operations. This study integrated historical and present catchment flow data from all water users within the catchment. The study will be completed in 2021. 6. A project to access 2.5 Ml/day water from the Hartebeespoort Canal, to improve the security of water supply to the Marikana operations. Projects to increase this to 10 Ml/day with possible treatment facilities will be pursued during 2021/2022. 7. Predictive modelling and 5Y WCWDM projects were initiated in 2020 and will be completed in 2021. (About 45% was completed by end of 2020) The costs associated with these actions came to ZAR 9.95 million.

Comment
None

Identifier
Risk 3

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

Risk type & Primary climate-related risk driver

Current regulation	Carbon pricing mechanisms

Primary potential financial impact
Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Sibanye-Stillwater's South African operations are subject to the provisions of the South African Carbon Tax Act 15 of 2019. Entities with scope 1 emissions above the specified thresholds are required to pay the carbon tax. Therefore, the South African operations will have increased direct costs related to carbon tax liabilities. Furthermore, the extent of the increased direct costs in the second phase of the carbon tax, expected to start on 1 January 2023, is unclear. Government has announced that the tax-free threshold and allowances will be phased out gradually in order to increase the tax liability and thereby encouraging companies to take increasingly ambitious action to reduce emissions. The details related to the phase out of relief mechanisms are not yet known and hence the projection of the impact of the carbon tax beyond 2022 cannot be predicted with certainty. This makes planning from 2023 onwards difficult. However, based on projections which result in the total phase out of the relief mechanism by 2030, Sibanye-Stillwater can expect a direct carbon tax liability in excess of between R36 million –R91 million by 2030. It is also worth noting that in addition to the direct tax liability discussed above, Sibanye Stillwater will also be subject to indirect carbon tax expenditures as a result of the passthrough of the carbon tax on certain upstream consumables such as cement, lime, steel, petrol, diesel and electricity. These indirect carbon tax costs will increase the direct costs associated with the South African operations. In particular from 2023, Eskom is expected to pass though the costs of their own carbon tax liability to their consumers. This results in an approximate increase on the electricity price of 14c/kWh by 2030 (CPI included). In addition to what Sibanye is paying for electricity, the carbon tax passthrough could amount to an additional electricity expenditure of between R344 million and R862 million by 2030, depending on how government will structure the phase out of the relief mechanisms.

Time horizon
Medium-term

Likelihood
Virtually certain

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
1400000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The financial impact is considered to be the expected carbon tax liability for the South African operations in the 2020 calendar year. This value was calculated using the carbon tax rate for 2020 of R127 per tonne CO2e. The carbon tax is payable on an annual basis and will vary according to the relevant direct emissions from the South African operations, as well as the carbon tax rate which will increase by CPI +2% up the end of 2022. From 2023, the carbon tax rate will increase annually by the rate of inflation.

Cost of response to risk
1100000

Description of response and explanation of cost calculation
Sibanye-Stillwater has two registered projects under the CDM in South Africa, namely the Beatrix mine methane capture and flaring project and the Beatrix ventilation fans project. The Beatrix methane project generated 36,010 carbon credits during the first crediting period from 2011 to June 2018. The first issuance was finalised in 2013. During 2019, the second batch of 53,956 carbon credits was verified and issued by the UNFCCC. The third verification of carbon credits is ongoing. Section 13 of the Carbon Tax Act allows for companies to reduce either 5% or 10% of their carbon tax liability (based on the company's scope 1 emissions) by surrendering carbon credits against such carbon tax liability. The issuance of the carbon credits allows Sibanye-Stillwater to offset 10% of its carbon tax liability, thereby reducing the expenditure of the company. The technical and auditing costs related to the first, second and third verifications/issuances have amounted to approximately R1.1 million.

Comment
None

C2.4

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

C2.4a

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

Identifier
Opp1

Where in the value chain does the opportunity occur?
Upstream

Opportunity type
Products and services

Primary climate-related opportunity driver
Development of new products or services through R&D and innovation

Primary potential financial impact
Increased revenues through access to new and emerging markets

Company-specific description
The platinum group of metals (PGMs) we produce assist in cleaning the air through exhaust systems of automobiles and are expected to play a vital role in the future hydrogen economy. Company-specific opportunity: The company is well positioned to participate in the commodity requirements for the global energy transition, inclusive of emerging battery and fuel cell drivetrains and the green hydrogen economy. While the company has done substantial preparatory work on which to secure involvement in battery metals with an initial lithium-hydroxide transaction announced in February 2021, the green hydrogen economy linkage of electrolysers and fuel cells represents an attractive new application area for platinum and the minor PGM elements. Novel applications for PGMs in the green hydrogen economy will aid in the global call to curtail global warming to below 1.5ºC. Sibanye-Stillwater's research and development efforts has led to the following conclusions which we expect to drive the demand for PGMs going forward: • Green hydrogen made in electrolysers via renewable energy (solar, wind) will be key to decarbonising heavy industry and everyday activities • PGM-based PEM (proton exchange membrane) technology is well-suited to using intermittent renewable energy feed, and • Hydrogen fuel cells are an efficient and environmentally friendly alternative for delivering power Growing acceptance of substitution in gasoline autocatalysts and increasing investment interest in the hydrogen economy has resulted in the platinum price achieving multi-year highs in 2021. We expect the platinum price to continue to be well supported, with upside over the next five years.

Time horizon
Short-term

Likelihood
Very likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
891000000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
Current platinum demand for use in electrolysers and fuel cells catalysts is estimated just under 100,000oz. This demand is conservatively anticipated to grow to approximately 190,000oz in 2025 and approximately 390,000oz in 2030. Given Sibanye-Stillwater's current approximately 19% market share of global primary platinum supply, it is anticipated that Sibanye-Stillwater could expect incremental demand of approximately 58,000oz of platinum from this segment by 2030. The value of this at the current platinum price (~$1100/oz) and an exchange rate of ZAR14.70/$ is ZAR 891 million.

Cost to realize opportunity
192000000

Strategy to realize opportunity and explanation of cost calculation
Sibanye-Stillwater is continuously investing in research and development to establish the role of PGMs in the low-carbon transition. On 21 February 2019, Sibanye-Stillwater announced it had agreed to acquire SFA (Oxford) Limited (SFA Oxford), an established analytical consulting company that is a globally recognised authority on PGMs and has for several years provided in-depth market intelligence on battery materials and precious metals for industrial, automotive, and smart city technologies. The acquisition was subject to the fulfilment of various conditions precedent which were completed on 4 March 2019. Sibanye-Stillwater obtained control (100%) on this date. The purchase consideration comprised an upfront payment of GBP4 million (R74.7 million) at the closing of the transaction and a deferred payment (contingent consideration), subject to a maximum payment of GBP6 million (R118 million). The purchase consideration therefore amounts to R192 million. The acquisition will strategically allow Sibanye-Stillwater to have access to the latest research developments pertaining to the application of PGMs in the transition to a low carbon economy and society. This gives Sibanye-Stillwater an advantage in comparison to its peers and allows the company to respond to current and future market developments in the PGM sector.

Comment
None

Identifier
Opp2

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Markets

Primary climate-related opportunity driver
Access to new markets

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
Apart from our PGM resources, Sibanye-Stillwater's also has significant copper, uranium and other reserves that will aid the world's transition to a low carbon economy and society. We have started laying the groundwork for greater geographic and product diversity – initially an entry into battery-related materials such as lithium, nickel and cobalt. Most recently, the Group has entered the battery metals industry by investing in a lithium hydroxide project in Finland. Lithium demand is predicted to grow to 900,000 LCE tonnes by 2027, and to almost 2.8 million LCE tonnes by 2040 and the Keliber project in Finland will allow Sibanye to contribute to the increasing demand for Lithium. Sibanye-Stillwater also has copper reserves for which the demand is projected to increase significantly in years to come. The price of copper has been on an increasing trend since the early 2000's. As a key metal in the electricity infrastructure sector, copper has been prized for its conductive properties. It is also a key component of large-scale renewable energy technologies such as wind and solar technologies. Our stake in the Altar and Rio Grande, copper-gold projects in the Andes in north-west Argentina, as well as the Marathon project in Ontario, Canada enables us to contribute to the global demand for copper driven by the renewable energy sector. Given the distribution of copper within our reserves, it is difficult to calculate the exact financial impact that the increased demand for copper will have on the company's financial position. Gold is Sibanye-Stillwater's second largest source of revenue. Gold has historically been considered to be a safe-haven commodity in the wake of geo-political instability and provides investors with a hedge against the possible adverse impacts associated with uncertainties in the market. This is evident when considering the gold price and increased demand for the metal during historic events such as 9/11 or the current COVID-19 pandemic which has resulted in substantial surges in the price of gold. Our TCFD Scenario analysis highlighted that under any one of the scenarios analysed, climate change is likely to exacerbate such geopolitical uncertainties. As such, the gold market presents Sibanye with an opportunity to increase its revenue stream in the short, medium, as well as the long term. Again, given a number of uncertainties, it is very difficult the extent to which gold prices may increase as a result of climate change impacts.

Time horizon
Long-term

Likelihood
Virtually certain

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
624960000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The Keliber lithium project is expected to reach its full run rate of 15,000 tonnes of ore per year by 2025 and produce cash flows with an annual EBITDA in the range of €100-120 million (https://thevault.exchange/?get_group_doc=245/1614066260-keliber-media-presentation-23february2021.pdf) . At a 30% stake and exchange rate of ZAR17.36/ €, this equates to ZAR 624.96 million in 2025.

Cost to realize opportunity
520800000

Strategy to realize opportunity and explanation of cost calculation
Sibanye-Stillwater acquired a 30% stake in Keliber Oy, which owns the Keliber lithium project in Finland currently in development stage with the option to increase to more than 50%. The cost of the acquisition was €340 million or ZAR 520 million, excluding any further required project financing. An updated and enhanced definitive feasibility study will be completed within 18 to 24 months, with a view to achieving successful project financing of a currently estimated €340 million by H2 2022. The project financing would include both a debt and equity component. The Altar project, located within the San Juan province, Argentina, is an advanced stage porphyry copper-gold exploration project. Stillwater Canada LLC, an indirect subsidiary of Sibanye-Stillwater has entered into a Joint Venture to acquire up to an 80% interest in Peregrine Metals Ltd (Peregrine), a wholly-owned subsidiary of Sibanye-Stillwater, which owns the Altar copper-gold project. As at 31 December 2020, Sibanye-Stillwater's interest in Altar was 40%. The cost of the acquisition was ZAR was part of the broader Stillwater acquisition in 2018 and cannot be delineated in terms of cost. In August 2018 a transaction between DRDGOLD and Sibanye-Stillwater was completed, whereby Sibanye-Stillwater traded selected assets from its WRTRP project (now DRDGOLD Far West Gold Recoveries) for a 38.05% shareholding in DRDGOLD. Effective on 22 January 2020, Sibanye-Stillwater increased its holding in DRDGOLD, and exposure to the gold market, from a 38.05% to 50.1% equity interest; securing the majority holding. DRDGOLD is a South African gold producer and a world leader in the recovery of gold from the retreatment of surface tailings. The decision to increase equity in gives Sibanye-Stillwater greater access to the opportunities within the gold market. The projected increase for the demand for gold and its associated price increases will contribute to a growing revenue stream for the company. The total amount of consideration paid to the DRDGOLD shareholders for the increased equity amounted to just over R261 million. The purchase consideration was calculated as 61.95% of the fair value of Far West Gold Recoveries assets and liabilities.

Comment
None

Identifier
Opp3

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

Opportunity type
Energy source

Primary climate-related opportunity driver

Use of supportive policy incentives

Primary potential financial impact
Returns on investment in low-emission technology

Company-specific description
Recent regulatory developments in South Africa presents the group with an opportunity to increase the use of renewable energy at our operations. It was recently announced that the exemption threshold for the self-generation energy projects would be lifted to 100MW. The relevant amendments to Schedule 2 of the Electricity Regulations Act are expected to follow shortly. This supportive policy measures will allow Sibanye-Stillwater to develop renewable energy projects without having to license such facilities with the National Energy Regulator of South Africa (NERSA). This means that the 50MW solar project planned for our gold operations in South Africa, and our accumulative 175MW of solar projects for our PGM operations, as well as the 250MW of remote wind projects, will not face the same administratively burdensome processes with regards to licensing with NERSA. Another supportive policy inventive for Sibanye-Stillwater is the publication of the Carbon Offset Regulations, which effectively established the carbon market in South Africa. In this regard, our Beatrix methane project was registered under the Clean Development Mechanism (CDM), in 2011. The Beatrix Methane Project generates electricity from underground methane, thus displacing the consumption of the emissions intensive grid electricity. The project has accrued 289,246 carbon credits. With the introduction of the South African carbon tax in 2019, and the ability of taxable entities to reduce their carbon tax liability by utilising carbon offsets, Sibanye-Stillwater has been presented with an opportunity to not only generate clean electricity but also to reduce our own carbon tax liability through the use of credits from our Beatrix project. The projects above represent a partial solution to securing alternative electricity supply and enables the power generated to be injected directly into our various operations, while reducing our overall electricity expenditure and carbon footprint through the use of carbon offsets and sequestration initiatives.

Time horizon
Long-term

Likelihood
Virtually certain

Magnitude of impact
Medium-high

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
4000000000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The solar and wind plant projects will not only result in fewer Scope 2 emissions, but will also represent an opportunity for Sibanye-Stillwater to reduce electricity expenditure as the PPA tariff is expected to be up to 45% lower than the current rates paid for electricity. The supportive policy incentive related to the lifting of self-generation thresholds for renewable energy generation will facilitate the development of such projects, which have been constrained by regulatory barriers. It is anticipated that the electricity cost and carbon tax savings that may be realised from purchasing electricity from the renewable energy projects will have an approximate net present value of up to R4 000 million. This figure is based on comprehensive modelling of the anticipated Eskom escalations relative to the expected PPA tariffs and carbon tax savings estimate. This value is subject to a number of assumptions and the ultimate approval of the renewable energy projects and execution of associated agreements. The estimated financial impact does not account for additional benefits related to the PV project. Such benefits include the diversification of energy supplies, which will reduce the risks of downtime due to power shortages in South Africa.

Cost to realize opportunity
8000000000

Strategy to realize opportunity and explanation of cost calculation
The accumulative capital cost of the renewable energy projects is anticipated to be ZAR 8 000 million. These capital costs will be third-party funded through independent power producers who will build, own and operate the facilities and fell the electricity generated through a power purchase agreement. This value is subject to a number of assumptions and the ultimate approval of the renewable energy projects and execution of associated agreements.

Comment
None

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?
Yes, and we have developed a low-carbon transition plan

C3.1a

(C3.1a) Is your organization's low-carbon transition plan a scheduled resolution item at Annual General Meetings (AGMs)?

	Is your low-carbon transition plan a scheduled resolution item at AGMs?	Comment
Row 1	No, but we intend it to become a scheduled resolution item within the next two years	Sibanye-Stillwater has published an Energy and Decarbonisation Position Statement which serves to guide the Group's low carbon transition strategy and plan. It is a fundamental pillar of the group's Strategic Response. The Position Statement also sets out a commitment to achieve carbon neutrality by 2040 and is published on our website. To the extent that decision making relating to our strategy or plan cannot be made within the ambit of the Board or Executive Committee's mandate, we will seek any further required resolutions with our shareholders in order to deliver on our carbon neutrality by 2040 commitment.

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios and models applied	Details
RCP 2.6	How the scenario was identified: Changes in the natural environment as a result of climatic changes can result in physical risks. The physical changes can at the same time indirectly lead to impacts on markets, policies and/or technologies (transitional risks). Physical risk scenarios are described by a change in the atmospheric concentration of greenhouse gases, which can be translated into a change in global temperatures. The IPCC categorised these concentration and associated temperature changes in their Fifth Assessment Report in four different scenarios called "Representative Concentration Pathways" (RCPs). The RCP 2.6 scenario is based on the assumption that the international community uses the ratchet mechanism in the Paris Agreement effectively to limit the average global temperature to 2^{0}C, with countries increasing their ambitions for emissions reduction by 2025. In the short-term, climate change is projected to generally lead to increased temperatures and increased variability in rainfall. In this scenario, the risks from climatic changes on businesses would be manageable. The RCP 2.6 scenario is relevant to Sibanye-Stillwater because of the transitional risks (including magnitude of impact) that are caused by the underlying environmental physical changes. Notable transitional risks for the company include shifts in market behaviour and changes in the regulatory environment that can affect future developments, for example in the automotive market which Sibanye serves. Description of the time horizon: Sibanye-Stillwater considers the RCP 2.6 scenario both in the short- and long-term, although the greatest changes in the climate under this scenario are expected in the short-term, while stabilising in the long-term. It is thus expected that the regulatory impact of the RCP 2.6 scenario will be high in the short term as there will be significantly more stringent regulatory pressure. The business area considered as part of the scenario analysis is the market demand for metals such as chromium, copper and platinum. Results of the scenario analysis: The result of applying the RCP 2.6 scenario and linking it to transitional risks in the aforementioned business areas is that Sibanye-Stillwater expects an increased demand for renewable and cleaner energy, resulting in increased demand for metals such as chromium which is used in wind turbines and PGMs for use in hydrogen electrolysers and fuel cells. We further envisage that the electric vehicle market will increase, primarily hybrids, which utilise PGMs in auto catalysts. Our view is that the hybrid vehicles market is expected to make up the majority of "new vehicle tech" growth. Platinum is likely to be mostly balanced for the remainder of this decade, thereafter reverting to material deficits as primary production from SA contracts. Copper demand for the motors in electric vehicles and hybrids is also expected to increase; electric vehicles and hybrids use about two to three times the amount of copper compared to conventional internal combustion vehicles. There may also be an increased demand for platinum used in fuel cell electric vehicles and the hydrogen economy. Description and case study of how the results of the scenario analysis have informed business objectives and strategy: Based on these results, Sibanye-Stillwater acquired SFA Oxford in February 2019, which is an established analytical consulting company, a globally recognised authority on PGMs, providing in-depth market intelligence, for several years, on battery materials and precious metals for industrial, automotive and smart city technologies. Going forward, the acquisition of SFA Oxford will help fast-track our strategic objective of diversifying into battery metals which is a natural hedge against the PGMs market changes. Most recently, the Group has entered the battery metals industry by investing in a lithium hydroxide project in Finland.
RCP 8.5	How the scenario was identified: Changes in the natural environment as a result of climatic changes can result in physical risks. The physical changes can at the same time indirectly lead to impacts on markets, policies and/or technologies (transitional risks). Physical risk scenarios are described by a change in the atmospheric concentration of greenhouse gases, which can be translated into a change in global temperatures. The IPCC categorised these concentration and associated temperature changes in their Fifth Assessment Report in four different scenarios called "Representative Concentration Pathways" (RCPs). The RCP 8.5 scenario is a high emission scenario in which global greenhouse gas emissions lead to a radiative forcing of 8.5 W/m2 and a temperature rise of 4°C or more by the end of the century (in South Africa: > 6^{0}C; Montana, USA: ca. 6^{0}C). This is the scenario where the majority of countries worldwide do not manage to implement the greenhouse gas mitigation commitments they have made in terms of the Paris Agreement. The RCP 8.5 scenario is relevant to Sibanye-Stillwater because the physical risks associated with the projected dramatic changes in the climate in the USA and in South Africa could have detrimental impacts on our ability to operate. For example, operations may have disruptions to power and/or water supply, equipment could fail, shafts could flood, workers may be unable to get to work or other interruptions in the supply chain. The RCP 8.5 scenario identifies risks to our business under "worst-case scenario" conditions. Description of the time horizon: Sibanye-Stillwater considers the RCP 8.5 scenario both in the short- and long-term. The physical risk is low in the short term but will increase over time due to the warming of the planet, and become high in the long term. The transitional risks for both South Africa and Montana associated with this scenario are low, as RCP 8.5 represents the case where governments and markets do not take climate change action. The areas of our Company that have been considered as part of the scenario analysis include the critical supplies of electricity and water to our facilities. Results of the scenario analysis: The results of the scenario analysis under the RCP 8.5 scenario indicate generation of electricity in South Africa is especially at risk as a result of physical impacts such as water shortages and floods. Electricity distribution infrastructure in the country is also at risk of extreme weather events such as storms. Sibanye-Stillwater requires uninterrupted power supplies to operate safely. Further, the results indicate that rising temperatures and droughts would lead to water insecurity. Our operations require large quantities of water, without which our operations would be interrupted. From a transitional risk perspective, there is a probability that climate change may increase global geopolitical uncertainty if the No-mitigation scenario materialises, in which case the price of gold may go up. This would be beneficial for Sibanye. This benefit needs to be weighed against the physical climate change risks on our operational efficiency. Description and case study of how the results of the scenario analysis have informed business objectives and strategy: Based on these results, Sibanye-Stillwater has taken action to manage the risks highlighted in this scenario, including the climate change assessment conducted to identify the physical aspects, such as high intensity rainfall and hail which could result in physical damage to our direct operations and to the provision of vital upstream supplies. Sibanye-Stillwater us pursuing various measures to mitigate such risks. For example, Sibanye-Stillwater has also developed a strategy to reduce dependence on municipal water purchased by the South African operations to minimise water disruptions in the event of dry spells and droughts.
Nationally determined contributions (NDCs)	How the scenario was identified: Changes in the natural environment due to climatic changes can result in physical risks. The physical changes can also indirectly lead to impacts on markets, policies and/or technologies (transitional risks). Physical risk scenarios are described by a change in the atmospheric concentration of GHGs, which can be translated into a change in global temperatures. The IPCC categorised these concentration and associated temperature changes in their 5th Assessment Report in four different scenarios called "Representative Concentration Pathways" (RCPs). The RCP 6.0 scenario is a scenario in which countries manage to implement the actions committed to in their NDCs, but do not manage to increase the ambition. In this scenario, global average temperatures are expected to increase by around 3.5°C by 2100. In the case of South Africa, the NDC pledges are consistent with the country's long-term goal to constrain its emissions to follow a peak-plateau-decline (PPD) trajectory. Based on this, South Africa's emissions should peak between 2020 and 2025, plateau for approximately a decade and then decline in absolute terms. The PPD trajectory targets an absolute emissions level in the range of 398–614 MtCO2e over the period 2025-2030. The NDC (RCP 6.0) scenario is relevant because it enables our Company to identify an operational environment which gives a more realistic outlook for the physical and transitional risk future, as it is neither a worst-case (RCP 8.5) nor a best-case (RCP 2.6) scenario. Description of the time horizon: Sibanye-Stillwater considers the NDC scenario both in the short- and long-term. The short-term physical risk is low and the regulatory risk is medium. In the long-term the physical risk increases and the transitional risk remains the same. The area of our Company that has been considered as part of the scenario analysis is the change in regulatory developments. Results of the scenario analysis: The results of the NDC scenario analysis highlights transitional risks to Sibanye's operations. The transitional risk in South Africa is taken in the context of the existing regulatory developments. This includes: • An implemented carbon tax; • Risk of mandatory Carbon budgets and Pollution Prevention Plans for the mining industry from 2023. Our US operations will be exposed to transitional risks as the global community shifts towards more climate-friendly energy and transport systems. The application of minerals will evolve, creating substantial new demand opportunities and even threats to demand. To remain market relevant and compliant with regulatory requirements in the global regions in which our products are used, we would be impacted by regulatory requirements enforced in these regions (e.g. EU). At the same time, transitional risks and opportunities are relevant for managing our own carbon footprint (South Africa & USA). The escalating urgency to reduce global carbon emissions, with the European Union aiming for a net zero emissions target by 2050, imposes the imperative of intensifying our work to reduce the emissions of carbon and other contributors to global warming related to our operations. Description and case study of how the results of the scenario analysis have informed business objectives and strategy: Based on these results, Sibanye-Stillwater's business strategy was influenced in that it now considers opportunities to reduce the organisation's tax liability through the use of eligible carbon offsets. Accordingly, Sibanye-Stillwater has two CDM projects which could potentially generate carbon offsets. With the South African carbon tax legislation having come into effect on 1 June 2019, Sibanye-Stillwater continues engaging with the Department of Forestry, Fisheries and Environment on legislation such as the Draft Climate Change Bill which will be adopted in 2021. Sibanye-Stillwater also engages on the NDC through participation in the Industry Task Team on Climate Change.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Our fundamental strategic purpose is 'improve lives through our mining' while strengthening our position as a leading, international precious metal mining company. Our vision is 'to create superior value for all our stakeholders'. Our climate change vision is to contribute towards a global climate change solution through the reduction of GHG emissions from our operations, the adoption of technologically innovative solutions to curb and manage the impacts of climate change, and the pursuit of a measured transition towards a low carbon future, in line with the goals of the Paris Agreement and other international protocols. How our strategy has been influenced by climate-related risks and opportunities related to our products: Our short (0-5 year) and long-term (5-10 year) business strategies are guided by climate-scenario analysis, our Group risk and opportunity assessments as well as close attention to national and international developments in the climate change space. These processes enable us to identify and react to market shifts. Especially the changes currently taking place in the automotive and energy sectors. Case study: The automotive sector is Sibanye-Stillwater's primary demand driver. However, we recognise that transportation systems are evolving at an unprecedented pace to support a credible climate change response in line with developing regulation. For this reason, we have decided to expand our commodity portfolio through an initiate entry into the battery materials space. Based on a feasibility study completed in 2020, Keliber, our recent investment in the battery metals space, currently has 9.3 million tonnes of lithium hydroxide ore reserves, sufficient for more than 13 years of operation. Sibanye-Stillwater has also strategically assessed the role of PGMs in the low carbon transition. In this regard, we are developing a Hydrogen Strategy. The Strategy aims to develop Sibanye's understanding of hydrogen's potential for the demand of PGMs, to evaluate opportunities to participate in the hydrogen value chain, to identify appropriate partners and to accelerate hydrogen adoption.
Supply chain and/or value chain	Yes	Sibanye-Stillwater recognises that climate impacts have the potential to disrupt the supply of critical inputs along the company's value chain. Disruptions along the value chain have the potential to negatively impact Sibanye-Stillwater's operations, revenues and therefore long-term sustainability. How our strategy has been influenced by climate-related risks and opportunities along the value chain: Our short (0-5 year) and long-term (5-10 year) business strategies are guided by climate-scenario analysis, our Group risk and opportunity assessments as well as close attention to national and international developments in the climate change space. These processes enable us to identify and react to impacts along our value chain. Case study: The Sibanye-Stillwater South Africa operations have categorised its suppliers and contractors into three groups: strategic, tactical and local. Through this process, critical suppliers have been identified and are regularly engaged with on climate-related issues to jointly address risks and opportunities in our supply chain. For example, in 2018, a tornado-like storm destroyed the main and backup Eskom power lines that feed the shafts of Sibanye-Stillwater's Beatrix operations in South Africa. The result was a total power outage and damage to critical technical equipment. This contributed to lower gold production of about 330 kg (+/- R167,5 million loss). These events have influenced our short-term strategy: we needed to identify alternative, renewable power supply in the event that Eskom is unable to supply electricity to our operations, to ensure continued production and the safety of our workforce. Engagements with Eskom led to an agreement on specific protocols to mitigate the impact of load curtailment at our operations. Influence on our medium- to-long-term energy management strategy: the most substantial strategic decision made to date, influenced by this climate-related risk, was the development and approvement of a range renewable energy projects. This includes five commercially viable projects: SA Gold 50MW solar PV project; SA PGM 80MW solar PV project (RPM); SA PGM 65MW solar PV project (Karee); SA PGM 30MW solar PV project (Marikana) and 250MW of remote wind project with wheeling.
Investment in R&D	Yes	Sibanye-Stillwater recognises that various minerals are expected to be instrumental in future low carbon technologies. This presents an opportunity to Sibanye-Stillwater in the short-to medium term, where our strategic intelligence can position our business as a supplier of minerals that are critical to support the global challenge of mitigating climate change. This will include a continuing focus on our recycling operations to enable production of minerals with a lower carbon footprint. How our strategy has been influenced by climate-related risks and opportunities along the value chain: Our short (0-5 year) and long-term (5-10 year) business strategies are guided by climate-scenario analysis, our Group risk and opportunity assessments as well as close attention to national and international developments in the climate change space. These processes enable us to identify areas for R&D investment. Case study: A strategic decision made in line with the opportunity to assess the role of PGMs in the low-carbon transition motivated Sibanye-Stillwater to acquire SFA Oxford in 2019. SFA Oxford is an established analytical consulting company and a globally recognised authority on PGMs, providing in-depth market intelligence on battery materials, precious metals and hydrogen for industrial, automotive and smart city technologies. The acquisition of SFA Oxford will help fast-track our strategic objective of diversifying into battery metals which is a natural hedge against the PGM market changes. The acquisition cost compares favourably with the cost of setting up a similar analytical and research group internally but significantly leapfrogs the time required to build up the intellectual knowledge. While Sibanye-Stillwater will have Board representation consistent with its equity holding, SFA Oxford will continue to operate as an independent company, providing services to global clients on metal market analysis. As such SFA Oxford is expected to be operating cost neutral to Sibanye-Stillwater.
Operations	Yes	Sibanye-Stillwater recognises the risks and opportunities that climate change may have on our operations. How our strategy has been influenced by climate-related risks and opportunities related to our operations: Sibanye-Stillwater's short (0-5 year) and long-term (5-10 year) operational strategies have been influenced by climate-related risks and opportunities. Sibanye-Stillwater's operational strategies are guided by climate-scenario analysis, our Group risk and opportunity assessments as well as close attention to national and international developments in the climate change space. Sibanye-Stillwater has noted the recent publication of the Draft Mine Closure Strategy published by the Department of Mineral Resources and Energy in South Africa, which requires climate change to be considered in mine closure plans in certain circumstances. Sibanye-Stillwater has proactively decided to implement appropriate and value-adding nature-based solutions to offset carbon emissions which may include carbon capture and storage/sequestration options as part of our mine closure activities. This is part of our strategic objective of driving a carbon neutral position by 2040 through the development, implementation, and execution of our energy and decarbonisation strategy. Sibanye-Stillwater has also identified low carbon tax incentives offered by the South African government in the form of rebates offered by the Section 12L of the Income Tax. The 12L Tax incentive provides an allowance for businesses to implement energy efficiency savings. The savings allow for tax deduction of 95c/kwh saved on energy consumption. Sibanye identified this tax incentive as a climate-related opportunity where feasible tax rebates may assist Sibanye to research and develop further innovative energy efficiency and greenhouse gas mitigation projects, which can have operational and additional revenue benefits. This influenced our strategy in that a stronger long-term drive towards increasing energy efficiency, which in turn lowers our operational emissions, is incorporated into our operating strategy. The most substantial strategic decision made that has been influenced by this climate-related opportunity is that our operations continue to deploy an array of energy efficiency projects through our energy management strategy.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Capital allocation Acquisitions and divestments Access to capital Liabilities	Revenues Case study and related time horizon: The development and ongoing management of market shifts is an example of how climate-related opportunities have influenced our financial planning. We remain informed about the latest and future market developments, and in turn anticipate changes in the demand of mining products. According to the International Energy Agency's report "The Role of Critical Minerals in Clean Energy Transitions", mineral demand for use in EVs and battery storage is a major force, growing at least thirty times by 2040. Lithium sees the fastest growth, with demand growing by over 40 times by 2040. In other sectors, the rapid growth of hydrogen as an energy carrier underpins major growth in platinum-group metals for fuel cells. The demand projections associated with these metals have been incorporated in our financial planning and will result in an increase of revenue for the group in the medium-to-long term. Direct costs Case study and related time horizon: The introduction of the carbon tax in South Africa will result in Sibanye-Stillwater having a carbon tax liability payable to the South African Revenue Service. As the current design of the tax is planned to cover a period up to 2030, the current timeframe of the tax will span the short-and-medium terms. In order to minimise our carbon tax liability from our direct operations, we have strategically advantage of the carbon offset capabilities of our Beatrix Methane Project. While it was registered as a CDM project, from 1 July 2011 to 30 June 2018, the project accrued 289,246 carbon credits. The project and the carbon credits generated by the project gives Sibanye-Stillwater the opportunity to reduce the amount of carbon tax payable resulting from its direct operations. Sibanye-Stillwater has also made the decision to explore carbon offset opportunities, such as nature-based carbon sequestration methods. Capital allocation Case study and related time horizon: Capital allocation is an example of how climate-related opportunities have influenced our financial planning. According to the International Energy Agency's report "The Role of Critical Minerals in Clean Energy Transitions", mineral demand for use in EVs and battery storage is a major force, growing at least thirty times to 2040. Lithium sees the fastest growth, with demand growing by over 40 times by 2040. In other sectors, the rapid growth of hydrogen as an energy carrier underpins major growth in platinum-group metals for fuel cells. The demand projections associated with these metals have been incorporated in our financial planning and will result in an increase of revenue for the group in the medium-to-long term. Our capital investment in these metals will positively impact our balance sheet and equip Sibanye-Stillwater with the necessary resources in order to respond to the opportunities related to a transition to a low-carbon economy. We view our recent partnership with Keliber as key capital investment to position Sibanye-Stillwater as a role-player in the development of battery technologies and the renewables sector. The project is expected to have a long term (5-10 year) focus. Access to capital; liabilities Climate change impacts are progressing and impacting our operations either through physical impacts or transitional ones (e.g. market shifts and investor demands). There is in turn a continuous need to identify business risks and opportunities to remain operational, competitive and market relevant. Our financial planning therefore needs to ensure that Sibanye-Stillwater has access to credit at all times, e.g., in the event that major investments into infrastructure are required to realise climate-related opportunities and/or mitigate climate-related risks. Our equity and debt providers have clearly indicated their expectations for us not only to set climate change target but also demonstrate meaningful decarbonisation of our value chains. If we do not achieve this, we risk divestment by our shareholders and restricted access to debt finance. As a result, Sibanye-Stillwater actively engages with our shareholders and debt providers on the topics of climate change and decarbonisation. Sibanye-Stillwater is also positioning itself as a green metal producer with the intent to access new markets and low-cost 'green' finance. Acquisitions and divestments Case study and related time horizon: Strategic acquisitions are examples of how climate-related opportunities have influenced our financial planning. Our geographically diverse portfolio of operations and projects in southern Africa (SA) and the United States (US) was recently supplemented by the strategic acquisition of a 30% stake in Keliber Oy, developers of the Keliber lithium project in Finland. In 2019, Sibanye-Stillwater concluded a feasibility study to assess the acquisition of Keliber. The Keliber project consists of several advanced stage lithium spodumene deposits, with significant exploration upside in close proximity to the existing project. Keliber currently has 9.3 million tonnes of ore reserves, sufficient for more than 13 years of operation, meaning it will provide Sibanye-Stillwater with a long-term (5-10 year) opportunity. Planned annual production is 15,000 tonnes of battery grade lithium hydroxide, which will be a valuable metal for battery technologies in the world's transition to a low-carbon economy and society.

C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

None

C4. Targets and performance

C4.1

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

Absolute target

C4.1a

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

Target reference number
Abs 1

Year target was set
2018

Target coverage
Company-wide

Scope(s) (or Scope 3 category)
Scope 1+2 (market-based)

Base year
2010

Covered emissions in base year (metric tons CO2e)
7808692

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)
100

Target year
2025

Targeted reduction from base year (%)
27

Covered emissions in target year (metric tons CO2e) [auto-calculated]
5700345.16

Covered emissions in reporting year (metric tons CO2e)
5553592

% of target achieved [auto-calculated]
106.960579597994

Target status in reporting year
Achieved

Is this a science-based target?
Yes, and this target has been approved by the Science-Based Targets initiative

Target ambition
2°C aligned

Please explain (including target coverage)
This target was set in 2018. This target is made up of all Sibanye-Stillwater operations at the time. The bulk of the emissions is from the operations in South Africa, comprising more than 95%. The SA national emissions trajectory, the sectoral decarbonisation approach methodology and the CDP criteria of 2.1% reduction have been considered in setting this target. This target has been sent to the Science-based targets initiative for review and was approved on 26 March 2019. The SA operations scope 2 emissions is made up of emissions from purchased electricity from Eskom and purchased electricity from Aggreko who own and operate the electricity generators at Beatrix Mine. These generators use methane extracted from the mine as its fuel source. As Beatrix exercises a choice in its electricity purchases, the market-based method is applicable. All the other SA operations electricity is location-based. The US operations electricity is also purchased from more than one source (market-based). According to the GHG protocol, if a multi-regional company has any operations within the corporate inventory where the market-based method applies, then a market-based method total shall be calculated for the entire corporate inventory to ensure completeness and consistency. For any individual operations in the corporate inventory where market based method data on the hierarchy is not applicable or available, data from the location-based method should be used to represent the emissions from the facility. For these operations, the calculated scope 2 according to the market-based method will be identical to the location-based. Sibanye acquired the Marikana operations (ex Lonmin) in the previous reporting year. A restatement of the base year and the target is still to be undertaken to include these operations. When comparing the target to the base year and excluding the Marikana Lonmin operations, Sibanye has achieved a 29% reduction in their Scope 1 and 2 emissions therefore the target has been achieved.

C4.2

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

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number
NZ1

Target coverage
Company-wide

Absolute/intensity emission target(s) linked to this net-zero target
Abs1

Target year for achieving net zero
2040

Is this a science-based target?
No, but we are reporting another target that is science-based

Please explain (including target coverage)
Sibanye-Stillwater is committed to ESG excellence and continual improvement. In 2020, we conducted an assessment identified a tough but viable pathway to carbon neutrality by 2040. Therefore, we have adopted a net zero by 2040 target. The adoption of the SBTi Net Zero standard will be considered once is finalised and available for review.

C4.3

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

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	57	
To be implemented*	24	25961
Implementation commenced*	60	65209
Implemented*	8	209126
Not to be implemented	13	

C4.3b

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

Initiative category & Initiative type

Energy efficiency in buildings	Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
31

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
2456

Investment required (unit currency – as specified in C0.4)
26182

Payback period
4-10 years

Estimated lifetime of the initiative
6-10 years

Comment
Sibanye-Stillwater implemented a project to upgrade the lighting at the Metallurgical Complex in the US which resulted in 31 tCO2e emissions savings.

Initiative category & Initiative type

Energy efficiency in production processes	Other, please specify (Ventilation network and surface fans (Energy Management))

Estimated annual CO2e savings (metric tonnes CO2e)
33819

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
42214645

Investment required (unit currency – as specified in C0.4)
4741526

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
Sibanye has implemented several initiatives related to their ventilation networks which resulted in 33 819tCO2e of emissions savings.

Initiative category & Initiative type

Energy efficiency in production processes	Other, please specify (Mining optimization (Energy Management))

Estimated annual CO2e savings (metric tonnes CO2e)
9389

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
10645077

Investment required (unit currency – as specified in C0.4)
1651995

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
Sibanye has optimised their mining processes at all of their mines resulting in 9 389tCO2e of emissions savings.

Initiative category & Initiative type

Energy efficiency in production processes	Other, please specify (Pumping system and water consumption optimization)

Estimated annual CO2e savings (metric tonnes CO2e)
49843

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
59689036

Investment required (unit currency – as specified in C0.4)
6822104

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
Sibanye has conducted several initiatives to optimise their pumping systems and water consumption resulting in 49 843tCO2e of emissions savings.

Initiative category & Initiative type

Energy efficiency in production processes	Compressed air

Estimated annual CO2e savings (metric tonnes CO2e)
63467

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
50276204

Investment required (unit currency – as specified in C0.4)
8991097

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
Sibanye has implemented several projects to improve their compressor systems and consumption. This resulted in 63 467tCO2e of emission savings.

Initiative category & Initiative type

Energy efficiency in production processes	Other, please specify (Refrigeration system optimization)

Estimated annual CO2e savings (metric tonnes CO2e)
24850

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
18859121

Investment required (unit currency – as specified in C0.4)
4604320

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
Sibanye has conducted several projects to optimise their refrigeration systems. These resulted in 24 850tCO2e of emissions savings.

Initiative category & Initiative type

Energy efficiency in production processes	Other, please specify (Process plant optimization)

Estimated annual CO2e savings (metric tonnes CO2e)
7789

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
8559306

Investment required (unit currency – as specified in C0.4)
864601

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
Sibanye has optimised all of their process plants resulting in emissions savings of 7 789tCO2e.

Initiative category & Initiative type

Low-carbon energy generation	Other, please specify (Power generation)

Estimated annual CO2e savings (metric tonnes CO2e)
19938

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
0

Investment required (unit currency – as specified in C0.4)
0

Payback period
<1 year

Estimated lifetime of the initiative
3-5 years

Comment
Sibanye has a project at its Beatrix mine that generates electricity from fugitive mine methane. This project resulted in emission reductions of 19 938 in the reporting year.

Initiative category & Initiative type

Energy efficiency in production processes	Fuel switch

Estimated annual CO2e savings (metric tonnes CO2e)
14400

Scope(s)
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
20500000

Investment required (unit currency – as specified in C0.4)
44600000

Payback period
1-3 years

Estimated lifetime of the initiative
11-15 years

Comment
The project to replace the coal boilers at Beatrix with electrode boilers and heat pumps, was successfully completed during H2 2020. Notwithstanding all the technical challenges and project delays as a result of COVID-19, the coal-fired boilers were finally switched off and the heat pumps for water and comfort heating and the electro boilers of elution steam took over in August 2020. It was found that there is potential for further optimisation and energy efficiency in this plant which will be further investigated. Furthermore, once the equipment has reached steady state operation, its energy efficiency and energy consumption will have to be monitored/calculated, and the emissions reductions defined and monitored. The OEM (Original Equipment Manufacturer) for the electric boiler has provided specifications for estimated carbon emissions for the new electric boiler, compared to the decommissioned coal boiler. An estimated 36,000 tons of CO2 emissions were produced annually by the coal fired boiler, based on annual coal tonnages procured. The new infrastructure produces an estimated 21,600 tons of CO2 emissions, so the expected annual net effect is a CO2 emissions reduction of +/- 14,400 tons CO2 within the specified design and operating parameters.

C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	Some of Sibanye-Stillwater operations undertake prescribed activities that require Atmospheric Emissions Licences (AELs). These operations have AELs or provisional AELs in place. A general condition of the Atmospheric Emissions Licences is that the licence holder must investigate cleaner production processes and practices that are relevant to its operations with a view towards reducing energy consumption and atmospheric emissions related to the processes taking place on site For example, an initiative has been launched at the SA PGM Segment to reduce SO2 emissions. The project aims to improve the overall SO2 capturing and cleaning efficiency from 80% to 90% by 2027 and to 99% by 2030 while maintaining compliance to Air Emission License (AEL). The first project steps are to do a pre-feasibility and feasibility study including a benchmark against global emissions standard/legislation, in order to determine the most appropriate and cost-effective way to achieve the objective. A pre-feasibility and feasibility study including a benchmark against global emissions standard/legislation is to commence in 2021 and will determine the most appropriate and cost-effective way to achieve the project objectives.
Dedicated budget for energy efficiency	The climate change and energy and decarbonisation position statements require carbon management considerations to be included into the decision making processes of the company's' various functions. To this effect, Sibanye-Stillwater is committed to designing and implementing strategies that seek to improve our energy efficiency and pursue any potential opportunities where feasible. For example, the SA operations' Engineering Department annually incorporate 2-3% energy efficiency improvements in their operational planning and dedicated budgets for energy efficiency projects which in turn reduce our scope 2 emissions. Other departments such as the Energy and Decarbonisation Department have dedicated budgets for new technology and research and development which also seek to achieve energy efficiency. Our Transport Department has dedicated budgets for fleet maintenance and replacements which enables optimised performance (fuel consumption – thereby minimising emissions).
Dedicated budget for other emissions reduction activities	The Sibanye-Stillwater climate change and energy and decarbonisation position statements require carbon management considerations to be included into the decision making processes of the company's' various functions. To this effect, the company is committed to designing and implementing strategies that seek to reduce the carbon emissions of the company and to pursue any potential opportunities and utilise carbon friendly technologies where feasible. To achieve this, emission reduction activities are integrated within the various disciplines. For example, dedicated resources were assigned to revise the energy and decarbonisation strategy in 2020. The strategy identified a initiatives and projects which would allow Sibanye-Stillwater to achieve carbon neutrality by 2040; including increasing renewables of part of our energy mix, improving energy efficiency, reconfiguring mining operations, improving mining processes, electrification of fixed and mobile machinery, fuel switching (biofuel and hydrogen), methane capture, addressing indirect value chain emissions (scope 3), decarbonisation of our investments (scope 3), advocating for decarbonisation of external processing (scope 3), supply chain policy and partnership interventions (scope 3), technology R&D and strategic partnerships, carbon offsets, carbon credits trading, carbon capture and storage (CCS) and nature-based solutions. Dedicated financial and human resources have now been allocate to investigate, formalise and implement these initiatives. The Beatrix operation has a Clean Development Mechanism project in place for the destruction of mine methane. Electricity is generated from the methane at the Beatrix site, which reduces scope 1 emissions and further reduces scope 2 emissions as it displaces the consumption of electricity from the national grid, which is primarily generated from coal.
Employee engagement	The Sibanye-Stillwater climate change and energy and decarbonisation position statements requires carbon management considerations to be included into the decision making processes of the company's' various functions. Emission reduction activities are integrated within the various disciplines. Employee engagements on climate change and decarbonisation take place through formal Group communication channels with the intent to raise awareness on the impacts of climate change and the need for decarbonisation through our value chains. These communiques are in the form of email and poster communications, podcasts, video conferences and in-person engagement through formal management scripts. Within the operations, monthly energy awareness and performance communiques are distributed to relevant personal via Whatsapp messages and email. Individual employee behaviour is also shaped through awareness and induction programmes. Procurement liaises directly with supply chain and evaluates supplier products and costs. They also manage the supplier portal where related information is collated. This process also raises awareness amongst Contractors and Suppliers and creates a climate for healthy competition while promoting emissions reductions of Supplier products and services. Our Energy Management Team is leading investigations into amongst others, renewable and alternative energy utilisation. Engagement also takes place with our Social Team to incorporate carbon reduction aspects in social projects where co-benefits can be realised from those processes.
Financial optimization calculations	The Sibanye-Stillwater climate change and energy and decarbonisation position statements requires carbon management considerations to be included into the decision making processes of the company's' various functions. Emission reduction activities are integrated within the various disciplines. Projects are motivated as business cases using financial calculations to demonstrate return on investment (payback periods, net present value and internal rate of return). Optimisation evaluation is built into the process where opportunities to improve the economics and strategic value (e.g. decarbonisation) are assessed. E.g. When contemplating new mining projects, such as our approved Burnstone and K4 mining projects, opportunities to improve energy use and efficiency, increase electrification, use lower carbon fuels, incorporate renewable energy, reduce carbon tax liabilities, etc. would be formally evaluated as part of the feasibility studies.
Internal price on carbon	Sibanye-Stillwater GHG inventory is dominated by electricity purchased from Eskom which contributes 88% of total Scope 1 and 2 emissions. At the SA operations, an environmental levy is applied on purchased electricity from Eskom. This environmental levy is used as a proxy for carbon pricing and is applied to Sibanye-Stillwater SA operations Scope 2 emissions. The environmental levy of R 0.035/kWh amounted to an equivalent cost of R 203,824,485 for 2020, based on 5,823,557 MWh of electricity purchased (5,823,557 MWh x R35/MWh). The CO2e emissions from purchased electricity, using a grid emission factor of 1.02 is 5,937,828 tonnes CO2e. The equivalent Rand value of R36 per tonne CO2e was a cost to the company during 2020. For the purposes of evaluating energy efficiency and renewable energy projects, the full carbon tax price of R127/tCO2 (2021 real) is used to calculate the value of carbon tax offsets from 2023 being the anticipated implementation date of Phase 2 of the carbon tax regime in South Africa. This contributes in the motivation of these decarbonisation projects beyond their direct cost saving benefit. Sibanye-Stillwater is also investigating the global cost of carbon for the purposes estimating the land cost of products in different geographical regions including carbon costs. This will then factor into our decarbonisation initiatives evaluation.

C4.5

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

No

C5. Emissions methodology

C5.1

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

Scope 1

Base year start
January 1 2010

Base year end
December 31 2010

Base year emissions (metric tons CO2e)
1086490

Comment
Sibanye-Stillwater acquired the Lonmin Marikana operations in FY19 however the baseline restatement has not yet been conducted. As such the base year emissions reported here do not include the Lonmin Marikana operations. Sibanye-Stillwater has elected to retain the base year at 2010 to facilitate the ease of comparison of the company emissions reductions over time to that required globally as determined by science. The IPCC AR5 emissions scenario RCP 2.6 indicates that emissions in 2050 need to decrease from 49 to 72% relative to 2010 emissions. This scenario is used to inform our target-setting and to ensure that we do our fair share in contributing to the global solution.

Scope 2 (location-based)

Base year start
January 1 2010

Base year end
December 31 2010

Base year emissions (metric tons CO2e)
5002404

Comment
Sibanye-Stillwater acquired the Lonmin Marikana operations in FY19 however the baseline restatement has not yet been conducted. As such the base year emissions reported here do not include the Lonmin Marikana operations. At the SA operations, Sibanye-Stillwater scope 2 emissions are from a location-based source (utility provider, Eskom). Sibanye-Stillwater also acquires electricity generated from mine methane at the Beatrix operation in the Free State province. The generation of electricity is done by a third-party, Aggreko. The methane used for electricity generation is piped from underground and forms part of the Beatrix methane project. The Beatrix methane project is a registered Clean Development Mechanism (CDM) project that entails the extraction and destruction of methane by electricity generation and flaring. The emissions are accounted for in our scope 1 emissions inventory. The electricity purchased at the US operations, located in Montana are from the grid and the market-based emissions.

Scope 2 (market-based)

Base year start
January 1 2010

Base year end
December 31 2010

Base year emissions (metric tons CO2e)
95084

Comment
Sibanye-Stillwater acquired the Lonmin Marikana operations in FY19 however the baseline restatement has not yet been conducted. As such the base year emissions reported here do not include the Lonmin Marikana operations. Electricity procurement at the US PGM operations follows two distinct schemes due to nuances in Montana's electricity regulation laws. The Stillwater mine and Columbus Metallurgical Complex can purchase power on the wholesale market as a "choice" customer. The East Boulder mine is required to procure power from a local rural electricity co-operative. In July 2018, the Stillwater mine and Columbus Metallurgical Complex signed a new contract to purchase power from a Montana Native American tribe, Energy Keepers, Inc. Energy Keepers supplies power from its owned hydroelectric facility and from other sources.

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.
IPCC Guidelines for National Greenhouse Gas Inventories, 2006
ISO 14064-1
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
Other, please specify (Technical guidelines for monitoring, reporting and verification of greenhouse gas emissions by industry; A companion to the South African national greenhouse gas reporting regulations: Version No. TG-2016.1 April 2017)

C5.2a

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

In accordance with the WRI greenhouse gas protocol, preference has been given to sourcing of appropriate emission factors. In terms of the hierarchy, preference has been given to local, national and then internationally recognised emission factors. To this effect, the Technical guidelines for monitoring, reporting and verification of greenhouse gas emissions by industry; A companion to the South African national greenhouse gas reporting regulations: Version No. TG-2016.1 April 2017 was used for South African operations.

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
884174

Start date
<Not Applicable>

End date
<Not Applicable>

Comment
Sibanye-Stillwater scope 1 emissions are determined in accordance with the operational control consolidation approach.

C6.2

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

Row 1

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

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

Comment
At the SA operations, we acquire electricity from a single source, Eskom with the exception of the Beatrix operation where a portion of the electricity is sourced from Aggreko in addition to Eskom. Sibanye-Stillwater extracts methane from its Beatrix mine. Aggreko uses this methane to produce electricity on site. Sibanye-Stillwater has an agreement with Aggreko to acquire the electricity generated by them and use it on the Beatrix site. In the 2020 reporting year Sibanye acquired 2 157 MWh of electricity from the methane to electricity project. This electricity was generated and sourced within the 2020 financial year period and is based in the same geographical location and grid boundary as which Sibanye-Stillwater (Beatrix) operates in. There is no double counting by using this electricity and it is only used by Sibanye-Stillwater (Beatrix operation). The Beatrix methane project entails extraction of methane from underground. The methane is used for electricity generation as the first preference. A flare is also positioned to destruct any methane that may not be utilised by the generators to minimise emissions. The total emissions are monitored as part of a CDM project. A 30:70% split has been taken between the electricity generation and flaring. The flaring methane is accounted by Sibanye as its scope 1 emissions. The emissions from the electricity generation is accounted by Sibanye as its scope 2 emissions. Electricity procurement at the US PGM operations follows two distinct schemes due to nuances in Montana's electricity regulation laws. The Stillwater mine and Columbus Metallurgical Complex can purchase power on the wholesale market as a "choice" customer. The East Boulder mine is required to procure power from a local rural electricity co-operative. In July 2018, the Stillwater mine and Columbus Metallurgical Complex signed a new contract to purchase power from a Montana Native American tribe, Energy Keepers, Inc. Energy Keepers supplies power from its owned hydroelectric facility and from other sources.

C6.3

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

Reporting year

Scope 2, location-based
6140820

Scope 2, market-based (if applicable)
6133442

Start date
<Not Applicable>

End date
<Not Applicable>

Comment
At the SA operations, we acquire electricity from a single source, Eskom with the exception of the Beatrix operation where a portion of the electricity is sourced from Aggreko in addition to Eskom. Sibanye-Stillwater extracts methane from its Beatrix operations. Another company, Aggreko uses this methane to produce electricity on site. Sibanye-Stillwater has an agreement with Aggreko to acquire the electricity generated by them and use it on the Beatrix site. In the 2020 reporting year Sibanye acquired 2 157 MWh of electricity from the methane to electricity project. This electricity was generated and sourced within the 2020 financial year period and is based in the same geographical location and grid boundary as which Sibanye-Stillwater (Beatrix) operates in. There is no double counting by using this electricity and it is only used by Sibanye-Stillwater (Beatrix operation). The Beatrix methane project entails extraction of methane from underground. The methane is used for electricity generation as the first preference. A flare is also positioned to destruct any methane that may not be utilised by the generators to minimise emissions. The total emissions are monitored as part of a CDM project. Electricity generation accounts for approximately 30% of the project emissions. The flaring methane is accounted by Sibanye as its scope 1 emissions. The emissions from the electricity generation is accounted by Sibanye as its scope 2 emissions. Electricity procurement at the US PGM operations follows two distinct schemes due to nuances in Montana's electricity regulation laws. The Stillwater mine and Columbus Metallurgical Complex can purchase power on the wholesale market as a "choice" customer. The East Boulder mine is required to procure power from a local rural electricity co-operative. In July 2018, the Stillwater mine and Columbus Metallurgical Complex signed a new contract to purchase power from a Montana Native American tribe, Energy Keepers, Inc. Energy Keepers supplies power from its owned hydroelectric facility and from other sources.

C6.4

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

No

C6.5

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

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO2e

611619

Emissions calculation methodology

Includes timber, HCl, lime, cement, caustic soda, water, oil, grease and cyanide. Information on quantities purchased is obtained from Supplier invoices. This information is managed by Sibanye personnel (data owners) managing the receipt of the products. The data owners are responsible for ensuring the integrity of the information. GHG emissions quantification is influenced by the quality of the information on purchased goods and services as well as the emission factors used. Care is taken to obtain the most appropriate recognized emission factors, with preference to country-specific emission factors and where necessary, an external independent service provider reviews and updates the emission factors. Internationally recognized emission factors are sourced and utilised. The calculation of the carbon emissions is carried out in accordance with the criteria of the ISO-14064 part 1 Standard and GHG Protocol –Corporate Value Chain (scope 3) Accounting and Reporting Standard. An Internal Audit function carries out ad hoc verifications on the carbon emissions determination (emissions inventory). Furthermore, limited assurance by an independent third party on selected sustainability indicators including CO2e scope 3 emissions takes place. In determining the CO2e emissions, an assumption has been made that the goods purchased are the same as the consumption and thus the quantities of purchased goods and services were multiplied by the appropriate emission factors. The emission factors used are as follows: Timber 0.0586tCO2e/t source - Timber Supplier, Bedrock; Hydrochloric acid 0.75 tCO2e/t source - International Sustainability & Carbon Certification, 205 GHG Emissions Calculation Methodology and GHG Audit Report (v2.3EU); Lime 0.78 tCO2e/t source - UEA inventory of carbon and energy; Cement 0.95 tCO2e/t source - UEA inventory of carbon and energy; Caustic soda 1.42 tCO2e/t source - University of Manchester Ccalc tool; SA operations Purchased water 1.4 tCO2e/ML source Rand Water 2017 Annual Report calculation; US operations purchased water 0.2865 tCO2e source – calculated average emission intensity x grid emission factor x conversion to Ml; oil 0.0003tCO2e/L source - Defra 2020; grease 0.00038tCO2e/kg source - Defra 2020 and Cyanide 10.96 tCO2e/t source -Unregistered CDM project document - Increase in hydrogen cyanide production by the Andussow process.

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

100

Please explain

A relevancy level of 1% of Scope 3 emissions has been set. This equates to 15 966 tCO2e

Capital goods

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

2077

Emissions calculation methodology

This category includes the capital goods such as equipment and vehicles purchased. Information on quantities purchased is obtained from Supplier invoices and is managed by relevant data owners within the respective disciplines. These data owners are responsible for ensuring the integrity of the information. Greenhouse gas emissions quantification is influenced by two factors; the quality of the information as well as the emission factors used. Care is taken to obtain the most appropriate recognized emission factors, with preference to country-specific emission factors and where necessary, internationally recognized emission factors are sourced and utilised. An external independent service provider reviews and updates the emission factors. The calculation of the carbon emissions is carried out in accordance with the criteria of the ISO-14064 part 1 Standard and GHG Protocol –Corporate Value Chain (scope 3) Accounting and Reporting Standard. An Internal Audit function carries out ad hoc verifications on the carbon emissions determination (emissions inventory). Furthermore, limited assurance by an independent third party on selected sustainability indicators and the CO2e scope 3 emissions are conducted. In this category, no assumptions were made or allocation methods applied. The steel emission factor of 1.95 tCO2e/tonne - source Inventory of Carbon and Energy 2011 was applied to the respective weights of the individual capital goods purchased (equipment and vehicles). The weights were sourced from the equipment manufacturers' specifications.

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

100

Please explain

A relevancy level of 1% of Scope 3 emissions has been set. This equates to 15 966 tCO2e

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

Evaluation status
Relevant, calculated

Metric tonnes CO2e
195777

Emissions calculation methodology
Transmission and distribution (t&d) losses as well as contractor fuel are included. Electricity purchased is obtained from Supplier invoices and is multiplied with the t&d emission factor. Contractor fuel is also obtained from Supplier invoices and multiplied with the diesel emission factor for combustion of diesel. This information is managed by relevant personnel from Sibanye-Stillwater (data owners) managing the receipt of the products within the respective disciplines. These data owners are responsible for ensuring the integrity of the information. Greenhouse gas emissions quantification is influenced by two factors; the quality of the information as well as the emission factors used. Care is taken to obtain the most appropriate recognized emission factors, with preference to country-specific emission factors and where necessary, internationally recognized emission factors are sourced and utilised. An external independent service provider reviews and updates the emission factors. The calculation of the carbon emissions is carried out in accordance with the criteria of the ISO-14064 part 1 Standard and GHG Protocol –Corporate Value Chain (scope 3) Accounting and Reporting Standard. An Internal Audit function carries out ad hoc verifications on the carbon emissions determination (emissions inventory). Furthermore, limited assurance by an independent third party on selected sustainability indicators and total CO2e scope 3 emissions are conducted. In this category, no assumptions were made or allocation methods applied. The emission factors applied are as follows: Diesel 0.6262 tCO2e/kL source - DERFA 2019; Petrol 0.5979 tCO2e/kL source - DEFRA 2019; LPG 0.0004 tCO2e/kg source - DEFRA 2019; Coal 0.3696 tCO2e/t source - DEFRA 2019; Blasting agents 2.63 tCO2e/t source - Calc Tool Manual; Acetylene 0.003 tCO2e/kg source - Greentech Methodology – emissions associated with calcium carbide production, then converted to acetylene using molecular weights and chemical equation and Electricity t&d for SA operations 0.02 tCO2e/MWh source – 2019 Eskom report; Electricity t&d for US operations 0.0253 tCO2e/MWh source – carbonfootprint.com; Paraffin 0.5284 tCO2e/kL source DEFRA 2020; Propane 0.0004 tCO2e/kg source DEFRA 2019; Natural gas 0.0003 tCO2e/m3 source DEFRA 2019; Dyed diesel 0.6262 tCO2e/kL source DEFRA 2019; Biodiesel 0.37 tCO2e/kL source DEFRA 2020

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

Please explain
A relevancy level of 1% of Scope 3 emissions has been set. This equates to 15 966 tCO2e

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Metric tonnes CO2e
37824

Emissions calculation methodology
The upstream transportation and distribution category includes transportation of goods and services, as well as fuel and energy related products. Information on upstream transportation and distribution is obtained from relevant personnel from affected disciplines within Sibanye-Stillwater (data owners) and the respective service providers. Greenhouse gas emissions quantification is influenced by two factors; the quality of the information management as well as the emission factors used. Care is taken to obtain the most appropriate recognized emission factors with preference to country-specific emission factors and where necessary, internationally recognized emission factors are sourced and utilised. An external independent service provider reviews and updates the emission factors. The calculation of the carbon emissions inventory Is carried out in accordance with the criteria of the ISO-14064 part 1 Standard and GHG Protocol – Corporate Value Chain (scope 3) Accounting and Reporting Standard. An Internal Audit function carries out ad hoc verifications on the carbon emissions determination (emissions inventory). Furthermore, limited assurance by an independent third party on selected sustainability indicators and total CO2e scope 3 emissions are conducted (please refer to the attached verification statement for procedures performed). Primary and secondary data is multiplied by emission factors. Assumptions made for transportation distances are based on personnel interviews and practical in-situ experience. It is assumed that delivery Is done by Suppliers making use of dedicated trips to the Operations (accounting for full distance travelled). The emission factor of 0.0002 tCO2e/tonne.km for road freight average rigid truck was sourced from DEFRA 2019 and used.

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

Please explain
A relevancy level of 1% of Scope 3 emissions has been set. This equates to 15 966 tCO2e

Waste generated in operations

Evaluation status
Relevant, calculated

Metric tonnes CO2e
20812

Emissions calculation methodology
Waste generated at the operations is obtained from the relevant data owners and multiplied with the appropriate waste emission factors. Care is taken to obtain the most appropriate recognized emission factors with preference to country-specific emission factors and where necessary, internationally recognized emission factors are sourced and utilised. An external independent service provider reviews and updates the emission factors. Calculation of the carbon emissions is in accordance with the criteria of the ISO-14064 part 1 Standard and GHG Protocol – Corporate Value Chain (scope 3) Accounting and Reporting Standard. An Internal Audit function carries out ad hoc verifications on the carbon emissions determination (emissions inventory). Furthermore, limited assurance by an independent third party on selected sustainability indicators and total CO2e scope 3 emissions are conducted (please refer to the attached verification statement for procedures performed). In this specific category, no assumptions were made or allocation methods applied. Emission factors applied are 0.5865 tCO2e/t for waste to landfill, sourced from DEFRA 2019; 0.0007 tCO2e/t for wastewater treated, sourced from DEFRA 2019 and 0.0998 tCO2e/t hazardous waste, sourced from DEFRA 2019

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

Please explain
A relevancy level of 1% of Scope 3 emissions has been set. This equates to 15 966 tCO2e

Business travel

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
782

Emissions calculation methodology
This category covers air travel, claimed business km travelled and car hire. Car hire and air travel is obtained from the travel agents that Sibanye-Stillwater utilises, while the claimed km is obtained from the internal SAP system or data providers. This data is then processed utilizing the relevant emission factors. Care is taken to obtain the most appropriate recognized emission factors with preference to country-specific emission factors and where necessary, internationally recognized emission factors are sourced and utilised. An external independent service provider reviews and updates the emission factors. Calculation of the carbon emissions is carried out in accordance with the criteria of the ISO-14064 part 1 Standard and GHG Protocol – Corporate Value Chain (scope 3) Accounting and Reporting Standard. An Internal Audit function carries out ad hoc verifications on the carbon emissions determination (emissions inventory). Furthermore, limited assurance by an independent third party on selected sustainability indicators and CO2e scope 3 emissions are conducted. In this specific category, no assumptions were made or allocation methods applied. Emission factors for this category include the following: Average car 0.0002 tCO2e per km source - DEFRA 2019; Short haul flights (less than 3700km) 0.0002 tCO2e per km per person source - DEFRA 2020; Long haul flights (greater than 3700 km) 0.0001 tCO2-e per km per person source - DEFRA 2020.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
50

Please explain
A relevancy level of 1% of Scope 3 emissions has been set. This equates to 15 966 tCO2e

Employee commuting

Evaluation status
Relevant, calculated

Metric tonnes CO2e
50728

Emissions calculation methodology
This category relates to the emissions associated with employees travelling from residences to work and back. Activity data is obtained from Human Resources personnel and from personal interviews on the number of employees, places of residence, modes of transport used and distances travelled. This data is then processed utilizing the relevant emission factors. An external independent service provider reviews and updates the emission factors. The methodology deployed is to determine the total number of people commuting and apply the appropriate emission factor. The number of employees and distances commuted varies from operation to operation and in order to minimize uncertainty, the following site-specific assumptions were used: Driefontein 10% travel with own vehicle (130km return), 70% travel with public transport (12km return) and 20% reside within walking distance to work; Kloof, 10% travel with own vehicle (120km return), 40% travel with public transport (12km return) and 50% reside within walking distance to work; Beatrix, 10% travel with own vehicle (60km return), 40% travel with public transport (10km return) and 50% reside within walking distance to work; Cooke 1, 2, 3, 10% travel with own vehicle (100km return) and 90% reside within walking distance to work; Cooke 4, 10% travel with own vehicle and 90% travel with public transport (taxis) (50 km return); Burnstone 40% travel with own vehicle (80km return) and 60% travel with public transport (30km return); SA platinum operations 75% travel with own vehicle (150km return) and 25% travel with public transport (50km return), Stillwater 59% travel by company bus system (174km return) and 41% travel with own vehicle (161km return), East Boulder 54% travel by company bus system (231km return) and 46% travel with own vehicle (161km return) and Metallurgical complex 52% travel by company bus system (77km return) and 48% travel with own vehicle (161km return). An emission factor of 0.0002tCO2e per km sourced from DEFRA 2019 was used for people travelling to work by car. An emission factor of 0.00002 tCO2e per passanger.km was applied for those travelling to work in taxis, sourced from Toyota Quantum technical specifications. An emission factor of 0.003 tCO2e per km sourced from DEFRA 2019 was used for those travelling by bus.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
25

Please explain
A relevancy level of 1% of Scope 3 emissions has been set. This equates to 15 966 tCO2e

Upstream leased assets

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Upstream leased assets relate to assets that may be leased by the Company that are not included in Scope 1 and 2 emissions. The Company did not have any upstream leased assets in the reporting year.

Downstream transportation and distribution

Evaluation status
Relevant, calculated

Metric tonnes CO2e
23252

Emissions calculation methodology
Downstream transportation and distribution relates to emissions associated with the transportation and distribution of sold products in vehicles not owned or controlled by the Company. Care is taken to obtain the most appropriate recognized emission factors with preference to country-specific emission factors and where necessary, internationally recognized emission factors are sourced and utilised. An external independent service provider reviews and updates the emission factors. Calculation of the carbon emissions is carried out in accordance with the criteria of the ISO-14064 part 1 Standard and GHG Protocol – Corporate Value Chain (scope 3) Accounting and Reporting Standard. An Internal Audit function carries out ad hoc verifications on the carbon emissions determination (emissions inventory). Furthermore, limited assurance by an independent third party on selected sustainability indicators and CO2e scope 3 emissions are conducted. The transportation of gold by helicopter is accounted for under this category. The activity data is the number of hours taken to transport the gold from the operations to Rand Refinery. The transport of platinum group metals is also accounted for. The following factors have been used: 190 litres per hour of aviation fuel – source Coldstream Helicopters and 0.00239 tonnes CO2e per litre of aviation turbine fuel – source SA Technical Guidelines. For road transport average rigid truck 0.0002 tonnes CO2e per kilometer source DEFRA 2019 was used. No assumptions were made or allocation methods applied.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
50

Please explain
A relevancy level of 1% of Scope 3 emissions has been set. This equates to 15 966 tCO2e

Processing of sold products

Evaluation status
Relevant, calculated

Metric tonnes CO2e
468766

Emissions calculation methodology
This category covers the emissions associated with the refining and smelting of gold and platinum group metals produced by Sibanye-Stillwater. Care is taken to obtain the most appropriate recognized emission factors with preference to country-specific emission factors and where necessary, internationally recognized emission factors are sourced and utilised. An external independent service provider reviews and updates the emission factors. Calculation of the carbon emissions is carried out in accordance with the criteria of the ISO-14064 part 1 Standard and GHG Protocol – Corporate Value Chain (scope 3) Accounting and Reporting Standard. An Internal Audit function carries out ad hoc verifications on the carbon emissions determination (emissions inventory). Furthermore, limited assurance by an independent third party on selected sustainability indicators and total CO2e scope 3 emissions are conducted. The activity data is the quantity of gold and platinum group metals produced. The emissions are calculated utilizing the following factors: 0.416 tCO2e per oz for PGMS taken from the SA Draft regulations for carbon tax performance allowances, 0.012tCO2e per oz for PGMs in the USA calculated from the Marikana operations, 0.0022 tCO2e per oz for Gold – Rand Refinery 2011 IAR.

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

Please explain
A relevancy level of 1% of Scope 3 emissions has been set. This equates to 15 966 tCO2e

Use of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
The emissions associated with the use of sold gold and platinum group metal products are estimated to be insignificant. Only processing and end of life treatment of sold products are expected to have a significant amount of emissions. A relevancy level of 1% of Scope 3 emissions has been set. This equates to 15 966 tCO2e

End of life treatment of sold products

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
173

Emissions calculation methodology
This category relates to the end-of-life treatment of gold and platinum group metals produced by Sibanye-Stillwater. Care is taken to obtain the most appropriate recognized emission factors with preference to country-specific emission factors and where necessary, internationally recognized emission factors are sourced and utilised. An external independent service provider reviews and updates the emission factors. Calculation of the carbon emissions is carried out in accordance with the criteria of the ISO-14064 part 1 Standard and GHG Protocol – Corporate Value Chain (scope 3) Accounting and Reporting Standard. An Internal Audit function carries out ad hoc verifications on the carbon emissions determination (emissions inventory). Furthermore, limited assurance by an independent third party on selected sustainability indicators and total CO2e scope 3 emissions are conducted. The activity data is the quantity of gold and platinum group metals produced. The emissions factor to smelt one ounce of gold has been determined to be 0.0000018 tonnes CO2e based on the following: 31.1 g/troy ounce and 67 MJ smelting energy required per tonne of gold – source Engineering Toolbox. The emission factor to smelt one tonne of PGM has been determined to be 0.1 tCO2e/tonne based on a 103 MJ smelting energy required per tonne of PGM – source Engineering Toolbox.

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

Please explain
A relevancy level of 1% of Scope 3 emissions has been set. This equates to 15 966 tCO2e

Downstream leased assets

Evaluation status
Relevant, calculated

Metric tonnes CO2e
67536

Emissions calculation methodology
This category includes emissions from assets that are owned by the Company (acting as lessor) and leased to other entities that are not already included in scope 1 or scope 2. This category is applicable to lessors (i.e. companies that receive payments from lessees). Care is taken to obtain the most appropriate recognized emission factors with preference to country-specific emission factors and where necessary, internationally recognized emission factors are sourced and utilised. An external independent service provider reviews and updates the emission factors. Calculation of the carbon emissions is carried out in accordance with the criteria of the ISO-14064 part 1 Standard and GHG Protocol – Corporate Value Chain (scope 3) Accounting and Reporting Standard. An Internal Audit function carries out ad hoc verifications on the carbon emissions determination (emissions inventory). Furthermore, limited assurance by an independent third party on selected sustainability indicators and total CO2e scope 3 emissions are conducted. The emissions from leased assets are applicable to the SA operations and include those from consumption of electricity. The following emission factors were applied: Electricity consumption grid emission factor 1.02 tCO2e/MWh source calculated using data from Eskom 2019 Annual Report; Electricity grid transmission and distribution losses 0.02 tCO2e/MWh source Eskom 2019 Annual Report. No assumptions were made or allocation methods applied.

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

Please explain
A relevancy level of 1% of Scope 3 emissions has been set. This equates to 15 966 tCO2e

Franchises

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Sibanye-Stillwater does not have any franchises; this category is therefore not applicable to the company.

Investments

Evaluation status
Relevant, calculated

Metric tonnes CO2e
374867

Emissions calculation methodology
This category relates to emissions associated with entities the company has investments in. Calculation of the carbon emissions was carried out in accordance with the criteria of the ISO-14064 part 1 Standard and GHG Protocol – Corporate Value Chain (scope 3) Accounting and Reporting Standard. Care is taken to obtain the most appropriate recognized emission factors with preference to country-specific emission factors and where necessary, internationally recognized emission factors are sourced and utilised. An external independent service provider reviews and updates the emission factors. Calculation of the carbon emissions is carried out in accordance with the criteria of the ISO-14064 part 1 Standard and GHG Protocol – Corporate Value Chain (scope 3) Accounting and Reporting Standard. An Internal Audit function carries out ad hoc verifications on the carbon emissions determination (emissions inventory). Furthermore, limited assurance by an independent third party on selected sustainability indicators and total CO2e scope 3 emissions are conducted. Sibanye-Stillwater has investments in Living Gold, Rand Refinery, Mimosa and DRDGOLD. The emissions are proportionally accounted for as follows: 50% of Living Gold, 33.1% of Rand Refinery, 50% of Mimosa and 50.1% of DRDGOLD. No assumptions were made or allocation methods applied.

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

Please explain
A relevancy level of 1% of Scope 3 emissions has been set. This equates to 15 966 tCO2e

Other (upstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
There are no other upstream emissions applicable

Other (downstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
There are no other downstream emissions applicable

C6.7

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

C6.10

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

Intensity figure
0.000055

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
7017616

Metric denominator
unit total revenue

Metric denominator: Unit total
127000000000

Scope 2 figure used
Market-based

% change from previous year
30

Direction of change
Decreased

Reason for change
Revenue increased by 74% to R127,000 million in 2020 from R74,000 million in 2019. Note: The total scope 1 and 2 market-based emissions have been used in the calculation. Group Scope 1 and 2 carbon emissions increased by 21% as a result of the increased production. Despite the absolute increase in emissions, emission reduction initiatives resulted in a reduction in the emission intensity.

Intensity figure
0.09

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
7017616

Metric denominator
metric ton of ore processed

Metric denominator: Unit total
74798158

Scope 2 figure used
Market-based

% change from previous year
22

Direction of change
Decreased

Reason for change
Total tonnes ore processed is used in this calculation (i.e. 100% of the Sibanye-Stillwater facilities under operational control. Tonnes increased by 57% to 74 798 158 in 2020 from 47 578 419 in 2019. The material uptick in production was due to the inclusion of the Marikana operations for the full 2020 year following the acquisition of the operations in June 2019. Note: The total scope 1 and 2 market-based emissions have been used in the calculation. Group Scope 1 and 2 carbon emissions increased by 21% as a result of the increased production. Despite the absolute increase in emissions, emission reduction initiatives resulted in a reduction in the emission intensity.

C7. Emissions breakdowns

C7.1

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

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	529757	IPCC Third Assessment Report (TAR - 100 year)
CH4	303791	IPCC Third Assessment Report (TAR - 100 year)
N2O	13056	IPCC Third Assessment Report (TAR - 100 year)
HFCs	37570	IPCC Third Assessment Report (TAR - 100 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
South Africa	797626
United States of America	86548

C7.3

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

By business division
By facility
By activity

C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
SA Gold operations	712533
SA PGM operations	85092
US PGM operations	86548

C7.3b

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

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Beatrix	665811	-28.258209	26.784375
Burnstone	131	-26.651626	28.671646
Cooke 1,2,3	63	-26.217323	27.726253
Cooke 4	3	-26.35542	27.711957
Driefontein	23791	-26.387645	27.49445
Kloof	22734	-26.390355	26.597354
Kroondal	21374	-25.72449	27.30428
Marikana	0	-25.726334	27.431385
Rustenburg Platinum Mines	18115	-25.679776	27.30501
Stillwater	63303	45.389303	-109.874989
East Boulder	15285	45.504744	-110.086756
Metallurgical Complex	7960	45.631431	-109.234889
Marikana ex Lonmin	40577	-25.685603	27.521649
PMR	1947	-26.26585	28.388236
Messina	15	-24.350563	29.44769
Corporate	3064	-26.354274	27.608722

C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Gold production	712533
PGMs production	171641

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

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

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	884174	<Not Applicable>	None
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
South Africa	5937828	5937828	5823557	2157
United States of America	202992	195614	370016	136

C7.6

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

By business division
By facility
By activity

C7.6a

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

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
SA gold operations	3465398	3465398
SA PGM operations	2472430	2472430
US PGM operations	202992	195614

C7.6b

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

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Beatrix	505722	505722
Burnstone	12051	12051
Cooke 1,2,3	161820	161820
Cooke 4	217861	217861
Driefontein	1184927	1184927
Kloof	1383016	1383016
Kroondal	263692	263692
Marikana	6509	6509
Rustenburg Platinum Mines	998896	998896
Stillwater	110272	110272
East Boulder	50106	48285
Metallurgical Complex	42614	41065
Marikana ex Lonmin	1136663	1136663
PMR	16744	16744
Messina	49925	49925
Corporate	0	0

C7.6c

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

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Gold production	3465398	3465398
PGM production	2675422	2668044

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

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

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	6140820	6133442	At the South African operations, we acquire electricity from a single source, Eskom, with the exception of the Beatrix operation where a portion of the electricity is sourced from Aggreko in addition to Eskom. Sibanye-Stillwater extracts methane from its Beatrix operations. Aggreko uses this methane to produce electricity on site. Sibanye-Stillwater has an agreement with Aggreko to acquire the electricity generated by Aggreko and use it on the Beatrix site. In the 2020 reporting year, Sibanye-Stillwater acquired 2 157 MWh of electricity from the methane to electricity project. This electricity was generated and sourced within the 2020 financial year period and is based in the same geographical location and grid boundary that Sibanye-Stillwater (Beatrix) operates in. There is no double counting by using this electricity and it is only used by Sibanye-Stillwater at the Beatrix operation. The Beatrix methane project entails extraction of methane from under the ground. The methane is used for electricity generation as the first preference. A flare is also positioned to destruct any methane that may not be used to generate electricity, in order to minimise emissions. The total emissions are monitored as part of a CDM project. Electricity generation accounts for approximately 30% of the project emissions. The flaring of methane is accounted by Sibanye as its scope 1 emissions. The emissions from the electricity generation are accounted by Sibanye as its scope 2 emissions. Electricity is procured at our US PGM operations from two schemes: - The Stillwater mine and Columbus Metallurgical Complex purchase power on the wholesale market from a local Native American tribe - The East Boulder procure powers from a local cooperative.
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.9

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

Increased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable>		Not applicable
Other emissions reduction activities	223526	Decreased	4	Sibanye-Stillwater has implemented various energy efficiency projects which resulted in a decrease of 121,863 tCO2e. The emissions value was calculated as follows: Emission value = (Change in emissions/Previous year emissions)*100 Emissions value = (223,526 / 5,620,412)*100 = -4%
Divestment		<Not Applicable>		Not applicable
Acquisitions		<Not Applicable>		Not applicable
Mergers		<Not Applicable>		Not applicable
Change in output	1449544	Increased	25	Sibanye Stillwater's ore processed increased by 21% in the reporting year. As a result of this increase in production output and the inclusion of Marikana for a full year post acquisition, the emissions increased by 1,435,144 tCO2e. The emissions value was calculated as follows: Emissions value = (Change in emissions/Previous year emissions)*100 Emissions value = (1 449 544/5 791 598)*100 = 25%
Change in methodology		<Not Applicable>		Not applicable
Change in boundary		<Not Applicable>		Not applicable
Change in physical operating conditions		<Not Applicable>		Not applicable
Unidentified		<Not Applicable>		Not applicable
Other		<Not Applicable>		Not applicable

C7.9b

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

Market-based

C8. Energy

C8.1

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

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

C8.2

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

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

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	4286	532975	537260
Consumption of purchased or acquired electricity	<Not Applicable>	2293	6191279	6193572
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	6579	6724254	6730833

C-MM8.2a

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

	Heating value	Total MWh
Consumption of fuel (excluding feedstocks)	LHV (lower heating value)	537260
Consumption of purchased or acquired electricity	<Not Applicable>	6193572
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0
Total energy consumption	<Not Applicable>	6730833

C8.2b

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

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

C8.2c

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

Fuels (excluding feedstocks)
Acetylene

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
646

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
646

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

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

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

Emission factor
3.4

Unit
metric tons CO2e per metric ton

Emissions factor source
Calculated using a mass balance

Comment
Acetylene is used for metal cutting

Fuels (excluding feedstocks)
Biodiesel

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
4286

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
4286

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

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

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

Emission factor
0.0025

Unit
metric tons CO2e per liter

Emissions factor source
Direction Emissions from Stationary Combustion Sources – EPA

Comment
Biodiesel is used in mobile machinery as fuel

Fuels (excluding feedstocks)
Coal

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
107676

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
107676

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

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

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

Emission factor
2.31

Unit
metric tons CO2e per metric ton

Emissions factor source
SA Technical Guidelines VNo. TG-2016.1

Comment
Coal is used for smelting and the generation of steam. The Beatrix coal boiler was decommissioned in 2020 and replaced with an electric boiler system.

Fuels (excluding feedstocks)
Diesel

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
201311

MWh fuel consumed for self-generation of electricity
576

MWh fuel consumed for self-generation of heat
200735

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

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

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

Emission factor
0.0028

Unit
metric tons CO2e per liter

Emissions factor source
SA Technical Guidelines VNo. TG-2016.1

Comment
Diesel is used in both standby generators and mobile machinery. The majority of diesel is used in mobile machinery as generators are only run when the electricity supply goes down.

Fuels (excluding feedstocks)
Natural Gas

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
46011

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
46011

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

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

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

Emission factor
0.00214

Unit
metric tons CO2e per m3

Emissions factor source
SA Technical Guidelines VNo. TG-2016.1

Comment
Natural gas is used in stationary sources for heating buildings, firing the portal heaters, boilers & water heaters; firing the smelter rotary kilns (TBRCs) and used in the concentrate & matte dryers

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Fuels (excluding feedstocks)
Petrol

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
8760

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
8760

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

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

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

Emission factor
0.0024

Unit
metric tons CO2e per liter

Emissions factor source
SA Technical Guidelines VNo. TG-2016.1

Comment

Petrol is used in mobile machinery as fuel

Fuels (excluding feedstocks)
Propane Gas

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
67498

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
67498

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

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

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

Emission factor
0.0029

Unit
metric tons CO2e per m3

Emissions factor source
SA Technical Guidelines VNo. TG-2016.1

Comment
Propane is used in stationary sources for heating buildings, firing the portal heaters, boilers & water heaters; firing the smelter rotary kilns (TBRCs) and used in the concentrate & matte dryers

Fuels (excluding feedstocks)
Other, please specify (Dyed Diesel)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
97146

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
97146

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

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

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

Emission factor
0.0031

Unit
metric tons CO2e per liter

Emissions factor source
SA Technical Guidelines VNo. TG-2016.1

Comment
Dyed Diesel is used in both stationary and mobile equipment.

Fuels (excluding feedstocks)
Jet Gasoline

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
1

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
1

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

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

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

Emission factor
2.91

Unit
metric tons CO2e per metric ton

Emissions factor source
SA Technical Guidelines VNo. TG-2016.1

Comment
Jet Gasoline (Jet Fuel A1) is used as helicopter fuel.

Fuels (excluding feedstocks)
Other, please specify (Heavy Fuel Oil (HFO))

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
3874

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
3874

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

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

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

Emission factor
3.34

Unit
metric tons CO2e per metric ton

Emissions factor source
SA Technical Guidelines VNo. TG-2016.1

Comment
HFO is used in stationary combustion equipment

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

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
14

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
14

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

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

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

Emission factor
2.74

Unit
metric tons CO2 per metric ton

Emissions factor source
metric tons CO2e per metric ton

Comment

Calculated using a mass balance

Fuels (excluding feedstocks)
Liquefied Petroleum Gas (LPG)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
38

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
38

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

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

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

Emission factor
0.003

Unit
metric tons CO2e per m3

Emissions factor source
SA Technical Guidelines VNo. TG-2016.1

Comment
LPG is used for heating purposes

C8.2d

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	344	344	136	136
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C-MM8.2d

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

	Total gross generation (MWh) inside metals and mining sector boundary	Generation that is consumed (MWh) inside metals and mining sector boundary
Electricity	344	344
Heat	0	0
Steam	0	0
Cooling	0	0

C8.2e

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

Sourcing method
Power purchase agreement (PPA) with on-site/off-site generator owned by a third party with no grid transfers (direct line)

Low-carbon technology type
Other, please specify (Methane)

Country/area of consumption of low-carbon electricity, heat, steam or cooling
South Africa

MWh consumed accounted for at a zero emission factor
2157

Comment
Sibanye-Stillwater extracts methane from its Beatrix operation and has in the past flared the methane. An external company uses this methane to produce electricity on site. Sibanye-Stillwater has an agreement with the external company to acquire the electricity generated and use it onsite, at the Beatrix operations. In the reporting year, Sibanye-Stillwater acquired 2 157 MWh of electricity from the methane to electricity project. There is no double counting by using this electricity and it is only used by Sibanye-Stillwater in the Beatrix operations. This electricity was generated and sourced within the 2020 financial year period and is based in the same geographical location and grid boundary that Sibanye-Stillwater (Beatrix) operates in. Electricity generation from methane is included here as electricity from a low carbon source. It is accounted for in section 6.3.

Sourcing method
Power purchase agreement (PPA) with a grid-connected generator without energy attribute certificates

Low-carbon technology type
Low-carbon energy mix

Country/area of consumption of low-carbon electricity, heat, steam or cooling
United States of America

MWh consumed accounted for at a zero emission factor
136

Comment
The Metallurgical Complex at Sibanye-Stillwater's US operations obtains electricity through an agreement which provides a mix of renewable energy. The agreement is for a mix of several generation sources including local hydropower. This agreement forms part of our supply agreements. We are aiming to source 100% of our electricity requirements in the US from renewable energy and are going out to market in 2021.

C9. Additional metrics

C9.1

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

Description
Energy usage

Metric value
0.1

Metric numerator
MWh

Metric denominator (intensity metric only)
Tonnes processed

% change from previous year
82

Direction of change
Decreased

Please explain
The energy intensity from direct fuel sources and purchased electricity per tonne processed in the previous reporting year, 2019, was 0.56 MWh/tonne. The energy intensity from direct fuel sources and purchased electricity per tonne processed in the current reporting year, 2020, is 0.1 MWh/tonne. This represents an 82% decrease (0.1 – 0.56) / 0.56 * 100) from the 2019 intensity.

C-MM9.3a

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

Output product
Gold

Capacity, metric tons
52.4

Production, metric tons
30.56

Production, copper-equivalent units (metric tons)
314019

Scope 1 emissions
884174

Scope 2 emissions
6140820

Scope 2 emissions approach
Market-based

Pricing methodology for copper-equivalent figure
The copper equivalent for gold production was determined by multiplying the tonnes of gold produced in 2020 (30.56 tonnes) by the average price of gold in 2020 (R924 764/tonne), divided by the average price of copper in 2020 (90 000/tonne). The capacity (metric tons) was determined by the sum of the individual gold mines processing plants milling capacities, multiplied by the average mineral reserve grades, multiplied by the plant recovery percentages.

Comment
None

Output product
Platinum group metals

Capacity, metric tons
103.1

Production, metric tons
67.79

Production, copper-equivalent units (metric tons)
27608

Scope 1 emissions
884174

Scope 2 emissions
6140820

Scope 2 emissions approach
Market-based

Pricing methodology for copper-equivalent figure
The copper equivalent for platinum group metals production was determined by the sum of the 4E production and 2E production (67.79 tonnes) where 4E entails approximately 58% platinum (Pt), 32% palladium (Pd), 8% rhodium (Rh) and 2% gold (Au) and 2E entails approximately 78% palladium (Pd) and 22% platinum (Pt). The copper equivalent was determined by multiplying the tonnes of PGM produced (67.79 tonnes) in 2020 by the average price of PGM in 2020 (R36 651/kg), divided by the average price of copper in 2020 (R90 000tonne). The capacity (metric tons) was determined by the sum of the individual platinum operations processing plants milling capacities, multiplied by the average mineral reserve grades, multiplied by the plant recovery percentages.

Comment
None

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

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

	Investment in low-carbon R&D	Comment
Row 1	Yes	We have several investments in low-carbon R&D in the PGM sector. For example, our three-year investment into research and development of a tri-metal catalyst for gasoline cars, together with BASF, has been successful. The tri-metal catalyst is able to replace palladium with platinum in a 1:1 ratio.

C-MM9.6a

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

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Green metals	Applied research and development	0%		Sibanye-Stillwater's partnership with BASF on the research and development of a tri-metallic catalyst (Pt, Pd, Rh) (platinum, palladium and rhodium) continued during 2020. The study has been successful: the tri-metal catalyst is able to replace palladium with platinum in a 1:1 ratio. Based on current uptake estimates, substitution of palladium with platinum could increase to over 1Moz by 2025. Better alignment of the PGM basket demand with supply will provide longer-term sustainability and greater price stability. This research is expected to provide greater versatility of applications of PGMs and have a positive impact on the platinum/palladium market balance. Due to market sensitivities we are not in a position to disclose the investment figure. The percentage of total R&D investment cannot be obtained as yet.
Green metals	Applied research and development	0%		During 2018, Sibanye-Stillwater agreed to acquire SFA Oxford. SFA Oxford is an established analytical consulting company that is a globally recognised authority on PGMs and has, for several years, provided in-depth market intelligence on battery materials and precious metals for industrial, automotive and smart city technologies. The acquisition cost compares favourably to the cost of setting up a similar analytical and research group internally but significantly leapfrogs the time required to build up the intellectual knowledge. The acquisition of SFA Oxford was completed in March 2019. The incorporation of SFA Oxford was subsequently instrumental in Sibanye-Stillwater's entry into the battery metals industry, through investment in a lithium hydroxide project in Finland in 2021. Due to market sensitivities we are not in a position to disclose the investment figure. The percentage of total R&D investment cannot be obtained as yet.
Metal recycling	Small scale commercial deployment	0%		Sibanye Stillwater's Columbus Metallurgical Complex recycles 3E PGMs at its operations. The recycling process is less energy intensive than primary production. The recycled metals at the operation are Platinum, Palladium and Rhodium. A total of 840 170 ounces were recycled in the reporting year. This is in the implementation stage of the R&D process. The percentage of total R&D investment cannot be obtained as yet.

C10. Verification

C10.1

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

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

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

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
Sibanye-Stillwater Verification Statement.pdf

Page/ section reference
Sibanye-Stillwater Verification Statement - whole document - 309- 311

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

C10.1b

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

Scope 2 approach
Scope 2 location-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
Sibanye-Stillwater Verification Statement.pdf

Page/ section reference
Sibanye-Stillwater Verification Statement - whole document - 309- 311

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

Scope 2 approach
Scope 2 market-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
Sibanye-Stillwater Verification Statement.pdf

Page/ section reference
Sibanye-Stillwater Verification Statement - whole document - 309- 311

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category
Scope 3 (upstream & downstream)

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
SSW-IR20.pdf

Page/section reference
Sibanye-Stillwater Integrated Annual Report 2020: Page: 307- 309/Section: Statement of assurance

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

C10.2

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

C10.2a

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

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Energy consumption	ISAE3000	Verified as part of the verification of the greenhouse gas emissions. Limited assurance was provided for the electricity and diesel consumed at Sibanye Stillwater's operations. The verification was conducted in accordance with ISAE3000. The verification covered organization wide energy consumption and is conducted annually.

C11. Carbon pricing

C11.1

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

Yes

C11.1a

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

South Africa carbon tax

C11.1c

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

South Africa carbon tax

Period start date

January 1 2020

Period end date

December 31 2020

% of total Scope 1 emissions covered by tax

5

Total cost of tax paid

1400000

Comment

The South African Carbon Tax was implemented on 1 June 2019. Taxable entities are liable for payment on an annual basis, related to specified direct emissions in a calendar year. The value of R1.4 million is the anticipated cost for the 2020 calendar year, which has been calculated using the published carbon tax calculation formula.

C11.1d

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

Sibanye's South African operations are currently regulated by the South African carbon tax system. Our strategy is aligned with South Africa's national goal of proactively transitioning to a low carbon economy. Accordingly, Sibanye has published a Group-wide 2040 net-neutral target, articulated in the Group's Climate Change Position Statement, endorsed by the CEO in 2021. The position statement also commits the Group to ensuring compliance with the requirements of the carbon tax system and any other regulatory instruments implemented by government.

Sibanye's strategy for complying with the South African carbon tax system includes:

• designing and implementing strategies that seek to reduce the carbon footprint of the Company, improve our energy efficiency, pursue potential opportunities and utilise carbon friendly technologies where feasible

• determining the risks that climate change may present to the company and assigning appropriate actions to mitigate such risks

• accurately determining our carbon footprint and providing comprehensive disclosure on carbon related issues

• complying with applicable legal requirements and with other requirements to which the organisation subscribes, that relate to carbon management, and

• encouraging business partners and suppliers to adopt similar principles to minimise carbon emissions.

Responsible management of our carbon footprint is the duty of each Sibanye employee. The Sibanye leadership and line management commit to the implementation of the Group's Climate Change position statement and the Energy and Decarbonisation position statement, through effective and visible felt leadership, improving awareness regarding carbon related issues, providing an enabling environment to achieve carbon savings, the deployment of innovations and ensuring that carbon management considerations are included into the decision-making process.

Case study of how the strategy has been applied:

We have processes in place to continually reduce our carbon emissions as part of our low carbon transition plan. For example, we have conducted a detailed assessment of the legislation and quantified the impacts from the respective contributing emission sources. Our expected carbon tax liability for 2020 is R1.4 million. We have voluntarily implemented a vast number of projects that have reduced emissions over time and which have also reduced the potential tax liability as far as practicable. These include the replacement of boilers at the Beatrix mine, which is expected to reduce scope 1 emissions by ~35 000 tCO2e while also reducing operating cost. The coal boilers replacement project is expected to be completed by Q2 2020. Following the Beatrix example, we are currently reviewing replacement of coal boilers at the Marikana operations with natural gas or diesel and are also investigating compressed natural gas alternatives in the Free State where natural gas is readily available.

We also have two Clean Development Mechanism projects to generate carbon credits to offset a portion of the carbon tax. Nearly 90,000tCO2e have been issued in the 1st and 2nd verifications of the Beatrix CDM methane project. The 3rd batch of CERs is being verified. The Beatrix project destroys methane and produces clean electricity from methane trapped within mine shafts. In 2020, the project generated 2,157MWh of electricity, avoiding 19,938tCO2e Scope 2 emissions. This is the equivalent reduction of 10,923t of combusted coal in 2020, with 228,372t coal cumulatively reduced since 2011.

As the bulk of our emissions are associated with purchased electricity from Eskom which is primarily from coal-fired generation, one of the considerations is to supplement a portion of the purchased electricity through the establishment of solar PV and wind plants in South Africa. This can provide a useful way to reduce the carbon tax liability in the event that the tax net is extended to purchased electricity after the first phase of the carbon tax. At a Group level, Sibanye-Stillwater is investigating substituting a minimum of 20% of the Group's total electricity requirements with renewable energy by 2030.

We are also aware that the South African government is considering introducing carbon budgets. To this effect, we have proactively set our approved science-based carbon emissions reduction target as well as our pledge to carbon neutrality by 2040. Accordingly, decarbonisation targets have been incorporated into the 2021 Long Term Incentives and will be extended across the value chain in 2021, targeting Scope 3 emission reductions.

In addition, we recognise that Sibanye has the ability to influence emission reductions along our value chain (Scope 3 emissions). For example, we are engaging with key suppliers, such as providers of electricity, cement, cyanide and more, encouraging them to build resilience to climate change and providing notifications of government initiatives to support the country's low carbon transition.

C11.2

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

No

C11.3

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

Yes

C11.3a

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

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

GHG Scope
Scope 1
Scope 2

Application
South Africa's Carbon Tax became effective on 1 June 2019, imposing a direct (scope 1) carbon tax liability on Sibanye-Stillwater and other companies along Sibanye-Stillwater's value chain (e.g. scope 2). The carbon price is applied to all facilities within South Africa. Influence on business decisions: carbon pricing is factored into business case calculations for energy efficiency and renewable energy within South Africa. For example the pass through costs of the anticipated carbon tax on Eskom, South Africa's electricity utility provider, were factored into the capital and operating costs and payback periods for the solar PV installations that are being pursued. Sibanye-Stillwater is investigating substituting 20% of the Group's total electricity requirements with renewable energy by 2030.

Actual price(s) used (Currency /metric ton)
127

Variance of price(s) used
The price of carbon evolves over time. The South African carbon tax rate for the 2020 calendar year was R127/tCO2e. The rate was set at R120/tCO2e in 2019, escalating annually at CPI +2% until 31 December 2022. The rate of tax will be increased thereafter by the CPI, as determined by Statistics South Africa.

Type of internal carbon price
Shadow price

Impact & implication
The internal carbon price has impacted Sibanye-Stillwater's business because it has revealed opportunities to reduce the company's direct and indirect carbon tax exposure. For example, the shadow pricing allows Sibanye-Stillwater to evaluate the business case for renewable/clean energy and energy efficiency projects, based on estimated cost savings and reduced payback periods which consequently impact the investment decision.

C12. Engagement

C12.1

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

C12.1a

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

Type of engagement
Engagement & incentivization (changing supplier behavior)

Details of engagement
Other, please specify (Collect climate change and carbon information at least annually from suppliers)

% of suppliers by number
100

% total procurement spend (direct and indirect)

% of supplier-related Scope 3 emissions as reported in C6.5
100

Rationale for the coverage of your engagement
Sibanye-Stillwater has over 3700 suppliers. The South African operations have a supplier portal, Coupa, on which suppliers are requested to provide information on their carbon emissions. During 2020, Sibanye-Stillwater circulated a questionnaire to all (100%) existing suppliers, requesting them to provide ESG information, which included questions related to climate change matters. At the end of 2020 over 600 suppliers responded to the questionnaire. The survey was reissued in 2021 and to date over 940 suppliers have responded to the questionnaire. Rationale for the coverage of this engagement: all All suppliers have climate change impacts, resulting in different risks and opportunities which may affect Sibanye-Stillwater's operations. Thus, all suppliers were targeted in this engagement to ensure that the Group has adequate data with which to mitigate operational risks. In addition, a risk-based approach is also used to prioritise key climate engagements. The criteria used for prioritising key supplier engagements is based on assessments of products supplied and of its vulnerability to climate change, supply demand and availability. Sibanye-Stillwater has categorised its suppliers. Strategic suppliers provide services and products that have a high impact on operations, such as reagents and underground support. Without their inputs, production would be seriously hampered and engagement with them is interactive and contracted to minimise any potential risk to our health and safety requirement with a focus on production. Tactical suppliers provide Sibanye-Stillwater with the bulk day-to-day goods and services required for production. Engagements are guided by the Stakeholder Engagement Policy. Supplier engagements take place at an operational level and any issues are managed through the supply chain. The focus on the local suppliers is to ensure community participation and both financial and non-financial assistance offered to them if required. Through this process, critical suppliers have been identified and are sensitised to climate change impacts so that they can proactively position themselves to implement more climate resilient processes. Our priority engagement are with suppliers of the following products: Electricity; Blasting agents; Cyanide; Lime; Water; Timber; Diesel; Hydrochloric acid; Caustic soda; LPG and Cement.

Impact of engagement, including measures of success
Description of measures of success: The success of these interactions is measured implicitly by how much they assist Sibanye-Stillwater in identifying supplier-related risks (and opportunities) and in informing our strategy for the future. This engagement has assisted Sibanye-Stillwater in identifying several key supplier related climate change risks. Company-specific examples of the impact of climate-related supplier engagement according to the measure of success chosen: Notably in 2020, Sibanye-Stillwater has identified the water supply concerns as key operational risks in the South African operations. Sibanye-Stillwater has engaged with the local utility, Rand Water, through various channels including water forums hosted by the utility. Sibanye-Stillwater is accordingly implementing actions to reduce water reliance from this and other external suppliers, in order to reduce water security risks. In addition, Sibanye-Stillwater has identified gypsum and cement as key inputs in our operations. Engagements with suppliers of these products have revealed that the use of gypsum, to replace a portion of the clinker in the production of cement, is a viable option to reduce resulting GHG emissions. Sibanye-Stillwater has also had key engagements with AEL, an explosives service provider, on climate related matters. Engagement with AEL was targeted as explosives are in our top 10 suppliers list in terms of emissions contributions. AEL monitors the carbon emissions from their product and have shared that information with us on the purchases per mine and also per shaft on a monthly basis. This information is also useful in tracking and comparing performance per mine and also per shaft. Engagements with key suppliers are done on a rotational basis year-on-year.

Comment
None

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement
Collaboration & innovation

Details of engagement
Run a campaign to encourage innovation to reduce climate change impacts

% of customers by number
57

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

Portfolio coverage (total or outstanding)
<Not Applicable>

Please explain the rationale for selecting this group of customers and scope of engagement
These customers represent our core Platinum Group Metal (PGM) market segment customers and a substantial portion of global demand for PGMs. These customers are concerned with the full gambit of environment, social and governance matters, in particular climate change, and the impact it will have on value chains and customer products. For example, we engage frequently on the evolution of the powertrains and the emerging battery electric and hydrogen economy in response to global decarbonisation. We also engage PGM customers and NGOs that are supported by automotive original equipment manufacturers through the International Platinum Group Metals Association. We sell our gold to banks for investment purposes and as such do not engage directly with them. We are however a member of the World Gold Council where climate change and the climate change-related needs and concerns of customers are discussed. Certain customers and potential customers also engage with us on an annual or more frequent basis, to understand our sustainability audits and results thereof.

Impact of engagement, including measures of success
These engagements allow us to understand our customers' needs better and the influence climate change and global decarbonisation will have on our respective commodity markets. It also highlights opportunities to meet new and emerging commodity needs of customers e.g. battery metals. A measure of success would be the quality of customer relationships, customer retention and sales, and customer partnerships. Sibanye-Stillwater's US PGM operations are one of the biggest PGM recyclers in the world and engagements with customers help us to better understand potential for further recycling and the value of recycled metal in the market. Description of the impact of climate-related engagement strategy with our customers, according to the chosen measure of success: During 2020, Sibanye-Stillwater's partnership continued with BASF, a multinational chemical producer. The partnership entails research and development of a tri-metallic catalyst (Pt, Pd, Rh) (platinum, palladium and rhodium). Catalysts are used to reduce the impact of harmful emissions emitted by internal combustion engines. The study has been successful: the tri-metal catalyst is able to replace palladium with platinum in a 1:1 ratio. The engagements with our automotive customers on this research have improved the quality of our customer relationships, customer retention and sales, and customer partnerships. Based on current uptake estimates, substitution of palladium with platinum could increase to over 1Moz by 2025. Better alignment of the PGM basket demand with supply will provide longer-term sustainability and greater price stability. This research is expected to provide greater versatility of applications of PGMs and have a positive impact on the platinum market balance.

C12.1d

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

Sibanye-Stillwater's business is influenced by different economic, legislative and social factors. Stakeholder engagements with partners in the value chain are therefore key to the long-term sustainability of the business.

Engagements are guided by the Stakeholder Engagement Policy, which aims to facilitate open and constructive engagement, allowing for participative and informed decision making across the business. The strategy outlined in the policy requires Sibanye-Stillwater to:

• adopt a stakeholder inclusive approach that balances the needs, interests and expectations of internal and external stakeholders in the best interest

of the organisation over time

• embed a culture of effective engagement within the organisation

• develop and implement systems that are mutually beneficial to relevant stakeholders

• create appropriate platforms for open, participative and constructive engagement

• engage at the earliest practical stage with likely affected parties in response to issues and conflict

• accurately understand our impact on stakeholders and their potential impact on us, whether it be positive or negative, to enhance the engagement process and incorporate it into decision making

• ensure conscientious and proactive stakeholder engagement on sustainable development challenges and opportunities through responses that are timely, accurate and relevant

Definition of value chain partners:

Stakeholders in the value chain are defined as individuals or groups that have a material interest in, or are affected, by our operations. They also include those who have the potential to materially influence our ability to create value and deliver on our strategy.

The stakeholders in the value chain with whom Sibanye-Stillwater engages and has partnerships include: employees, unions, communities in host and labour-sending areas, various levels of government (national, state, provincial, local and municipal), investors and capital providers, NGOs, suppliers, business and joint venture partners, regulators and the media, among others.

The methods of engagement employed are as diverse as the stakeholders engaged with. These engagements include regular meetings, publications of various reports, communications via email and much more.

A case study of the climate-related engagement strategy with partners in the value chain:

The support of local communities is very important for Sibanye-Stillwater's social license to operate. Local communities are actively engaged with by us on various matters. A notable engagement in 2020 centred around the finalisation and implementation of an Adaptive Management Plan, as part of the US PGM operations' Good Neighbor Agreement. The Adaptive Management Plan is a stakeholder-driven, independent water monitoring and assurance plan, aligned with the goals and objectives of the Good Neighbor Agreement. The Adaptive Management Plan has established tiered trigger levels for water quality that are more protective than state and federal standards.

Methods of engagement include routine interaction with community organisations as well as monthly Adaptive Management Plan monitoring reports, to keep the Good Neighbor Agreement stakeholders up to date on important water management and water quality key performance indicators.

Measure success and any positive outcomes: maintaining existing water resources in good conditions ensures that local communities will be able to adapt better to changes in water availability in the future. The engagements also contribute to communication of the positive environmental impacts of the Sibanye-Stillwater operations, which contribute to securing the Group's social licence to operate in the US region.

C12.3

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

Direct engagement with policy makers
Trade associations
Funding research organizations
Other

C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Carbon tax	Support	Sibanye-Stillwater has been engaging with the South African authorities on the framework and principles of the South Africa's Carbon Tax Act, well before the tax came into effect on 1 June 2019. This legislation is designed to levy carbon tax on the sum of GHG emissions from fuel combustion, industrial processes, and fugitive emissions. Emitters are required to license their activities and operations liable for carbon tax, and payment of this environmental tax is due, according to the Act, in July of each year. While some degree of uncertainty surrounded the promulgation of that Act, detailed regulations covering a cluster of Carbon Tax allowances were unveiled on 19 June 2020, removing many of the ambiguities. In particular, fugitive mine methane from gold mining is excluded from the GHG reporting regulations which are linked to the South African Carbon Tax. This represents a reduction of approximately R18 million per year for carbon tax liability for our Beatrix operation, largely as a result of Sibanye-Stillwater's extensive engagements with Government during their deliberations on the carbon tax regulations.	On the back of extensive and constructive engagement with Department of Forestry, Fisheries and Environment, it was agreed that the Beatrix methane project in the Free State would not need to be registered or included as part of our total carbon tax net. On the basis of these new regulations, Sibanye-Stillwater's calculated 2019 carbon tax liability was approximately R1.6 million. Payment of the tax, however, was extended from July to October 2020 as a result of the general disruptions caused by the COVID-19 pandemic.

C12.3b

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

Yes

C12.3c

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

Trade association

Minerals Council (formerly the South African Chamber of Mines)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Sibanye-Stillwater actively and constructively engage with the government directly and through industry bodies such as the Minerals Council South Africa to facilitate solutions to mining regulatory challenges and uncertainty. In 2020, Sibanye-Stillwater participated in the Minerals Council South Africa's discussions and other engagements with the National Treasury, related to uncertainties around the second phase of the South African Carbon Tax beyond 2023. Sibanye-Stillwater expects its total carbon tax liability to increase significantly from 2023 onwards through the possible inclusion of Scope 2 emissions from electricity generation in the carbon tax net, specifically emissions associated with the national electricity utility and other suppliers of manufactured goods and services. The possible reduction or removal of the tax-free thresholds and allowances from 2023 onwards will also lead to increased carbon tax liabilities. Sibanye-Stillwater accordingly engaged with the Minerals Council South Africa on this matter with a view to better understanding and possibly influencing any proposed carbon tax regime for Phase 2 of its implementation. Sibanye-Stillwater's view is consistent with the view held by the Minerals Council, as both believe that climate change related legislation should be implemented in cooperation and in consultation with industry to prevent a negative impact on competitiveness and sustainability of business. The Minerals Council gets its mandate from the member mines. Sibanye-Stillwater is a member of the Minerals Council. The Minerals Council, supported by Sibanye-Stillwater, therefore advocates that the impact of climate change legislation in the current economic climate should consider vulnerable industries such as mining in relation to the sustainable development goals and specific aspects such as energy pricing and constraints and commodity pricing. The Minerals Council largely engages with climate related authorities and policy makers through Business Unity South Africa (BUSA), an organised business association of sectors in the country. Sibanye-Stillwater's position is therefore further represented on BUSA, which enables us to engage in matters relating to the economic policy interventions that are required to resolve climate issues and related issues of competitiveness and growth in the South African economy.

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

Sibanye-Stillwater influences the Minerals Council position and engagement with Government through regular engagement and meetings, such as the Environmental Policy Committee meetings, where differences in positions are explored and discussed. The implication of the carbon tax on companies is constantly highlighted as part of the lobbying process. The CEO of Sibanye-Stillwater is also the Vice President of the Minerals Council and serves on the Executive Council, the highest decision-making body of the Minerals Council.

C12.3d

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

Yes

C12.3e

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

Sibanye-Stillwater recognises the important insights that research organizations can make to technology, trade, and other industry-relevant topics that are applicable to our business. We recognise that outputs from research programmes can be used to shape corporate strategy, products and positions.

Our support for universities includes the DigiMine project with Wits and the University of Johannesburg. The DigiMine project is a state-of-the-art mining laboratory and post graduate research entity. The aim of the laboratory is to make mining safer and more sustainable using digital technologies. We have also established training facilities at the University of Johannesburg's mining engineering faculty, which are used to establish complimentary infrastructure that supports Sibanye-Stillwater's long-term research and development strategy.

In 2020, Sibanye-Stillwater's funding efforts related to the universities was focussed on Covid-relief activities, such as a collaboration to develop face shields for frontline health workers. The face shields are made by student and community volunteers from the Wits School of Mechanical, Industrial and Aeronautical Engineering, in a partnership between Sibanye-Stillwater and Wits University`s DigiMine. Sibanye-Stillwater donated a laser cutter and material to the Digital Makerspace team at the Wits TMG Makerspace, Wits Tshimologong Digital Innovation Precinct to produce over 6,700 shields, at no cost. The masks were distributed to Sibanye-Stillwater's SA operations and community members. This project has been used as a training platform, to enable the transfer of skills. The volunteers are working on producing face shields from recycled plastic to reduce the impacts on the environment.

A further DigiMine project, in partnership with the Tshimologong Precinct, includes research and development into advanced tailings monitoring and management strategies. The research to date has covered a benchmarking study on best-in-class tailings management policy and strategy, identifying potential areas of improvement. Phase 2 of the project will focus on developing digital practices and systems that align with best practice and enhance the Group's ability to ensure tailings performance beyond compliance.

In addition, in preparation for the adoption of artificial intelligence technologies, DigiMine has started researching and assessing technologies that support the digitisation and automisation of Sibanye-Stillwater's value chain, considering a typical underground conventional deep-level gold mine.

Sibanye-Stillwater also supports other companies in research and development, such as BASF, where we co-funded a Tri Metal Catalyst research development project. The outcomes of the three-year investment into research and development of a tri-metal catalyst for gasoline cars has been successful. The tri-metal catalyst is able to replace palladium with platinum in a 1:1 ratio. Based on current uptake estimates substitution of palladium with platinum could increase to over 1Moz by 2025. Adoption of the Tri-Metal Catalyst can reduce catalytic converter costs for automakers and partially rebalance market demand for PGMs, thereby enhancing PGM market sustainability.

C12.3f

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

Climate change and its potential impact on our business is regarded as a strategic business issue. Our climate change response is therefore overseen by the Board of Directors as an integral part of the Group-wide strategy.

Process that ensures a common approach to multiple climate engagement activities across business divisions and geographies, that is consistent with our strategy on climate change:

The Social, Ethics & Sustainability Committee, a Board committee, provides oversight of climate change response and strategy across the Group and reports to the Board.

Below the Board, our CEO is responsible for the Group strategy and provides executive direction. Our climate change policy statements, endorsed by the CEO, are in place. Considering our vision of superior value creation for all stakeholders through mining our multi-commodity resources in a safe and healthy environment, Sibanye-Stillwater is committed to contributing to a global solution through the deployment of responsible strategies and actions through designing and implementing strategies that seek to reduce the carbon footprint of the Company, improve our energy efficiency, pursue potential opportunities and utilise carbon friendly technologies where feasible.

The CEO is supported by the Group Executive committee.

While the climate change response strategy is centrally co-ordinated within the Group Technical function, each segment of the Executive committee is equally responsible and committed to upholding the principles of our climate change strategy. Direct communications take place between the operating segments on the roll-out and standardisation of carbon management approaches to ensure consistency.

At the SA gold and SA PGM segments, carbon management is centrally coordinated within the Environmental function which reports into the Group Technical executive function. From there, consistent roll-out to the operational facilities takes place in terms of policy and climate change strategy as well as its implementation. A quarterly Board Note on processes and developments is compiled to report and feedback on developments and direction on pertinent matters from the Board. For external engagements on climate change, representations are duly mandated for consistency and feedback is given to the Social, Ethics & Sustainability Committee for information and response. Sibanye-Stillwater is a member of the Minerals Council South Africa and utilizes it as a vehicle for lobbying on amongst others, on climate change related matters. The following processes are in place to ensure consistency with the overall climate change strategy:

• Our CEO serves as Vice President on the Minerals Council Executive structure, the highest decision-making body of the Minerals Council. The Minerals Council obtains its mandate on climate change positioning from that Executive structure.

• Appointed and duly mandated representation from Sibanye-Stillwater at the Environmental Policy Committee of the Minerals Council.

• Feedback on climate change issues and approaches are given to the Minerals Council, and feedback from the Minerals Council and their interactions with either the Regulators and/or other industry associations are fed back into the organization for further interpretation and action where needed.

• The Minerals Council also represent Sibanye-Stillwater at fora such as Business Unity South Africa and the Industry Technical Task Team on Climate Change – this ensures that the same message and position is consistently passed-on to these bodies as well.

• Where appropriate and as dictated by external processes, Sibanye-Stillwater gives direct inputs and comments on climate-related policy and legislation to environmental Regulators such as the Department of Environment, Forestry and Fisheries, National Treasury and even the relevant Parliamentary Portfolio Committee or similar parliamentary structures.

• Further, our energy and decarbonisation managed serves as the chairperson of the Energy Intensive User Group (EIUG) of Southern Africa.

At the US PGM segment, the Executive Vice President carries the overall responsibility for climate-related aspects. The monitoring, measurement and reporting is delegated to the environmental department, through the Vice President - Legal, Environment, and Governmental Affairs. The Vice President reports to the Executive Vice President who reports to the Social and Ethics committee on a quarterly basis and where oversight is sought.

Climate issues are monitored by the environmental department. The monitoring includes assessment of the regulatory framework and changes therein, annual monitoring and performance assessments, regulatory and social reporting, and initiatives for emission reductions.

C12.4

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

Publication
In mainstream reports

Status
Complete

Attach the document
SSW-IR20.pdf

Page/Section reference
pg. 19 pg. 26 pg. 62 pg. 68 pg. 244

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics
Other, please specify (Energy and consumables purchased)

Comment

Publication
In voluntary communications

Status
Complete

Attach the document
33. + Beatrix – methane fact sheet.pdf

Page/Section reference
Pg 1 – 4

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures

Comment

Publication
In voluntary communications

Status
Complete

Attach the document
Final - Climate Change Position Statement 31-03-2021.pdf

Page/Section reference
Pg 1 – 9

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Other metrics

Comment

C15. Signoff

C-FI

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

C15.1

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

	Job title	Corresponding job category
Row 1	Sibanye-Stillwater's Chief Financial Officer is responsible for sign-off of the 2020 CDP climate change response, in conjunction with the Chief Technical Officer.	Chief Financial Officer (CFO)

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms