



Welcome to your CDP Climate Change Questionnaire 2019

C0. Introduction

C0.1

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

MTN is an emerging market mobile operator with a clear vision to lead the delivery of a bold, new digital world to our 233 million customers across 21 operations. We are inspired by our belief that everyone deserves the benefits of a modern connected life. Ours is one of the most admired brands in Africa and is among the most valuable African brands. MTN is one of the largest companies listed on the Johannesburg Stock Exchange (JSE) in Johannesburg and had a market capitalisation of R168 billion at the end of 2018.

MTN is listed on the Johannesburg Stock Exchange (JSE) Limited in South Africa under the share code “MTN”. On the 31st of December 2018, the Group had approximately 233 million subscribers across 21 Operating Companies (OPCOs) managed as South Africa, Nigeria and the Southern and East Africa and Ghana (SEAGHA), West and Central Africa (WECA) and Middle East and North Africa (MENA). Our countries of operation are Afghanistan, Benin, Cameroon, Cyprus (ending August 2018), Ghana, Guinea-Bissau, Guinea Republic (Conakry), Iran, Ivory Coast, Liberia, Nigeria, Republic of Congo (Congo-Brazzaville), Rwanda, South Africa, Sudan, Syria, South Sudan, Swaziland, Uganda, Yemen and Zambia. We also have a presence in Botswana, Kenya and Namibia.

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
Row 1	January 1, 2018	December 31, 2018	No

C0.3

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

Afghanistan
Benin
Botswana
Cameroon
Congo
Cote d'Ivoire
Cyprus
Ghana
Guinea
Guinea-Bissau
Iran (Islamic Republic of)
Kenya
Liberia
Namibia
Nigeria
Rwanda
South Africa
South Sudan
Sudan
Swaziland
Uganda
Zambia

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 consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Financial control

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Other, please specify Board/Executive Board	MTN Group board has overall accountability for sustainability. Responsibility for oversight of MTN’s sustainability activities is delegated to the social & ethics committee. Committee’s mandate is to monitor the development or review of policies, governance structures & existing practices. Includes identifying gaps in the sustainability framework & ensuring improvements in sustainability reporting. The Group President & CEO has delegated executive responsibility to Group Chief Regulatory & Corporate Affairs Officer, to whom the Group Sustainability function reports. Group Sustainability function is responsible for all climate change & sustainability initiatives & issues, & focuses on building the foundations for a more sustainable business & implements environmental or social core

	business projects at both Group & operational level in partnership with business functions. Sustainability functions are fulfilled by technology, corporate services & other functions within the various countries
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C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding business plans Monitoring implementation and performance of objectives	<p>MTN’s sustainability vision is to protect and create shared value for MTN and our stakeholders through responsible environmental and social practices. To realise our vision, our sustainability approach is categorised into three pillars (sustainable economic value, eco-responsibility and sustainable societies) that identify the areas we most focus on, to ensure we operate responsibly and sustainably.</p> <p>At quarterly social and ethics board committee meetings, sustainability reports are presented, ensuring that the MTN Group’s Regulatory and Corporate Affairs Officer accounts for the business’s sustainability risks, opportunities and performance. This includes climate change related issues which include energy consumption, climate risks and opportunities, as well as alternative energy and energy efficiency initiatives at scheduled intervals.</p> <p>Sustainability is implemented by dedicated functions within the Group Regulatory and Corporate Affairs department, which is managed by the Group Regulatory and Corporate Affairs Officer who is a member of the Group Executive Committee and the Group Social and Ethics Committee. This ensures that sustainability requirements are driven by and within core business functions, and integrated within business planning and management cycles, guiding our major plans and actions. On a monthly basis, the Group Principal Risk Report includes risk assessment and quantification of MTN’s energy use and GHG emissions, emerging risks and</p>

		actions allocated to executive functions allocated for risk management. Given that the largest impact stems from energy consumption, our Infrastructure and Technology teams are responsible for ensuring energy efficiency and reduction. Business plans and objectives in this regard are overseen by Group and Technology functions, and reports are compiled on a monthly basis by operations.
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C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Other C-Suite Officer, please specify MTN Group's Regulatory and Corporate Affairs Officer 🗨️ ₁	Both assessing and managing climate-related risks and opportunities	Quarterly
Other committee, please specify Social and Ethics Committee	Both assessing and managing climate-related risks and opportunities	Quarterly
Environment/ Sustainability manager	Both assessing and managing climate-related risks and opportunities	Quarterly

C1.2a

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

The Group Sustainability department is responsible for all climate change and sustainability initiatives and issues at MTN, they compile and monitor reports for monthly executive committee reviews, for quarterly Social and Ethics Committee presentations and annual integrated reports. This function works with the Group Technology function, which is responsible for ensuring energy efficiency and reduction, since MTN's largest greenhouse gas



impact stems from energy consumption by MTN's technical infrastructure. MTN Group monitors the energy use in its operations on a monthly basis and calculates its monthly greenhouse gas (GHG) emissions. MTN also works towards reducing the emissions through implementing energy efficient initiatives. The Group's risk management framework, which includes two principal risks regarding environmental risks and impacts to MTN, is complemented by a climate change risk reporting template.

C1.3

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

No

C2. Risks and opportunities

C2.1

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

	From (years)	To (years)	Comment
Short-term	0	1	Short term horizons are considered to be between 0 and 1 years and could be any events that could affect the organisation almost immediately.
Medium-term	1	3	Medium term horizons are considered to be between 1 and 3 years and could be any events that are foreseen in the near future and could be planned for.
Long-term	3	10	Long-term horizons are considered to be 3 years and longer, and could comprise of any events that could affect the organisation in the longer-term future. These may be relatively difficult to plan for although such considerations are taken in our planning processes.



C2.2

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

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

C2.2a

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

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	1 to 3 years	MTN's risk management frameworks guide the operation of our business units, with whom primary responsibility for risk management resides. Technology and Facilities functions, often supported by Corporate Affairs/ Service functions, are responsible for identifying and managing climate change related risks. Sustainability, risk and compliance functions are responsible for overall reporting of the Principal Risks which impact the MTN Group. Of the principle risks at Group level, climate change is identified as part of the Principal risk 25 due to its potential threat to continuity of operations.

C2.2b

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

The Technology and Facilities functions, often supported by Corporate Affairs/ Service functions, at each MTN operation are responsible for identifying and managing climate change related risks. The Risk and Compliance functions are responsible for the overall reporting of the 32 Principal Risks which impact the MTN Group. Of the Principal Risks at Group level, climate change is identified as part of the Principal risk 25 due to its potential threat to continuity of operations. The identified risks are prioritised based on a quantified probability and impact assessment, and response strategies developed based on the nature and materiality of the risk, and reported to the local operations' executive, audit and risk compliance committees as appropriate. The identification and mitigation processes of environmental, physical, financial and regulatory risks is managed or coordinated in



conjunction with the risk owners by trained Energy and Carbon champions and other individuals within each country of operation. The Group ensures that each country’s operation actively manages physical, financial and regulatory risks and impacts in a customised manner within local operating and environmental contexts by ensuring energy and carbon managers/ champions in technical functions. These champions are supported by finance, facilities, business risk management and corporate services team members. The Group’s sustainability function undertakes the consolidation and reporting of each country’s activities and results through monthly to quarterly energy and carbon foot printing, analysis and reporting, and through monthly overall risk and legal reports to their Group Business Risk Management functions. Group level environmental risks are incorporated into sustainability, energy and carbon reports, CDP reports, and UN Global Reporting Initiative (GRI) IV and Global Compact Reports, which are ultimately presented on an annual basis on the company’s website. These are also presented to the Group Social and Ethics Committee on a scheduled basis and included in monthly reports to the Group Risk and Compliance function. Consolidated reports are reviewed annually and approved by the Group Executive, including the Group President and CEO, and Group Social and Ethics Committee for integrated annual report publication.

C2.2c

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	The information below highlight regulatory risks, with a possible financial implication in the form of a penalty. On 3 April 2017, the South African Department of Environmental Affairs (DEA) introduced and gazetted the National GHG Emission Reporting Regulations, which required the immediate attention and action of companies. Companies needed to register all facilities where activities exceed the thresholds listed in Annexure 1 of the regulations by 3 May 2017. Companies also needed to submit GHG emissions and activity data for the preceding calendar year for all the facilities registered under these regulations by 31 March annually. The first round of reporting was due on 31 March 2018 for the 2017 year. MTN undertook an assessment to understand whether the thresholds are exceeded and has since registered the affected facilities and submitted a report of MTN’s relevant 2017 and 2018 GHG emissions to DEA in compliance with these regulations. We are also aware of the National Pollution Prevention (PPP) Regulations that were published and gazetted by DEA on the 21st of July 2017 and undertook an assessment of the implications of these regulations. We determined that the PPP regulations do not affect MTN or require any further action from the company.
Emerging regulation	Relevant, always included	The South African National Treasury first introduced the idea of carbon tax in a discussion document in 2010. The design was proposed in 2013 followed by the publication of the Draft Bill late in 2015 which announced the expected start date to

	Relevance & inclusion	Please explain
		<p>be in 2017. After numerous iterations and consultations, the Bill was finally signed into law by the President on the 22nd of May 2019 and has come into effect from 1 June 2019. The carbon tax will initially only apply to scope 1 emitters in the first phase. The first phase will be from 1 June 2019 to 31 December 2022, and the second phase from 2023 to 2030. While the initial tax rate is set at R120/ tonne of CO₂-equivalent, the carbon tax law allows for various allowances, with taxpayers eligible for allowances for up to 95% of their emissions. National Treasury estimates that companies will effectively pay between R6 and R48 per tonne of CO₂e.</p> <p>This risk currently only affects MTN South Africa; however, MTN Zambia also reported increasing legislative activity with respect to carbon taxes. While MTN South Africa is one of the largest operations in the MTN Group, the financial impact of this tax is estimated to range between R290 000 and R600 000 per annum, which is not considered material to the Group.</p>
Technology	Relevant, always included	<p>At MTN, we are focused on solutions to enhance digital inclusion and transform societies. We firmly believe that technology and connectivity can accelerate transformative solutions to some of the world's complex challenges. With rapid growth in Internet of Things (IoT) as well as increased connectivity (including 5G in future), we envisage increased demand in energy requirements to further support our delivery of services to customers. We regard this increased demand of energy to be a cost and climate change related risk regarding technology. We continually seek efficiencies in our network technologies, site construction and operations. We continually work to replace inefficient and old products with more efficient equipment and solutions, and by investing in renewable energy sources for sites owned and operated by MTN. We also engage with partners and suppliers on ways of enhancing the efficiency of our sites and help us meet our objective of increasing the use of renewable and low-carbon energy. Monitoring energy consumption on an ongoing basis and analysing consumption trends in each operation also helps us identify any problems that may drive sudden increases in reported consumption. To date, alternative energy and energy efficiency solutions have been implemented in more than 12 000 MTN-owned sites and in more than 6 000 leased sites.</p>
Legal	Relevant, sometimes included	<p>The risks associated with climate-related litigation claims are not anticipated as material to us. While we have not formally identified these as part of our organisation's climate-related risk assessments, we maintain awareness and understanding of the growing regulatory environment around climate change in various countries where we operate which could require</p>

	Relevance & inclusion	Please explain
		us to comply with specific requirements, in order to leverage potential incentives and avoid penalties. As MTN, we continue to ensure that we respect existing legal requirements to mitigate risk of penalties. For example, by responding to South Africa's national GHG reporting regulations, we have mitigated the potential risk of financial penalties or imprisonment of officers for non-compliance with regulations.
Market	Relevant, always included	Increasing general costs of (mainly fossil fuel-based) energy, pose financial risks to us as a result of the use of grid power, and gas and diesel. Some of these costs are due to national energy landscapes, while other costs are due to evolving international energy demand-supply dynamics and other macro issues. These impact MTN operations in various ways e.g. where national fuel subsidies may be removed, where electricity and fuel tariffs are increased or where tariffs may be raised for the upgrading of national energy supply infrastructure. Examples of such instances in our operations in the past few years include in Iran, Nigeria, Ghana, Benin and South Africa. Given the importance of energy and the contribution of energy costs to the overall operating cost of the Group, improving energy use and efficiency is a key component of the Company's overall cost-efficiency drive.
Reputation	Relevant, always included	<p>MTN's investor community is increasingly exerting pressure on the Group to demonstrate targets, performance and business plans for managing environmental, social and governance matters material to the business, including climate change management. MTN is listed in the JSE-FTSE4Good Emerging Markets series, and as a constituent, is required to demonstrate climate-related performance to maintain its reputation in the ESG investment sector.</p> <p>While we have not assessed the perception of MTN's climate/ environmental reputation among our customers, employees, civil society and other stakeholder groups, global research indicates the criticality of demonstrating environmental credentials to attract and retain employees and business partners whose values are aligned to organisational values. Similarly, addressing national developmental challenges in the markets in which we operate, which requires cross-sectoral partnerships, including with authorities and regulators, requires MTN to demonstrate its reputation as a responsible corporate citizen.</p>
Acute physical	Relevant, always included	Extreme weather events such as floods and snow affect MTN operations. For example, in one of our Western Africa operations, a number of BTS sites and data centres were exposed to high intensity thunder and heavy rainfall. This resulted in an increase in CAPEX due to infrastructure degradation; loss of telephone, radio and internet services; service

	Relevance & inclusion	Please explain
		<p>disruptions to domestic and emergency services as well as public services (e.g. traffic lights); and higher costs for the provision of telecommunications services. In another country, flooding of MTN facilities and base stations because of increase in rainfall and a surge in sea levels disrupted some operations. In the Middle East, abnormally high snow and ice covered some network sites significantly. Although affected sites remained operational, maintenance was challenging. In other areas of the country, significant flooding also affected the ability to access/ maintain some sites. The Group continually motivates all operations to identify and report on physical climate change related risks on a monthly basis through the carbon footprint reporting process and to ensure mitigation and business continuity plans through the Group's risk and compliance management processes.</p>
Chronic physical	Relevant, always included	<p>Longer term shifts in climate patterns affects MTN operations. For example, in instances where climate projections indicate increased temperatures, this will most likely increase our power consumption for cooling BTS and Switches. For example, in several African and Middle Eastern countries where we operate and where the general environment is mostly arid and hot, climate change is likely to intensify the severity and duration of hot days annually. This would likely result in increased energy consumption for cooling purposes. Shifts in precipitation will also affect operations in countries where national grids rely on hydro-electric dams for power provision, including in some central and south-eastern countries where we operate e.g. as drought conditions experienced a few years ago in Zambia demonstrated this.</p>
Upstream	Relevant, always included	<p>One of our commercial challenges is that of achieving universal network coverage in the countries in which we operate. Several challenges result in this situation, including the cost of building towers in remote areas and the lack of enough or reliable power and other utilities. This creates potential digital inclusivity and socio-economic developmental risks. Some of the solutions to meet this challenge include the use of batteries, equipment with low power requirements and alternative energy sources to reduce our reliance on grid power and diesel. For example, we implemented cost-effective, quick-deployment, solar-powered sites in remote rural areas in Ghana, Nigeria and South Africa to extend network coverage in a less carbon-intensive manner. In South Africa the implementation of solar-powered masts has reduced operating costs by around 40% and helped us avoid 71 tCO2e per year.</p>
Downstream	Relevant, always included	<p>Managing electronic and electrical waste (e-waste) in emerging markets is a challenge, as the ecosystem of handlers and recyclers, along with regulatory participation, is largely immature. We thus find it challenging to recycle all equipment that has reached its end-of-life. Where possible, we ensure that e-waste is diverted to responsible handlers who either extract</p>



	Relevance & inclusion	Please explain
		valuable components or dispose of it in accordance with standards such as ISO 14001, ISO 18001 or SERI R2. We are currently in the process of inviting vendors to supply batteries for our network sites and have included conditions requiring compliance with e-waste disposal and environmental management standards and regulations for decommissioning and disposal.

C2.2d

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

The Group's Technology and Facilities functions supported by Corporate Affairs/ Services functions in each MTN country of operation are responsible for identifying & managing climate change related risks. Group Risk and Compliance functions are responsible for the overall reporting of Principal Risks which impact MTN Group. Of the risks, climate change is identified as part of the Principal Risk 25 due to its potential threat to continuity of operations. The identified risks are prioritised based on a quantified probability & impact assessment & response strategies developed based on the nature and materiality of the risk. These are reported to the local operations' executive & audit & risk compliance committees. The identification & mitigation processes of environmental, physical, financial and regulatory risks is managed or coordinated in conjunction with the risk owners by trained Energy and Carbon champions and other individuals within each country of operation. Each country's operation actively manages physical, financial and regulatory risks and impacts in a customised manner within local operating & environmental contexts by placing energy & carbon champions in technical functions where they are supported by finance, facilities, business risk management and corporate services team members. Group's sustainability team undertakes consolidation and reporting of each country's activities and results through quarterly energy and carbon reporting, and through monthly/quarterly overall risk reports to the Group Business Risk & Compliance Management functions. Understanding climate related regulation, we are now able to quantify the effect on some of our opportunities & prioritise the implementation of solutions that include reductions. Over 1 800 sites have been equipped with efficient cooling technologies in 2018. As we expand our network into areas that are not serviced by grids/reliable power sources, we ensure energy provision through renewable energy provision. South Africa is under constant threat of droughts & utility providers have had infrastructure and other challenges such as unmonitored dam and tank levels, leakages, inadequacy of supplies to meet demand & unlawful water usage. MTN South Africa has been developing a water monitoring solution which will be deployed as a proof of concept solution initially to ensure dam and tank level monitoring and reporting in real time, providing alerts and information for analytical purposes. MTN South Africa has also tested a proof of concept solution for livestock management encompassing geo-fencing of animals, with real-time visibility of each animal, health management and data analysis. In Nigeria, MTN offer solutions for animal tracking and livestock management. We also offer vehicle and fleet monitoring solutions,

enabling dispatch management, driver behaviour, axle load, fuel consumption, temperature management, repair and project scheduling, ensuring that fuel is utilised efficiently. In Iran, the launch of the country's first smart city is intelligent solutions to ensure solid waste management and optimise green spaces irrigation & reservoir water management will be extended to more urban environmental management solutions in future. MTN's IoT products are examples of solutions that can vastly change the way industries and businesses operate and serve their customers in an environmentally-responsible manner, reducing environmental risks. Group's risk management process is outlined in pages 33-37, and risk philosophy and framework on page 40 of the MTN Group Integrated Report, year ended 31 December 2018, available at <https://www.mtn.com/investors/financial-reporting/integrated-reports/>. The following sources were used to determine the sustainability risks and opportunities issues that are most applicable to MTN: - Feedback from internal and external stakeholders that review the annual sustainability report. Engagement with external stakeholders via the addresses sustainability@mtn.com; investor.relations@mtn.com, & queries to our Press Office and other functions, - Information gained through engagement with regulatory authorities, media organisations, civil society and community-based organisations, our customers, and general members of the public, - Feedback from engagement with the FTSE/JSE Responsible Investment Index, the CDP, MTN's investors, shareholders & research organisations that consult us or assess our responsible business performance, - Information from third-party questionnaires and assessments of our publicly reported performance by university organisations and other third parties not commissioned by MTN, - Own internal review and research processes including industry, peer and global developments, and our risk & audit management processes. Issues identified through this process are weighted during an internal materiality review. We also monitor the risk and impact of extreme weather events on our infrastructure and business continuity.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Policy and legal: Increased pricing of GHG emissions

Type of financial impact

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

Company- specific description

The South African National Treasury first introduced the idea of carbon tax in a discussion document in 2010. The design was proposed in 2013 followed by the publication of the Draft Bill late in 2015 which announced the expected start date to be in 2017. After numerous iterations and consultations, the Bill was finally signed into law by the President on the 22nd of May 2019 and has come into effect from 1 June 2019. The carbon tax will initially only apply to scope 1 emitters in the first phase. The first phase will be from 1 June 2019 to 31 December 2022, and the second phase from 2023 to 2030. While the initial tax rate is set at R120/ tonne of CO₂-equivalent, the carbon tax law allows for various allowances, with taxpayers eligible for allowances for up to 95% of their emissions. National Treasury estimates that companies will effectively pay between R6 and R48 per tonne of CO₂e.

This risk currently only affects MTN South Africa; however, MTN Zambia also reported increasing legislative activity with respect to carbon taxes. While MTN South Africa is one of the largest operations in the MTN Group, the financial impact of this tax is estimated to range between R290 000 and R600 000 per annum, which is not considered material to the Group.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

290,000

Potential financial impact figure – maximum (currency)

600,000

Explanation of financial impact figure

MTN South Africa could expect a carbon tax rate of around R120 per tCO₂e which will result in a maximum liability of R590 000 (based on MTN South Africa's 2018 emissions). Scope 1 emissions associated with gas tri-generation plants at 14th Avenue, Doornfontein and Newlands (powered by liquid petroleum gas (LPG)) will be taxed. The tax-free thresholds would reduce the initial impact on MTN to an estimated minimum tax liability of R200 000. Although there has been an indication of a 5% Carbon Tax allowance should a company participate in the carbon budgets process, MTN has not been approached by DEA to submit any carbon budgets. However, through voluntary participation, MTN could potentially reduce the tax liability from R596 160 to R163 710.

Management method

MTN is reducing the impact of carbon taxes by optimising energy efficiency at its technical and non-technical sites and looking to implement alternative energy. Currently, the carbon tax only poses a direct threat to MTN South Africa; however, it may become a reality in other countries. Solar, wind, gas and fuel cell energy are used at 28 off-grid sites in South Africa and tri-generation power is used at the head office (14th Avenue) as well as at the Doornfontein and Newlands sites. Other energy reduction initiatives in South Africa include the use of heat wheel technology; investment in battery cabinets with active cooling, sodium metal chloride batteries and free cooling & temperature setting adjustment in BTS sites; and in 2014 the operationalisation of a concentrated solar power plant with a peak cooling capacity of 330 kW.

Through the National Business Initiative, the Group Sustainability function also engages in policy dialogue and advocacy to ensure that carbon budgets and the design of the tax captures the operational realities of the sector and company.

Cost of management

58,500,000

Comment

The costs of managing this risk relate to costs associated with the implementation of energy efficiency initiatives (R58 300 000). Following the successful implementation of the Gas-Waste Heat Capture-Cooling (tri-generation) plant at MTN's 14th Avenue campus in 2010, which was also registered for carbon credits on the United Nations' Clean Development Mechanism (CDM); MTN South Africa has done two off-gas powered generators that power the Doornfontein & Newlands sites in 2015 & 2016 respectively. Implementation cost is estimated at R13.3 million (Doornfontein) & R40million (Newlands). Plans are in place to extend the energy capacity at the 14th Avenue Campus to 7 MW. In 2014, MTN South Africa implemented a Linear Fresnel Concentrated Solar Power (CSP) technology programme at 14th Avenue campus at an estimated cost of R5 million, to provide an additional 330kW.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Policy and legal: Increased pricing of GHG emissions

Type of financial impact

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

Company- specific description



The information below highlight regulatory risks, with a possible financial implication in the form of a penalty. On 3 April 2017, the Department of Environmental Affairs (DEA) introduced and gazetted the National GHG Emission Reporting Regulations, which required the immediate attention and action of companies. Companies needed to register all facilities where activities exceed the thresholds listed in Annexure 1 of the regulations by 3 May 2017. Companies also needed to submit GHG emissions and activity data for the preceding calendar year for all the facilities registered under these regulations by 31 March annually. The first round of reporting was due on 31 March 2018 for the 2017 year. MTN undertook an assessment to understand whether the thresholds are exceeded and has since registered the affected facilities and submitted a report of MTN's relevant 2017 and 2018 GHG emissions to DEA in compliance with these regulations. We are also aware of the National Pollution Prevention (PPP) Regulations that were published and gazetted by DEA on the 21st of July 2017, and undertook an assessment of the implications of these regulations. We determined that the PPP regulations do not affect MTN or require any further action from the company that since it register regulations. Failing to submit the report carries the risk of financial penalties, which MTN has avoided.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

10,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Our non-compliance to report under the national GHG emissions reporting regulations could result in penalties by the government amounting to a maximum of R5 million for the first conviction and a maximum of R10 million for second or subsequent conviction.

Management method

MTN's energy and carbon management and reporting system and assessment process allows us to ensure the data is accurate and representative. In addition, MTN has identified and implemented alternative energy and energy efficiency initiatives to minimise energy consumption. Cumulative savings since 2014 are estimated to be 38 250MWh.

Cost of management

2,000,000

Comment

The costs of managing this risk relates to the costs associated with an external consultant that manages all carbon and energy related services.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Policy and legal: Increased pricing of GHG emissions

Type of financial impact

Other, please specify

Reputation: Reduction in capital availability

Company- specific description

Carbon pricing uncertainty in the international carbon market is regarded as a regulatory climate change risk to MTN, but also poses potential financial opportunity as most countries in which we operate are classified as emerging countries, and some also hold Least Developed Country status. MTN South Africa is currently evaluating the value of trading verified certified emission reduction (CER) credits from some of its installations. However, the generation of CDM credits in MTN is not a priority given the status of international pricing, and the value of MTN's saved or avoided emissions in mitigating MTN South Africa's potential carbon taxes liability or leveraging other national tax benefits.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

43,286

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The financial implications of potentially not participating in these schemes is about R 43 286 per annum which are estimated costs that are incurred from not taking advantage of the CDM platform.

Management method

The Group does not foresee further participation in cap and-trade schemes in the short term. This position is regularly reviewed and may be amended as required. There exists regulatory uncertainty at this stage. MTN Group continues to focus on efforts to reduce emissions where possible.

Cost of management

22,000,000

Comment

CAPEX for tri-generation test switch and data centre for MTN South Africa: R22 000 000 in 2010.

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

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

Type of financial impact

Increased operating costs (e.g., inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants)

Company- specific description

Extreme weather events such as floods and snow affect MTN operations. For example, in one of our Western Africa operations, a number of BTS sites and data centres were exposed to high intensity thunder and heavy rainfall. This resulted in an increase in CAPEX due to infrastructure degradation; loss of telephone, radio and internet services; service disruptions to domestic and emergency services as well as



public services (e.g. traffic lights); and higher costs for the provision of telecommunications services. In another country, flooding of MTN facilities and base stations as a result of increase in rainfall and a surge in sea levels disrupted some operations. In the Middle East, abnormally high snow and ice covered some network sites significantly. Although affected sites remained operational, maintenance was challenging. In other areas of the country, significant flooding also affected the ability to access/ maintain some sites. The Group continually motivates all operations to identify and report on physical climate change related risks on a monthly basis through the carbon footprint reporting process and to ensure mitigation and business continuity plans through the Group's risk and compliance management processes. Longer term shifts in climate patterns affects MTN operations. For example, in instances where climate projections indicate increased temperatures, this will most likely increase our power consumption for cooling BTS and Switches. For example, in a number of the African and Middle Eastern countries where we operate and where the general environment is mostly arid and hot, climate change is likely to intensify the severity and duration of hot days annually. This would likely result in increased energy consumption for cooling purposes. Shifts in precipitation will also affect operations in countries where national grids rely on hydro-electric dams for power provision, including in some central and south-eastern countries where we operate e.g. as drought conditions experienced a few years ago in Zambia.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Flooding risks and the impact to equipment and service delivery requires flood management and control and backup for critical sites.

Management method

Operating equipment, such as generators, have been raised above the flood level in some MTN countries/regions most at risk. In addition, future site planning has adopted the lessons learned about defending against floods.

Cost of management

0

Comment

MTN's infrastructure plan includes redundancy & backup. If a single base station site is unavailable, traffic is switched to an alternative site, when more sites are unavailable; the situation is classified as an Incident. Catastrophic incidents will trigger business continuity processes. One of the main elements of network performance is the availability of power. We deploy a range of solutions to primary power sources (battery back-ups & diesel generators). Our main element of availability is power, and we maintain autonomy via battery backup solutions and direct power generation. If there is an issue related to transmission, we re-route network traffic to other operational sites. In rural areas or areas with low volumes of network traffic, sites may be non-operational from a few minutes to a few hours and worst case of unavailable for less than 24 hours. It's not possible to estimate the cost of management as our infrastructure plan is made up of numerous aspects.

C2.4

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

Yes

C2.4a

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

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Type of financial impact

Returns on investment in low-emission technology

Company-specific description

There are several tax incentives, research and development incentives and government grants in the area of energy and climate change which MTN could take advantage of. These are mainly available in South Africa, but other MTN countries of operation review if similar regulatory incentives are available locally as well. South African incentives being explored by MTN include: Income Tax Act, Section 12.k: Carbon credits generated by Clean Development Mechanism projects will be exempt from normal tax. Section 12.l: An income tax allowance is available for energy efficiency savings. The 12l tax rebate is an incentive for increased energy efficiency, available in the form of an allowance/deduction allowed from taxable income based on demonstrable energy efficiency savings created through the implementation of energy efficiency measures. The tax incentive is available for savings in all energy forms and not only electricity. The rebate is equivalent to 95 cents per kilowatt-hour or kilowatt-hour equivalent of energy saved. In addition, because MTN South Africa can earn carbon credits from the CDM project there is the potential for tax related savings. MTN South Africa participated in the Private Sector Energy Efficiency (PSEE) programme and has reviewed its energy policy identifying further opportunities for energy efficiency investments, and assessing the financial penalties and incentives available from local regulatory authorities for energy efficiency investments. In addition, there are growing pressures within other regions to comply with environmental legislation.

Time horizon

Medium-term

Likelihood

About as likely as not

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

6,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

MTN is currently saving approximately 18 000 MWh of electricity per year in South Africa from energy efficiency and low carbon energy initiatives. Using a tax incentive rate of R0.95, these energy savings could have translated into MTN paying approximately R6 million less tax for FY18. This cost estimation has also assumed that all projects would have qualified, and all savings were generated in a single year which is not necessarily the case.

MTN is currently in the process of applying for a rebate and this could result in a potential saving for MTN annually, excluding the cost required for measurement and verification.

Strategy to realize opportunity

Because energy consumption and the management thereof is important, tax incentives, research and development incentives and government grants will be looked into in order to aid the occurrence of energy efficiency measures at MTN South Africa and then look at opportunities to scale up to other MTN countries of operation. MTN South Africa is in the process of securing benefits for energy efficiency investments under

Section 12L of the Income Tax Act. MTN proactively engages with regulators in the different operating countries which puts the company in a position to take advantage of any regulatory opportunities that may develop. For example, in Sudan, MTN is the only company within the telecommunications sector that is part of the Supreme Committee for Environmental Affairs.

Cost to realize opportunity

95,238

Comment

The costs of managing this risk relate to the costs associated with an external consultant that manages all carbon and energy related services. The cost associated with Monitoring & Verification by accredited assessors of 12L can be material, but we have not undertaken detailed costing assessment for this activity at the time of this report compilation.

Identifier

Opp2

Where in the value chain does the opportunity occur?

Customer

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of new technologies

Type of financial impact

Reduced exposure to GHG emissions and therefore less sensitivity to changes in cost of carbon

Company-specific description

Regulations are affecting the cost of energy for customers. According to the Global e-Sustainability Initiative (GeSI), ICT can enable solutions to 21st century challenges. The Internet of Things (IoT), including smart devices, Machine-to-Machine (M2M) and cloud-based solutions, enables

a wide range of industries to connect networked devices that exchange information, perform actions and respond intelligently to the environments without direct human intervention. This transforms devices into intelligent assets offering a range of possibilities to improve business efficiency, performance, effectiveness, accuracy, and provide other economic benefits. Demand for ICT solutions offered by MTN that enable clients to reduce their energy consumption/ GHG emissions is likely to increase. This could include contributions to smart systems (smart grids, smart transport, smart logistics etc.) or 'smart working' (working remotely). For example, we offer include fleet management solutions in several countries, ensuring efficient use of assets and fuel for vehicles. In South Africa, we have trialled smart refrigerator management solutions and low-power wide area networks and narrow band IoT technologies to facilitate the IoT solutions we offer in an energy-efficient manner.

Against the backdrop of energy poverty and the cost of accessing digital services in many of our operating countries, MTN has partnered with lease-to-own solar product manufacturers to offer affordable, environmentally responsible and safe solutions that enable people to keep their phones and other electronic devices charged and connected to digital services.

We first launched this solution in Uganda in 2014, and it is now available in five markets, with plans to launch in more countries in 2019. We estimate that we have positively impacted around 2,3 million lives, from children who are able to study for longer hours at night to small businesses able to extend their trading hours and offer MTN Mobile Money services.

Over 1,9 million kilowatt hours of energy was produced in 2018 (assuming 1,5 charge cycles per day). We estimate savings of between US\$0.15 and US\$0.48 per day in energy costs for users, depending on the country in which they live. We replaced more than 10 million litres of kerosene with safe, clean and renewable energy.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The Group has not quantified the financial impact of this, due to the significant variances in this opportunity element across our 21 countries of operation. GSMA has forecasted that the Internet of Things (IoT) globally (according to GSMA Intelligence forecasts) estimated that by 2025 there will be 3.5 billion cellular IoT connections, including 1.9 billion licensed LPWA connections market will be worth \$ 1,1 trillion by 2025.

Strategy to realize opportunity

Internet of Things (IoT) market is estimated to grow to an installed base of 75.4 billion devices in 2025, and that by 2020 annual revenues could exceed \$470 billion for the IoT vendors selling the hardware, software and comprehensive solutions. We launched our IoT platform in 2015. This enables us to offer services to a wide range of industries, connecting an otherwise fragmented population of devices and systems through an open platform that enables networked devices to exchange information and perform actions, responding intelligently to their environments without human intervention. Our Machine2Machine (M2M) solutions include enterprise mobility management platforms, fleet and private vehicle management and asset tracking, fuel and utilities management, and security solutions, among others. As an ICT operator, we are aware of the role we can fulfil in assisting our customers to reduce the number of physical materials and businesses. In 2018, our key focus area was to develop a clear vision for MTN's future participation in IoT and articulate a cohesive strategy to achieve this vision. Our key priorities were to implement a proof of concept solution, develop knowledge in predictive analytics, and show customers that we can realise IoT use cases and to translate these to their specific contexts. We also began to look for key partners to work with across the value chain and across various markets.

Cost to realize opportunity

Comment

Isolating the component of the investment in innovative products that relate specifically to climate change drivers is not feasible at this stage and therefore the cost of this opportunity is included our operating costs which we reported in our FY2018 Annual Financial Statements.

It's not possible to estimate the cost of this opportunity.

Identifier

Opp3

Where in the value chain does the opportunity occur?

Customer

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of new technologies

Type of financial impact

Reputational benefits resulting in increased demand for goods/services

Company-specific description

Technologies such as artificial intelligence and the Internet of Things (IoT) are changing industrial and economic ecosystems. As the digital economy evolves, these opportunities are also forcing new ways of thinking around how spaces, resources and assets are used efficiently. The ability to improve resource efficiency in a climate stressed world can be enabled using smart devices. MTN can develop innovative products using mobile wireless systems, sensors etc. that can provide customers with access to information that could reduce costs/ losses and contribute towards greater resilience in the face of changing climatic conditions. These could include up-to-date information on weather and access to the latest planting/growing/ harvesting information for farmers; early warning systems for communities; group communication platforms in times of disasters, resource monitoring programmes. We are actively developing new products and partners with value—add service providers to address the requirement for climate-centric ICT solutions. Our IoT solutions include enterprise mobility management platforms, vehicle management and asset tracking, fuel and utilities management, connectivity, and security solutions. MTN is particularly

concerned about resources such as water, energy, food, biodiversity and wildlife, among others. We operate in emerging markets where the need to adapt to changing environmental conditions, coupled with the lowest levels of financial and other resources, is becoming increasingly evident. We are, therefore, well placed to offer products that support resilience in the face of these challenges, while representing commercial opportunities for us. In 2018, our key focus area was to develop a clear vision for MTN's future participation in IoT and articulate a cohesive strategy to achieve this vision. Our key priorities were to implement a proof of concept solution, develop knowledge in predictive analytics, and show customers that we can realise IoT use cases and to translate these to their specific contexts. We also began to look for key partners to work with across the value chain and across various markets. We implemented small-scale projects in several countries to address issues such as water, energy and livestock and wildlife management.

Time horizon

Medium-term

Likelihood

About as likely as not

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The Group has not quantified the financial impact of this, due to the significant variances in this opportunity element across our 21 countries of operation. In South Africa, it's forecasted that the IoT/M2M installed base will reach 35 million by 2020, showing a CAGR of 32% over the period from 2015 to 2020.

Strategy to realize opportunity

MTN explored opportunities: agricultural solutions; animal tracking, anti-poaching initiatives & health solutions. Smartcam in Ghana combines a video camera and a security system in one, ensuring real-time alerts and live monitoring to mobiles devices. Vehicle tracking location solutions in Uganda and Cameroon in 2015. In 2016, fleet monitoring solutions in Uganda, Benin, Zambia and Ivory Coast, and plan to extend to Botswana, Ghana, Namibia, Swaziland and Zambia in 2017. A smart water-metering proof of concept service in SA, enables automated gathering of utility meter data-customers monitor water consumption, improve consumption efficiency and identify water pipeline leakages. A smart energy metering solution in SA and Cameroon monitors energy consumption & potentially reduces indirect (GHG) emissions. In Nigeria, a solar-powered GPS-enabled solution defines geo-fenced areas for grazing - possible disease outbreaks can be contained & human conflicts reduced. In 2018 MTN SA developed a dam and tank level monitoring solution, and continued trialling wildlife tracking through geo-fencing of animals. In 2017, phase 1 of a smart city for waste management, green space irrigation and other services was launched in Iran; in 2018 a vehicle asset tracking was launched using GPS to control fleets remotely, ensure services such as dispatch management, driver behaviour, axle load, fuel consumption, temperature management, repair and project scheduling, and efficient fuel utilisation.

Cost to realize opportunity

Comment

Isolating the component of the investment in innovative products that relate specifically to climate change drivers is not feasible at this stage and therefore the cost of this opportunity is included our operating costs which we reported in our FY2018 Annual Financial Statements.

It's not possible to estimate the cost of this opportunity.

C2.5

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

	Impact	Description
Products and services	Impacted for some suppliers, facilities, or product lines	<p>Opportunity 3: Digitisation can enable a transition to a low carbon economy. We are working to increase the roll out of infrastructure that will enable the uptake of IoT by industries and enterprises across our operations in Africa and the Middle East. The IoT enables machines and infrastructure to be monitored and operated remotely. This technology can radically transform both large and small enterprises in terms of efficiencies, distribution and even business models. IoT, including smart devices, machine-to-machine (M2M) and cloud-based solutions enable a wide range of industries to connect networked devices that exchange information, perform actions and respond intelligently to their environments without direct human intervention. We are also piloting Narrow Band-IoT (NB-IoT) technologies, a new solution that extends the utilisation of IoT by making it more efficient to connect objects that require a long battery life and that are in areas where network signals may have difficulty penetrating.</p> <p>Magnitude of opportunity: high</p>
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	<p>Opportunity 3: We have worked with various governmental, corporate and other organisations to raise awareness, facilitate collection and improve e-waste management practices among handlers, albeit on a very small scale. Our partnerships focus on improving the volumes of waste collected both within our own operations and from the public. We also try to ensure that e-waste is diverted to responsible handlers who either extract valuable components or dispose of it in accordance with standards such as ISO 14001, ISO 18001 or SERI R2. Our e-waste management programme is still at a nascent stage. Initiatives including supplier take-back agreements or waste collection agreements. Just over 272 tonnes of e-waste was recycled in 2018.</p> <p>Magnitude of opportunity: medium</p>
Adaptation and mitigation activities	Impacted	<p>Opportunity 2 & Risk 4: To reduce our greenhouse gas emissions, reduce operating costs, mitigate and adapt to the negative impacts of climate change on our physical, financial and regulatory risk profiles, we have continued to modernise our existing network, and ensure that our new infrastructure investments are energy-efficient and make use of alternative energy solutions to be more resilient. Between 2011 and 2018, these initiatives have been implemented in more than 21 500 sites (including MTN-owned sites and outsourced sites).</p> <p>For 2018, we have seen an increase in the number of energy-efficient sites, reduced diesel consumption was</p>

	Impact	Description
		<p>reduced by 737 kl and saved 591 MWh of electricity. In total, our overall emissions avoided due to diesel and electricity reductions were 2 188 tCO2e.</p> <p>Magnitude of opportunity: medium</p>
Investment in R&D	Impacted for some suppliers, facilities, or product lines	<p>Opportunity 3: Through our partnerships, we have explored opportunities which include agricultural solutions; animal tracking and anti-poaching initiatives. In 2018 we spent time implementing trials for four types of IoT solutions across our operating countries. We successfully concluded a smart water-metering proof of concept service in South Africa. This solution enabled automated gathering of utility meter data through sensors installed on meters to enable customers to monitor their water consumption, improve consumption efficiency and identify water pipeline leakages in real time. MTN's Smart City product in Iran helps authorities and rescue teams respond to crises and natural disasters rapidly. MTN Irancell launched the country's first Smart City in Anzali aimed at enhancing quality of living using smart technologies. In South Africa, trials of MTN's Connected Driver solution to monitor and assess driver behaviour commenced as well as a tracking solution to stop rhino poaching. We are also currently developing a Smart Home solution which will allow the use of mobile devices to remotely manage some domestic services including security and access control, water and energy consumption, and temperature control.</p> <p>We have identified an opportunity to improve operations and delivery of services, and to raise the level of quality assurance for the fleet management industry. This is available in many of our markets. For instance, in Iran, we showcased a fleet management solution which can streamline operations such as public transportation tracking, fare payments and emergency response. An automated vehicle location feature enables emergency services to assign accidents, fires or electricity outage missions to the nearest response units, and supports situational updates, allowing easy documentation of all the information exchanged along the mission operation. Fleet tracking is also currently available in Benin through a partnership agreement between MTN and Ctrack. In Nigeria, the launch of MTN Nigeria and Sponge Analytics' Animal Identification and Management Solution (AIMS) has seen a small but steady uptake of our solution to the problem of increasing cattle theft.</p> <p>Magnitude of opportunity: medium</p>

	Impact	Description
Operations	Impacted	<p>Risk 2 – 4 & Opportunity 2: Our products and services include voice, data and digital services which we offer to retail customers, as well as corporate and public sector customers. Some of the risk and opportunities identified include market changes, reputation, as well as general physical risks. Physical risks such as increased flooding and increased temperatures could affect our core infrastructure such as base stations, which are critical to delivering our uninterrupted services. Some of our operations that use solar energy to power base stations experienced increased floods in 2018. As a result, we had to make use of diesel generators during the high rainfall season. This will likely increase in the future. In some countries where we operate and where the main electricity supply is from hydro-powered grids, drought or changes that affected numerous countries has resulted in some increase in energy costs/ increased energy insecurity from grid source over the past few years</p> <p>Magnitude of opportunity: medium</p>
Other, please specify	Not yet impacted	<p>Opportunity 1 & Risk 1: Climate change related risks that could affect our operations include regulations, market changes, reputation, as well as general physical risks. Specifically, on regulatory risks (Carbon Tax) in South Africa MTN could potentially expect a carbon tax rate of around R120 per tCO₂e which would result in a potential maximum liability of R590 000 (based on MTN South Africa's 2018 emissions). This cost is not considered material to our operations. It is expected that Scope 1 emissions associated with gas tri-generation plants at 14th Avenue, Doornfontein and Newlands (powered by liquid petroleum gas (LPG)) will be taxed. The tax-free thresholds would reduce the initial impact on MTN to an estimated minimum tax liability of R200 000. Although there has been an indication of a 5% Carbon Tax allowance should a company participate in the carbon budgets process, MTN has not been approached by DEA to submit any carbon budgets. However, through voluntary participation, MTN could potentially reduce the tax liability from R596 160 to R163 710 during the first phase of the tax period (ending 2022).</p> <p>Magnitude of opportunity: low</p>

C2.6

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

	Relevance	Description
Revenues	Impacted for some suppliers, facilities, or product lines	<p>Risk 4, Opportunity 2 and 3: The revenue from identified climate change risks and opportunities is not quantified separately from the total Group Revenue. Since our revenues are a product of our profits plus expenses, some of our climate related opportunities that we have taken advantage of may, in the medium to long term, prove to have a positive impact on our revenue. Some of the environmental and climate-related commercial solutions that we offer that generate revenue for MTN include vehicle and asset tracking, livestock and wildlife tracking and connected devices for water and energy management. These solutions are offered in several MTN countries including South Africa, Nigeria, Benin, Cameroon, Ghana, Iran and others. Revenue is also earned from prepaid solar-powered charging devices for homes, small businesses and entrepreneurs in several countries including Uganda, Zambia, Nigeria and Cote d'Ivoire.</p> <p>Magnitude of this impact: medium Impact of this on financial planning process – investments required to realise projected revenues are included in the annual business planning cycle.</p>
Operating costs	Impacted	<p>Opportunity 2 & Risk 3, Risk 4: To reduce our greenhouse gas emissions, reduce operating costs, mitigate and adapt to the negative impacts of climate change on our physical, financial and regulatory risk profiles, we have continued to modernise our existing network, and ensure that our new infrastructure investments are energy-efficient and make use of alternative energy solutions to be more resilient. Between 2011 and 2018, these initiatives have been implemented in more than 21 500 sites (including MTN-owned sites and outsourced sites). For 2018, we have seen the following results 2 additional energy-efficient sites. Our diesel consumption was reduced by 737 kℓ, while we saved 591 MWh of electricity. In total, our overall emissions avoided due to diesel and electricity reductions were 2 188 tCO₂e.</p> <p>Magnitude of this impact: medium Impact of this on financial planning process - capital investment required to realise savings are included in the annual business planning cycle.</p>

	Relevance	Description
Capital expenditures / capital allocation	Impacted for some suppliers, facilities, or product lines	<p>Opportunity 3 & Risk 4: Some of our most critical infrastructure such as base stations, data centres, switches and hubs are susceptible to physical climate change risks. We have continued to modernise our existing network, ensured backup sites for business continuity, and ensured that our new infrastructure investments are energy-efficient and make use of alternative energy solutions wherever possible to be more resilient. In our capital expenditures, we encourage our operations to investigate alternative energy and energy efficiency solutions that would provide a good return on investment.</p> <p>Magnitude of this impact: high Impact of this on financial planning process - capital investment required to maintain operational performance and business continuity are included in the annual business planning cycle.</p>
Acquisitions and divestments	Not evaluated	Opportunity 3: Although climate change risks and opportunities associated with acquisitions and divestments may exist within our value chain, we have not formally factored these within our financial planning processes.
Access to capital	Not evaluated	Risk 4: Although climate change risks and opportunities associated with access to capital may exist within our value chain, we have not formally factored these within our financial planning processes. We engage with tower management companies and equipment manufacturers and suppliers on ways of working together to enhance the efficiency of our sites and help us meet our objective of increasing the use of renewable and low-carbon energy.
Assets	Impacted for some suppliers, facilities, or product lines	<p>Risk 4: Some of our most critical assets include infrastructure such as base stations, data centres, switches and hubs are susceptible to physical climate change risks. These include physical risks such as increased flooding and increased temperatures. As part of our value chain climate change risk assessment process being developed, our operations may be required to improve their maintenance budget and capital expenditure plans to ensure that critical infrastructure does not fail should climate related risks emanate.</p> <p>Magnitude of this impact: medium Impact of this on financial planning process - capital investment required to maintain operational performance and business continuity are included in the annual business planning cycle.</p>

	Relevance	Description
Liabilities	Not evaluated	Opportunity 3: Although climate change risks and opportunities associated with liabilities may exist within our value chain, we have not formally factored these within our financial planning processes.
Other		

C3. Business Strategy

C3.1

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

Yes

C3.1a

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

No, but we anticipate doing so in the next two years

C3.1c

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

Climate change related issues are partially integrated into MTN's business strategy, through the following elements:

- Monthly integrated risk identification and management processes, and assurance processes;
- The Group's Eco-Responsibility focus area which supports the Group's strategic pillar of "creating stakeholder value";
- The Group's drive to manage the carbon impact of energy use <https://www.mtn.com/investors/financial-reporting/integrated-reports/> (pages 40 – 46 of the Sustainability Report);
- Quarterly oversight of the Group Executive and Social and Ethics Committees.

Our BRIGHT operational strategy set out in our Integrated Report (available at <https://www.mtn.com/investors/financial-reporting/integrated-reports/>) clearly defines the areas on which we need to focus to build our business sustainably and create value across the six capitals including environmental capital. As MTN, we believe that everyone deserves the benefits of a modern connected life. Some of the constraints that hamper connectivity include distant locations and scattered areas of settlements, the lack of energy, road infrastructure and security in remote areas, the cost of civil engineering and radio and transmission equipment, and site maintenance access and costs. For example, in an effort to meet social needs while considering climate change impacts, we developed a Rural Roll-Out Programme. Rural areas have poor/ no grid electricity supply and therefore MTN has worked on rolling network sites powered by renewable energy. As a result, site deployment consisted of relatively smaller sites with a smaller carbon footprint. We partnered with Facebook on the Telecom Infra (TIP) Open Cellular Project and Rural Africa programme to explore the application of cost-effective network technologies from start-up vendors working to meet the connectivity and data coverage requirements of people in sparsely populated and low-income areas. Laboratory trials with partners on 2G and low capacity infrastructure to address some constraints have proved promising. Technologies appear to deliver that which is required by rural customers reliably and affordably. In Nigeria and Zambia, 60 trial sites in each country testing 2G, 3G and 4G technologies are now in place. Piloting different models and technologies in rural areas will provide us with insights into technical feasibility, service performance and customer requirements. The objective of these trials is to determine if new networks can meet the requirements of customers in rural areas and can be rolled out commercially. We intend to extend similar solutions to seven additional countries in 2019. Digital inclusion is a fundamental aspect of our strategy, and we are working on ensuring coverage and connectivity through partnerships that help us realise this vision in a socially and environmentally responsible manner.

C3.1g

(C3.1g) Why does your organization not use climate-related scenario analysis to inform your business strategy?

While we do integrate climate change management issues into MTN's business strategy through our product development and innovation processes, and through our risk management processes, we do not apply climate-related scenarios in these processes. Given the lack of affordable, reliable and low-carbon energy access in our market, and the impact of climate change in Africa especially, we have developed several solutions that can help our communities mitigate impacts. These include prepaid solar powered energy solutions for domestic and Small, Medium and Micro-Enterprises (SMME) market use, energy & water metering and monitoring Internet of Things (IoT) solutions, solutions for wildlife and livestock tracking and others.

In terms of risk management, climate change is one of the Group's top principle risks, due to the potential threat to continuity of operations because of political, environmental and macro-economic events. We monitor this risk on an ongoing basis and report it on a regular basis to risk and compliance functions, and to executive and board sub-committees.



Additionally, MTN Group monitors the energy use in its operations on a monthly basis and calculates its monthly greenhouse gas (GHG) emissions. MTN also works towards reducing emissions through implementing energy efficient initiatives and deploying renewable energy technologies. The responsibility for all climate change and sustainability initiatives and issues at MTN Group lies with the Group Regulatory and Corporate Services Officer. The Group Sustainability function compiles and monitors reports for monthly executive committee reports, monthly risk reports, quarterly Social and Ethics Committee presentations and annual integrated reports. This includes climate change related issues which include energy consumption, climate risks and opportunities, as well as alternative energy and energy efficiency initiatives.

C4. Targets and performance

C4.1

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

No target

C4.1c

(C4.1c) Explain why you do not have emissions target and forecast how your emissions will change over the next five years.

	Primary reason	Five-year forecast	Please explain
Row 1	We are planning to introduce a target in the next two years	Three aspects of the business will change MTN's GHG profile, and the net and cumulative impacts of these have not been assessed. We expect to see the following changes in our emissions over the next 5 years: a) Emissions reduction initiative deployment: We are actively working to reduce our emissions across all our operations through the implementation of alternative energy and energy efficiency initiatives; b) Transfer of emissions from Scope 1 & 2 to Scope 3: the impact of our BTS outsourcing strategy will result in the transfer of some	There is a positive correlation between our 'actual consumption' and 'cost' targets and our emissions reductions. This has been the most appropriate internal lever in addressing this issue, ensuring improved sustainability-business integration by working with and enhancing existing KPIs wherever possible. This approach also works well with our internal practices of GHG emissions and has helped us to drive operational work towards further reductions. Emissions per Subscriber are used as proxy to measure our efficiency; however, it has not been adopted as a formal target.

	Primary reason	Five-year forecast	Please explain
		<p>emissions from Scope 1 (and to a smaller extent Scope 2) to Scope 3, changing the emissions profile of the company as has been seen with Cameroon, Ivory Coast, Ghana, Nigeria, Rwanda, Uganda and Zambia. Additionally, Scope 3 emissions from network sites managed by IHS Holdings in Cameroon, Ivory Coast, Nigeria, Rwanda and Zambia were previously calculated based on actual monthly diesel and electricity consumption data. The most challenging aspect of reducing our Scope 3 emissions (which are the Scope 1 and 2 emissions of our partners and suppliers) is the limited influence we have on their adoption of energy efficiencies and renewable energy interventions. We constantly engage with our tower management partners to set climate change management aspirations, and to assess the energy efficiency programmes in place and scheduled for implementation. Our tower partners place considerable importance on energy efficiency as this can help reduce their operating costs, but several barriers may limit sites in remote areas from always using alternative energy options. We have commenced exploratory discussions with more tower management companies and equipment manufacturers and suppliers on ways of working together to enhance the efficiency of our sites and help us meet our objective of increasing the use of renewable and low-carbon energy. This engagement forms part of our new energy strategy, which we aim to finalise in 2019-2020;</p> <p>c) Increase in GHG emissions: Our growth in enterprise service offerings and increased investment in 3G and 4G services will require on going investments in data centre infrastructure, which</p>	<p>Extra info for b).</p> <ul style="list-style-type: none"> • We lease 26 768 base station sites from tower management companies in seven countries, representing 42% of our network. • Approximately 5 000 of sites leased by MTN are powered by renewable energy. <p>Extra info for c).</p> <p>Despite the fact that these new technologies and facilities are planned for optimal energy consumption during construction and operation, increases will occur as a result of increased investments in infrastructure.</p>



	Primary reason	Five-year forecast	Please explain
		is expected to result in relatively small increases in the Group's GHG emissions profile.	

C4.2

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

Target

Other, please specify

No climate related target

KPI – Metric numerator

KPI – Metric denominator (intensity targets only)

Base year

Start year

Target year

KPI in baseline year

KPI in target year

% achieved in reporting year

Target Status

Please explain

We are planning to introduce a target in the medium term. Three aspects of the business will change our GHG profile, and the net and cumulative impacts of these have not been assessed. We expect to see the changes in our emissions over the next 5 years which are the GHG Emissions reduction, transfer of GHG emissions from Scope 1 & 2 to Scope 3 due to the BTS outsourcing strategy and an increase in GHG emissions due to our growth in enterprise service offerings and increased investment in 3G and 4G services. There is a positive correlation between our 'actual consumption' and 'cost' targets and our emissions reductions. This has been the most appropriate internal lever in addressing this issue, ensuring improved sustainability-business integration by working with and enhancing existing KPIs wherever possible. This approach also works well with our internal practices of GHG emissions and has helped us to drive operational work towards further reductions. Emissions per Subscriber are used as proxy to measure our efficiency; however, it has not been adopted as a formal target.

Part of emissions target

Is this target part of an overarching initiative?

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		
To be implemented*		
Implementation commenced*	50	2,920
Implemented*	383	2,188
Not to be implemented		

C4.3b

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

Initiative type

Low-carbon energy installation

Description of initiative

Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)

4.43

Scope

Scope 1



Voluntary/Mandatory

Voluntary

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

556,332

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

600,000

Payback period

4 - 10 years

Estimated lifetime of the initiative

6-10 years

Comment

In 2018, 63 solar-powered/ renewable energy sites were implemented across our network.

Initiative type

Energy efficiency: Processes

Description of initiative

Fuel switch

Estimated annual CO2e savings (metric tonnes CO2e)

1,848

Scope

Scope 1

Voluntary/Mandatory

Voluntary

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

30,550,663

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

0

Payback period

No payback

Estimated lifetime of the initiative

16-20 years

Comment

In Nigeria the introduction of independent power production (IPP) gas generating system in April 2018 helps to reduce emissions and power generation costs. The cost per kWh for gas (NGN 47/kWh) is less than that of the diesel (NGN 60.56/kWh) previously used at one of MTN's main switching sites.

MTN Nigeria purchases approximately 2 000 000 kWh from the IPP plant (monthly), displacing 500 000 litres of diesel previously used. It is estimated that gas plants of this nature have an average emissions factor of 0.55kgCO₂e/kWh. GHG emissions from this electricity purchased were therefore calculated to be approximately 9,174 tCO₂e for the 8 months when the IPP plant was in operation in 2018.

The cost of implementation was borne by IPP company and therefore no Payback period is applicable.

Initiative type

Low-carbon energy installation

Description of initiative

Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)

70

Scope

Scope 1

Voluntary/Mandatory

Voluntary

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

800,000

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

600,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

In many countries where we operate in Africa and the Middle East, rural areas typically do not have sufficient networks because due to geographic location infrastructure constraints and other considerations required to implement a full-blown cell phone tower. A standard tower can cost up to about USD 100,000 to set up, meaning that a mobile operator will usually have to wait up to 10 years to see a return on investment. Rural sites can cost between USD 10,000 to USD 20,000 and can be installed to meet the specific requirements of the location, without introducing unnecessary features/ services and costs.

MTN and Huawei are introducing specialised, rapid-deployment smaller towers that run on solar energy rather than on diesel in rural areas. This will reduce operational costs and emissions and ensure connectivity. We estimate the following:

1. Annual diesel avoided (litres) = 14 760 litres (assumed per site)
2. Estimated financial savings (Local currency) = ZAR 800 000 (assumed per site)
3. Capital cost of project (Local currency) = ZAR 600 000 (assumed per site)

Initiative type

Other, please specify

Energy efficiency: lighting

Description of initiative

Estimated annual CO2e savings (metric tonnes CO2e)

265

Scope

Scope 1

Voluntary/Mandatory

Voluntary

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

432,614

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

185,000

Payback period

1-3 years

Estimated lifetime of the initiative

>30 years

Comment

To reduce energy costs and consumption. LED energy efficient light-emitting diodes (LEDs) were installed in our operations Swaziland in 2018. The capital cost of the initiative was approximately R185 000, 11% kWh savings were achieved after implementation.

C4.3c

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

Method	Comment
Dedicated budget for energy efficiency	To reduce emissions, save operating costs, and mitigate the impact of climate change on physical, financial and regulatory risk profiles, MTN has continued to modernise the existing network, and to ensure that new infrastructure investments are energy-efficient and more resilient.
Lower return on investment (ROI) specification	As part of business case development, MTN determines the breakeven point and return on investment period. This applies to all projects, including energy and carbon reduction projects, which must meet internal return on investment criteria.

C4.5

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

Yes

C4.5a

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

Level of aggregation

Company-wide

Description of product/Group of products

According to industry projections on the 'Internet of Things' (IoT), it is expected that by 2020, 30 billion devices or connected things will be in use and interacting with the environment and providing actionable data or services. This development is one of the key opportunities shaping how MTN conducts business and contributes societal value. We are actively working on bundling our connectivity services with solutions that can reduce some of the daily problems faced in our African and Middle Eastern territories. As a result, we launched our IoT platform in 2015. This enables us to offer services to a wide range of industries, connecting an otherwise fragmented population of devices and systems through an open platform that enables networked devices to exchange information and perform actions, responding intelligently to their environments without human intervention. MTN's Machine2Machine (M2M) solutions include enterprise mobility management platforms, fleet and private vehicle management and asset tracking, fuel and utilities management, and security solutions, among others. The solutions we offer include energy and water monitoring and management, prepaid solar energy solutions for homes and businesses to replace the use of diesel, kerosene and other sources of energy, vehicle fleet management solutions that enable a number of services including efficient use of fuel, livestock and wildlife tracking, and narrow-broadband and low-power technologies that power IoT solutions using less energy than traditional solutions. The installation of phase 1 of smart city solution for water and waste management has been completed and future phases for municipal environmental resources and commuting are currently being assessed. Smart Home and Smart Refrigerator solutions have also been assessed. More information is available in the Group's 2017 and 2018 Sustainability Reports available on www.mtn.com.

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

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Evaluating the carbon-reducing impacts of ICT

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

Comment

The % Revenue from low carbon products is not quantified separately from the total Group Revenue. MTN Group invests in the research and development of all its products which includes IoT products and services. This amount of R&D allocated specifically for IoT products and

services is not available separately as this forms part of the broader R&D budget for all products and services within the Group. The % Revenue from low carbon products is not quantified separately from the total Group Revenue.

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, 2013

Base year end

December 31, 2013

Base year emissions (metric tons CO₂e)

769,471

Comment

Scope 2 (location-based)

Base year start

January 1, 2013

Base year end

December 31, 2013

Base year emissions (metric tons CO₂e)

636,184

Comment

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO₂e)

Comment

C5.2

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

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

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

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO₂e)

270,721

Start date

January 1, 2018

End date

December 31, 2018

Comment

Our scope 1 emissions for FY18 include our operations across 21 countries.

C6.2

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

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

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

Comment

The structure in South Africa does not allow for individual purchases from individual suppliers.

C6.3

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

Reporting year

Scope 2, location-based

973,465

Start date

January 1, 2018

End date

December 31, 2018

Comment

Our scope 2 emissions for FY18 include our operations across 21 countries.

C6.4

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

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

Scope 1, and 2 emissions from the following operating countries are not included: Syria, Mascom Botswana; Ethiopia; Dubai Head Office; Yemen. Scope 1 and 2 emissions from operations in Cyprus have been excluded from September 2018 following the Group's sale of its operations in Cyprus.

Relevance of Scope 1 emissions from this source

Emissions are relevant but not yet calculated

Relevance of location-based Scope 2 emissions from this source

Emissions are relevant but not yet calculated

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

Emissions are not relevant

Explain why this source is excluded

- MTN Syria and MTN Yemen are excluded due to challenges associated with network management in the context of the broader macro-political situation.
- MTN Management Services in UAE, Dubai is excluded as the offices are on one floor in a leased premises and MTN does not offer telecommunication services directly in the UAE. This is a non-material impact on the overall footprint for MTN Group.
- Mascom Botswana has been excluded based on indirect ownership holding.

C6.5

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

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

886,857

Emissions calculation methodology

Implementation of our strategy to outsource our base station or network sites to tower management companies is ongoing. This has contributed to the increase in our scope 3 emissions. Given that we are now a lessee at these sites, our ability to control efforts to improve energy efficiency and reduce GHG emissions is limited. Our network sites have been outsourced in Cameroon, Ghana, Ivory Coast, Nigeria, Rwanda, Uganda and Zambia. In 2018 this figure increased to 45%. We continue to account for energy consumption at these sites. As we report GHG emissions according to the operational control boundary, outsourcing results in a shift in the classification of emissions from Scope 1 to Scope 3 emissions. Given our reliance on these outsourced sites, we will regard these Scope 3 emissions as material over the medium to long term (while Scope 1 emissions will decline materially). However, we are unable to get data in enough detail from our business partners to undertake assurance on this material contributor to our energy costs and emissions. Scope 3 GHG emissions from network sites managed by IHS Holdings in Cameroon, Ivory Coast, Nigeria, Rwanda and Zambia were previously calculated based on actual monthly diesel and electricity consumption data. Following the group's changes to its investment stake in the IHS Group in 2017, IHS is no longer able to supply actual data. In line with the GHG Protocol's principles of completeness of reporting, we have therefore developed an estimation methodology, based on the Protocol's average data approach, to account for these emissions. The method makes use of the average historical monthly energy consumption data and the historical average number of network sites per month to help MTN approximate the average energy consumption value per network site per month. This value is then multiplied by the number of network sites each month, to estimate the total monthly energy consumption for all network sites. This method ensures comparability of reported results in previous years, as recommended by the GHG Protocol. Going forward, this methodology will be reviewed and refined where possible as we work with our tower management partners and suppliers on the provision of actual data as required for disclosure of the group's Scope 3 emissions.

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

8

Explanation

As mentioned in the methodology calculation section, we are only able to obtain actual consumption data from one of the two infrastructure management partners that we work with. Going forward, the methodology provided will be reviewed and refined where possible as MTN works with our tower management partners and suppliers on the provision of actual data as required for disclosure of the group's Scope 3 emissions. In addition, our energy management strategy has been evolving alongside our changing infrastructure investment and management strategy. Leasing infrastructure is resulting in a gradual shift in the classification of our GHG emissions from Scope 1 (direct) to Scope 3 (indirect) emissions. Given our reliance on leased sites, we regard Scope 3 emissions as material over the medium to long term, while Scope 1 emissions

may decline materially. These changes also inform our efforts on the types of facilities (network, non-network technical, buildings, etc.) we manage, how we reduce energy consumption and GHG emissions, and which facilities we select for internal and external assurance.

Capital goods

Evaluation status

Not relevant, explanation provided

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

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

Evaluation status

Relevant, not yet calculated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

Upstream transportation and distribution

Evaluation status

Relevant, not yet calculated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

Waste generated in operations

Evaluation status

Relevant, not yet calculated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

9,824

Emissions calculation methodology

Business travel includes both flights (local and international) for business purposes as well as kilometres travelled in hire cars. The methodology followed to estimate the emissions involved multiplying activity data for mode of transport (e.g. distance travelled) by an applicable emission factor for that mode of transport (e.g. t CO2/km). Flights were categorised as being either long-(>1600km) or short-(<1600 km) haul flights. DEFRA default factors were used for all emission factors (0.11 for short haul, and 0.12 kg CO2/km for long haul). Hire cars were categorised according to fuel type as well as by the engine capacity of the car. Petrol vehicles were categorised as either small (<1.4 litres), medium (>1.4 litres) or large (>2.0 litres).

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

100

Explanation

MTN obtains all business travel data from a contracted Travel Agent.

Increase in Business travel from last year – for 7 months throughout the year there was a dramatic increase in the number of Business flights as compared to last year's data. This is due to the fact that MTN South Africa experienced a growth in the business and this resulted in increased operational requirements which lead to an increase in travel.

Employee commuting

Evaluation status

Relevant, not yet calculated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

Upstream leased assets

Evaluation status

Relevant, not yet calculated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

Downstream transportation and distribution

Evaluation status

Relevant, not yet calculated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

Processing of sold products

Evaluation status

Relevant, not yet calculated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

Use of sold products

Evaluation status

Relevant, not yet calculated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

End of life treatment of sold products

Evaluation status

Relevant, not yet calculated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

Downstream leased assets

Evaluation status

Relevant, not yet calculated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

Franchises

Evaluation status

Relevant, not yet calculated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

Investments

Evaluation status

Relevant, not yet calculated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

Other (upstream)

Evaluation status

Not evaluated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

Other (downstream)

Evaluation status

Not evaluated

Explanation

This category, in accordance with WRI/GHG Protocol guidance, has been excluded due to lack of available data and the insignificance in size of emissions relative to the other categories.

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

C6.10

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

Intensity figure

0.0000092

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

1,244,186

Metric denominator

unit total revenue

Metric denominator: Unit total

134,560,000,000

Scope 2 figure used

Location-based

% change from previous year

8.68

Direction of change

Increased

Reason for change



In 2018, Scope 1 + 2 emissions increased by 10.06% because of the growing number of network sites across our operations in Afghanistan, Benin, Ghana, Guinea Conakry, Iran, South Africa, South Sudan and Swaziland and total revenue increased by 1.27% compared to 2017. This has resulted in an 8.68% increase in emissions per unit revenue.

Intensity figure

0.0058

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

1,244,186

Metric denominator

Other, please specify

GHG intensity per subscriber

Metric denominator: Unit total

214,449,000

Scope 2 figure used

Location-based

% change from previous year

12.39

Direction of change

Increased

Reason for change

Scope 1 and 2 emissions have increased by 10.06% because of the growing number of network sites across our operations in Afghanistan, Benin, Ghana, Guinea Conakry, Iran, South Africa, South Sudan and Swaziland. Our subscriber numbers have decreased by 2.07% compared to the previous year.

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	259,817	IPCC Third Assessment Report (TAR - 100 year)
CH4	298	IPCC Third Assessment Report (TAR - 100 year)
N2O	887	IPCC Third Assessment Report (TAR - 100 year)
HFCs	0	IPCC Third Assessment Report (TAR - 100 year)
Other, please specify R22	7,531	IPCC Third Assessment Report (TAR - 100 year)
Other, please specify R502	301	IPCC Third Assessment Report (TAR - 100 year)
Other, please specify R407C	1,588	IPCC Third Assessment Report (TAR - 100 year)
Other, please specify R410	224	IPCC Third Assessment Report (TAR - 100 year)
Other, please specify R471b	74	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)
Afghanistan	46,447
Benin	9,228
Cameroon	3,822
Congo 🗨️ ₁	14,905
Cote d'Ivoire 🗨️ ₂	2,424
Cyprus	671
Ghana	5,831
Guinea-Bissau	3,338
Guinea 🗨️ ₃	15,640
Iran, Islamic Republic of	3,839
Kenya	113
Liberia	9,365
Namibia	75
Nigeria	53,234
Rwanda	1,021
South Africa	24,025

South Sudan	9,427
Sudan	59,798
Swaziland	226
Uganda	4,721
Zambia	2,570

1Congo Brazzaville

2Republic of the Cote d'Ivoire

3Guinea Conakry

C7.3

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

By activity

C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Mobile combustion	19,741
Stationary combustion (Diesel)	233,436
Stationary combustion (LPG)	23
Stationary combustion (natural gas)	7,802
Refrigerant Use	9,719

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Afghanistan	6,209		16,918	
Benin	13,181		18,912	
Cameroon	2,870		16,783	
Congo	1,981		7,231	
Cote d'Ivoire	6,987		15,175	
Cyprus	2,470		3,804	
Ghana	8,263		28,986	
Guinea-Bissau	987		3,435	
Guinea	43,044		94,427	
Iran, Islamic Republic of	244,568		443,863	
Kenya	95		830	
Liberia	932		1,678	
Namibia	0		48	
Nigeria	41,905		76,052	
Rwanda	3,046		6,678	
South Africa	565,067		560,386	

South Sudan	68		80	
Sudan	18,469		61,218	
Swaziland	4,200		9,211	
Uganda	8,791		19,281	
Zambia	332		15,831	

C7.6

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

By facility

C7.6b

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

Facility	Scope 2 location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
BTS Sites	673,821	
Offices (Head Regional & Technical) & warehouses	55,300	
Data Call and Service Centres and Switches	244,344	

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				NA
Other emissions reduction activities	2,188	Decreased	0.19	Emission reduction initiatives implemented during 2018 resulted in a saving of 2 188 tCO2e, equivalent to 0.19% of MTN's 2017 combined Scope 1 and 2 emissions. For 2018, we have seen the following results: 11 sites powered by Solar PV, 50 solar hybrid BTS sites and in 367 of our sites we had batteries being used instead of diesel generators. Our diesel consumption was reduced by 4 030 kℓ, while we saved 591 MWh of electricity.
Divestment	2,109	Increased	0.19	As a result of the outsourcing of BTS sites to TowerCos in Ghana, Uganda, Cameroon, Cote d'Ivoire, Nigeria, Rwanda and Zambia and loss of OPCO Cyprus mid-year, a total 2 109 tCO2e continue to shift from MTN's Scope 1 + 2 emissions to Scope 3 emissions. There has also been a general growth in Scope 3 emissions (outside transfer of BTS sites) due to an increase in network. This represents 29.25% of MTN's 2018 Scope 1 + 2 emissions. Scope 3 greenhouse gas (GHG) emissions from network sites managed by IHS Holdings in Cameroon, Ivory Coast, Nigeria, Rwanda and Zambia were previously calculated based on actual monthly diesel and electricity consumption data. Following the group's changes to its investment stake in the IHS Group in 2017, IHS is no longer able to supply actual data. In line with the GHG Protocol's principles of completeness of reporting, we have therefore developed

				<p>an estimation methodology, based on the Protocol's average data approach, to account for these emissions. The method makes use of the average historical monthly energy consumption data and the historical average number of network sites per month to help MTN approximate the average energy consumption value per network site per month. This value is then multiplied by the number of network sites each month, to estimate the total monthly energy consumption for all network sites. This method ensures comparability of reported results in previous years, as recommended by the GHG Protocol. Going forward, this methodology will be reviewed and refined where possible as MTN works with our tower management partners and suppliers on the provision of actual data as required for disclosure of the group's Scope 3 emissions.</p>
Acquisitions				<p>No purchases of company/subsidiary/facility in the reporting year and thus no emissions changes occurred as a result.</p>
Mergers				<p>No business mergers in the reporting year and thus no emissions changes occurred as a result.</p>
Change in output	121,132		10.72	<p>In 2018, MTN's total, Scope 1 and 2 emissions increased by 113 746 tCO₂e from 2017. The change in emissions as a result of emission reduction initiatives (minus 2 188tCO₂e), and divestment of BTS sites is 2 109 tCO₂e, which has led to overall emissions increasing. The change in emissions as a result of the change in boundary (increasing emissions) is 3 089 tCO₂e. The remaining increase of 121 132 tCO₂e (to bring the overall change in emissions in 2018 up to the total +113 746 tCO₂e) is attributed to the expansion of the network and increased installations of 3G, 4G and LTE technologies. This 113 746 tCO₂e represents 10.06% of MTN's 2017 Scope 1 + 2 emissions.</p>
Change in methodology				<p>NA</p>

Change in boundary	3,089	Increased	0.27	Scope 1 and 2 emissions from MTN Yemen emissions were excluded. As we have continued to improve our carbon accounting systems, Scope 1 and 2 emissions for our South Sudan operations have been included.
Change in physical operating conditions				NA
Unidentified				NA
Other				NA

C7.9b

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

Location-based

C8. Energy

C8.1

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

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

C8.2

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

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes

Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	3,762,777	3,762,777
Consumption of purchased or acquired electricity		0	1,666,346	1,666,346
Consumption of self-generated non-fuel renewable energy				
Total energy consumption			5,429,124	5,429,124

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	No
Consumption of fuel for the generation of steam	No



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

C8.2c

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

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

3,682,652

MWh fuel consumed for self-generation of electricity

3,641,715

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-cogeneration or self-trigeneration

0

Comment



Fuels (excluding feedstocks)

Motor Gasoline

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

34,159

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

45,855

MWh fuel consumed for self-generation of electricity

15,166

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-cogeneration or self-trigeneration

30,689

Comment

C8.2d

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

Diesel

Emission factor

74.1

Unit

kg CO2 per GJ

Emission factor source

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

Comment

Mobile combustion

Liquefied Petroleum Gas (LPG)

Emission factor

63.1

Unit

metric tons CO2 per GJ

Emission factor source

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

Comment

Stationery combustion

Motor Gasoline



Emission factor

69.3

Unit

kg CO2 per GJ

Emission factor source

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

Comment

Natural Gas

Emission factor

56.1

Unit

metric tons CO2 per GJ

Emission factor source

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

Comment

C8.2e

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	3,687,570	3,687,570		
Heat				
Steam				
Cooling				

C8.2f

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

Basis for applying a low-carbon emission factor

No purchases or generation of low-carbon electricity, heat, steam or cooling accounted with a low-carbon emission factor

Low-carbon technology type

Region of consumption of low-carbon electricity, heat, steam or cooling

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

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

Comment

We do not have access to electricity supplier emissions factors or residual emissions factors other than that supplied the national electricity utility provider. We are thus unable to report on the electricity, heat, steam, and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2.

C9. Additional metrics

C9.1

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

Description

Energy usage

Metric value

19,544,846

Metric numerator

Energy consumption (GJ)

Metric denominator (intensity metric only)

N/A

% change from previous year

2

Direction of change

Increased

Please explain



The energy consumption at MTN operating countries has increased by 2% from 19 095 879 GJ in FY2017 to 19 544 846 GJ in FY2018. The increase in energy consumption is due to increasing number of sites dependant on petrol and electricity. The annual increase was however curbed by a 441 530 GJ decrease in diesel consumption, as well as a decrease in natural gas consumption of 188 566 GJ.

C10. Verification

C10.1

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

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

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?

No, we do not verify any other climate-related information reported in our CDP disclosure

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)?

No, but we anticipate being regulated in the next three years

C11.1d

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

The South African National Treasury first introduced the idea of carbon tax in a discussion document in 2010. The design was proposed in 2013 followed by the publication of the Draft Bill late in 2015 which announced the expected start date to be in 2017. After numerous iterations and consultations, the Bill was finally signed into law by the President on the 22nd of May 2019 and has come into effect from 1 June 2019. The carbon tax will initially only apply to scope 1 emitters in the first phase. The first phase will be from 1 June 2019 to 31 December 2022, and the second phase from 2023 to 2030. While the initial tax rate is set at R120/ tonne of CO₂-equivalent, the carbon tax law allows for various allowances, with taxpayers eligible for allowances for up to 95% of their emissions. National Treasury estimates that companies will effectively pay between R6 and R48 per tonne of CO₂e.

This risk currently only affects MTN South Africa; however MTN Zambia also reported increasing legislative activity with respect to carbon taxes. While MTN South Africa is one of the largest operations in the MTN Group, the financial impact of this tax is estimated to range between R290 000 and R600 000 per annum.

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?

No, but we anticipate doing so in the next two years

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 & incentivisation (changing supplier behaviour)

Details of engagement

Run an engagement campaign to educate suppliers about climate change

% of suppliers by number

9.25

% total procurement spend (direct and indirect)

% Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

Network suppliers and technical equipment suppliers. MTN's suppliers are broadly categorised into three main areas: commercial and indirect (e.g. logistics, business consulting, device suppliers, etc), information technology (e.g. infrastructure and systems), and networks (e.g. core and transmission solutions, etc). We have approximately 160 group suppliers, with agreements to cover requirements for multiple locations across MTN's footprint. Our local operations also contract local suppliers who offer products and services usually required for specific markets. In total, we have approximately 13 000 suppliers. MTN's suppliers are located globally. Key network suppliers are in Europe and China, while our local supplier base is spread across Africa and the Middle East Sector-specific characteristics include the fact that automation remains low and the use of labour therefore remains key to the operations of the supply chain, and that the telecommunications supply chain is subject to stringent custom regulations on imported items.

Impact of engagement, including measures of success

The impact of this engagement and its measure of success is medium as due to the lack of provision of actual data, MTN has developed an estimation methodology. MTN has noticed that due to the engagement there is increased awareness of provision of efficient energy sources/ renewable energy technologies. This in turn has led to more partnerships working on the deployment of solar sites/ technologies (an example is the rural roll-out programme that was mentioned in C3.1c. This does not include TowerCos (i.e. ATC/ IHS) but rather network supplier such as ZTE, Huawei, Ericsson etc.

Comment

The % of suppliers by number and % of total procurement spend difficult to quantify due to the significant variances across our 21 countries of operation.

Scope 3 GHG emissions from network sites managed by IHS Holdings in Cameroon, Ivory Coast, Nigeria, Rwanda and Zambia were previously calculated based on actual monthly diesel and electricity consumption data.

All of our suppliers undergo supplier performance measurement & we have a supplier risk management strategy. About 1 197 of our suppliers have accepted our code of conduct.

Type of engagement

Innovation & collaboration (changing markets)

Details of engagement

Other, please specify

Faster deployment with a smaller environmental footprint

% of suppliers by number

9.25

% total procurement spend (direct and indirect)

% Scope 3 emissions as reported in C6.5

0

Rationale for the coverage of your engagement

Network suppliers and technical equipment suppliers. MTN's suppliers are broadly categorised into three main areas: commercial and indirect (e.g. logistics, business consulting, device suppliers, etc), information technology (e.g. infrastructure and systems), and networks (e.g. core and transmission solutions, etc). We have approximately 160 group suppliers, with agreements to cover requirements for multiple locations across MTN's footprint. Our local operations also contract local suppliers who offer products and services usually required for specific markets. In total, we have approximately 13 000 suppliers. MTN's suppliers are located globally. Key network suppliers are in Europe and China, while our local supplier base is spread across Africa and the Middle East Sector-specific characteristics include the fact that automation remains low and the use of labour therefore remains key to the operations of the supply chain, and that the telecommunications supply chain is subject to stringent custom regulations on imported items.

Impact of engagement, including measures of success

The impact of this engagement and its measure of success is medium as due to the lack of provision of actual data, MTN has developed an estimation methodology. MTN has noticed that due to the engagement there is increased awareness of provision of efficient energy sources/ renewable energy technologies. This in turn has led to more partnerships working on the deployment of solar sites/ technologies (an example is the rural roll-out programme that was mentioned in C3.1c. This does not include TowerCos (i.e. ATC/ IHS) but rather network supplier such as ZTE, Huawei, Ericsson etc.

Comment

The % of suppliers by number and % of total procurement spend difficult to quantify due to the significant variances across our 21 countries of operation.

Scope 3 GHG emissions from network sites managed by IHS Holdings in Cameroon, Ivory Coast, Nigeria, Rwanda and Zambia were previously calculated based on actual monthly diesel and electricity consumption data.

All of our suppliers undergo supplier performance measurement & we have a supplier risk management strategy. About 1 197 of our suppliers have accepted our code of conduct.

C12.1b

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

Type of engagement

Education/information sharing

Details of engagement

Share information about your products and relevant certification schemes (i.e. Energy STAR)

% of customers by number

% Scope 3 emissions as reported in C6.5

0

Please explain the rationale for selecting this group of customers and scope of engagement

We engage with customers through the review of our annual sustainability report, communications with media organisations, ESG and SRI investors and analysts, information from third party questionnaires and assessments of our publicly reported performance by university

organisations and other third parties not commissioned by MTN and our own internal review and research processes including industry, peer and global developments, and our risk and audit management processes. We also encourage our customers in the retail, corporate and public services to become more aware of their environmental impact increases realisable savings. Some operations also engage with our customers on environmental management and what MTN is doing in this regard. Additionally, we engage with our enterprise customers, we engage with them on what their issues are a from a climate/environmental perspective in order to offer IoT solutions that can help them mitigate or reduce their environmental impact or potential losses, and use resources more efficiently as explained in previous sections on MTN's IoT product lines and opportunities.

Impact of engagement, including measures of success

Our solutions and engagement help communities' access advice and assistance on health, education, energy, agriculture and many more vital services. In Rwanda, MTN customers can use their mobile phones to place orders for life-saving medicines to be delivered in remote areas using drones. Digital solutions also assist communities to mitigate and adapt to environmental impacts. For example, in Nigeria, we work with cattle owners and veterinarians to track the movements of livestock, enabling identification and validation of ownership, as well as disease control, and support for international beef exports. In South Africa, where water scarcity is a reality, we are trialling low-power solutions that will help industries control water flows and identify leakages. Solar energy for digital and financial inclusion: MTN has partnered with lease-to-own solar product manufacturers to offer affordable, environmentally responsible and safe solutions that enable people to keep their phones and other electronic devices charged and connected to digital services and enjoy access to mobile financial services including remittances and bill payments. Over 1,9 million kilowatt hours of energy was produced in 2018 (assuming 1,5 charge cycles per day). We estimate savings of between US\$0.15 and US\$0.48 per day in energy costs for users, depending on the country in which they live. We replaced more than 10 million litres of kerosene with safe, clean and renewable energy.

Not possible to estimate % of customers by number.

Type of engagement

Collaboration & innovation

Details of engagement

Other – please provide information in column 5

% of customers by number

% Scope 3 emissions as reported in C6.5

0

Please explain the rationale for selecting this group of customers and scope of engagement

We engage with customers through the review of our annual sustainability report, communications with media organisations, ESG and SRI investors and analysts, information from third party questionnaires and assessments of our publicly reported performance by university organisations and other third parties not commissioned by MTN and our own internal review and research processes including industry, peer and global developments, and our risk and audit management processes. We also encourage our customers in the retail, corporate and public services to become more aware of their environmental impact increases realisable savings. Some operations also engage with our customers on environmental management and what MTN is doing in this regard. Additionally, we engage with our enterprise customers, we engage with them on what their issues are a from a climate/environmental perspective in order to offer IoT solutions that can help them mitigate or reduce their environmental impact or potential losses, and use resources more efficiently as explained in previous sections on MTN's IoT product lines and opportunities.

Impact of engagement, including measures of success

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energy.

Not possible to estimate % of customers by number.

C12.1c

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

Given our reliance on leased sites, we regard Scope 3 emissions as material over the medium to long term, while Scope 1 emissions may decline materially. We engage directly with infrastructure owners/asset managers, tower management companies, managed service providers and own equipment manufacturers on ensuring energy-efficient operations and we seek their support for investment/ provision of services powered by renewable energy where possible. We request our tower management providers to provide information on energy costs and consumption of the assets we lease or use and to share information on their energy reduction initiatives or activities and climate change risks and mitigation efforts. Engagement through data collection and quality checks are conducted on a monthly/ quarterly basis.

The energy consumption and spend data provided by our infrastructure asset managers in Ghana and Uganda assist us with completing our carbon footprint assessment, more especially our Scope 3 emissions, and supports our requirement for business partners to invest in efficiencies and renewable energy solutions that can mitigate climate change impacts.

Scope 3 GHG emissions from network sites managed by IHS Holdings in Cameroon, Ivory Coast, Nigeria, Rwanda and Zambia were previously calculated based on actual monthly diesel and electricity consumption data. Following MTN Group's changes to its investment stake in the IHS Group in 2017, IHS is no longer able to supply actual data. In line with the GHG Protocol's principles of completeness of reporting, we have therefore developed an estimation methodology, based on the Protocol's average data approach to account for these emissions. The method makes use of the average historical monthly energy consumption data and the historical average number of network sites per month to help MTN approximate the average energy consumption value per network site per month. This value is then multiplied by the number of network sites each month, to estimate the total monthly energy consumption for all network sites. This method ensures comparability of reported results in previous years, as recommended by the GHG Protocol. Going forward, this methodology may be reviewed and refined where possible as MTN works with our tower management partners and suppliers on the provision of actual data as required for disclosure of the group's Scope 3 emissions.

C12.3

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

Trade associations

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

Global System Mobile Association (GSMA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Managing the efficiency of our networks remains an ongoing operational activity. Governments, industry and the wider public broadly accept the need to reduce greenhouse gas emissions to limit global warming and climate change. To this end, mobile network operators have been improving the energy efficiency of their network infrastructure and frequently turning to renewable energy sources such as solar, wind and hybrid power systems to power off-grid, rural base stations. The larger perspective, however, is the enabling role of mobile technologies in reducing energy consumption and carbon emissions in other sectors such as buildings and transport. The GSMA estimates that by 2020, mobile technologies could reduce carbon emissions in other sectors by about five times the mobile industry's own footprint, the equivalent of taking one

in three cars off the road. As machine-to-machine (M2M) technologies proliferate, carbon emissions are expected to reduce even further. By raising awareness of the environmental advantages of mobile solutions, as well as the economic advantages, the mobile sector can become an increasingly powerful tool in tackling the impacts of climate change. We promote the role of ICT in reducing the carbon emissions and environmental impact of other sectors using mobile technologies.

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

GSMA Board. The GSMA represents the interests of mobile operators worldwide. The GSMA also produces industry-leading events such as the Mobile World Congress, Mobile World Congress Shanghai and Mobile 360 Series conference and engages with regulatory authorities, the non-industry partners and other organisations all working to enhance access to digital communications. MTN actively supports the work of GSMA through a number of programmes, including on rural network rollout (where rural sites are powered by solar solutions). GSMA has also awarded MTN funding for trialling prepaid solar energy solutions for domestic and small-emerging enterprises, which has ultimately led to such solutions available in five MTN countries of operation (with plans for further rollout).

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?

MTN Group's sustainability team is responsible for coordinating and managing all direct and indirect activities that influence policy on climate change, and works closely with the Technology team on matters related to energy use. The team takes the responsibility of coordinating engagement activities around climate change across business units and geographies to ensure that we have a common approach that is consistent with MTN's sustainability (including climate change) imperative. The Group's Base Station and Networks Toolkit also sets out more environmental matters for consideration in network infrastructure implementation.

Across MTN operations there is an increase in awareness of the need for integration of energy, climate and other environmental matters in business planning and implementation among the Networks and Technology and Facilities teams in all operations run by energy and carbon champions. Each MTN country of operation maintains their own energy management strategy or practice, in line with the business performance and operational efficiency management requirements. This approach enables each operation to actively manage and monitor its energy use mix, costs, configuration of efficiency and reduction solutions, and other requirements within local operating and environmental contexts. The energy costs, consumption, risks and carbon intensity in terms of the Carbon Disclosure Project are monitored by many of the 44 trained energy and carbon champions across our

operations. These champions are mostly positioned in technical functions, and are supported by finance, facilities, business risk management and corporate services team members.

The Group also continues to conduct operations on outsourced network sites in Ghana, Uganda, Cameroon, Côte d'Ivoire, Nigeria, Rwanda and Zambia. Our strategy to outsource our network also incorporates our responsibility to work with our partners and suppliers to reduce their Scope 1 and 2 emissions (which are MTN's Scope 3 emissions), and ensure that the tower management companies support MTN's energy and climate management objectives. We undertake this through ongoing engagement with our tower management partners, encouraging site managers to reduce their impacts. The tower management partners supply monthly - quarterly carbon tracking reports to MTN. These reports are consolidated for analysis by the Group, and performance is presented in sustainability reports to the risk and compliance function, Executive and Group social and ethics committee, which oversees the Group's sustainability performance. Operations receive detailed feedback of performance results to implement required improvements and review opportunities on projects undertaken by other operations. As a result, we have seen an increase in the tower managing partners' investments in energy efficiency and low-carbon solutions. We receive excellent support from our partners and are pleased to report that some of our partners have implemented their own efficiency and reduction strategies.

Monthly- quarterly reports are submitted by most of MTN's operations, excluding Botswana (excluded on the basis of indirect ownership holding), Yemen, and Syria (excluded due to energy and greenhouse gas data collection challenges associated with network management in the context of the broader macro-political situation) and Dubai (excluded due to MTN Group head office facilities).

The Group's Social and Ethics statement incorporates our position with respect to our environmental responsibilities, and sets this out in terms of responsible business commitments and activities by our business partners and suppliers. This is available at: <https://www.mtn.com/who-we-are/ethics/ethics-positions>.

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 voluntary sustainability report

Status

Complete

Attach the document

 MTN-Sustainability-Report 2018.pdf

Page/Section reference

Pages: 3 - 9 & 37 - 46.

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Comment


Publication

In mainstream reports

Status

Complete

Attach the document

 MTN-AR-2019_LORES.pdf



Page/Section reference

Pages: 14 - 15; 33 - 37; 46; 57

Content elements

Governance

Strategy

Comment

Integrated Report 2018

C14. Signoff

C-FI

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

C14.1

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

	Job title	Corresponding job category
Row 1	Group Corporate Affairs (Sustainability and Shared Value)	Environment/Sustainability manager

Submit your response

In which language are you submitting your response?

English



Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms