Welcome to your CDP Climate Change Questionnaire 2021

C0. Introduction

C0.1

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

Vodacom Group Limited (herein after referred to as Vodacom) is a leading African connectivity and financial services company strongly underpinned by purpose and spirit. The Group, including Safaricom, serves 123.7 million customers across consumer and enterprise segments and offers a wide range of services, including telecommunication, information technology (IT), digital, IoT and financial services.

Since 1994 Vodacom expanded its mobile network footprint from its roots in South Africa to Tanzania, the Democratic Republic of the Congo (DRC), Mozambique, Lesotho and Kenya and its mobile networks cover 296 million people (including Safaricom at 100%). Through Vodacom Business Africa (VBA), Vodacom offers business-managed services to enterprises in 48 countries across the continent.

Vodacom is majority owned by Vodafone (60.5% holding) – one of the world's largest communications companies in terms of revenue. It has a 34.94% indirect stake in Safaricom, the number one mobile operator in Kenya. The Group was listed on the Johannesburg Stock Exchange (JSE) in May 2009 and is headquartered in Midrand, South Africa.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years
Reporting year	April 1, 2020	March 31, 2021	No

C0.3

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

Democratic Republic of the Congo
Lesotho
Mozambique
South Africa

C0.4

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

ZAR

C0.5

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

Operational control

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Board-level committee	The Board appointed Social and Ethics Committee has the responsibility for good corporate citizenship which includes corporate social responsibility, ethical behaviour and managing the environmental impacts of the group, including climate-related issues. During FY2021 the Committee received reports from various business areas in the Group on a quarterly basis to ensure oversight and accountability for achieving sustainability goals and objectives. In FY2021 the Committee approved the establishment of an ESG steering committee consisting of key executives to drive sustainability strategy across all markets. The Committee approved the LTI (long-term incentive) allocation for executives, which was implemented from June 2020 as an additional measure relating to ESG - a weighting of 10% to achieve Vodacom's target relating to a 50% reduction in greenhouse gas emissions by 2025 (using 2017 as baseline).

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies	Oversight of climate related risks and opportunities at Board level occurs quarterly at the: - Social and Ethics Committee - Risk Management Committee Monthly at the: Monthly ExCo meetings

	Setting performance objectives Monitoring implementation and performance of objectives Monitoring and overseeing progress against goals and targets for addressing climate-related issues	Bi-annually at the: Environmental Management Review Annually at the: Vodafone Sustainable Business Conference Position papers in respect of climate change risks and opportunities to Vodacom have been presented to the above committees and strategic decisions affecting the sustainability of the business have been taken as a result of these threats and opportunities.

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
Environment/ Sustainability manager	Both assessing and managing climate-related risks and opportunities	Quarterly
Chief Risks Officer (CRO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Other C-Suite Officer, please specify Chief Technology Officer	Both assessing and managing climate-related risks and opportunities	Quarterly
Other C-Suite Officer, please specify Chief Officer: External Affairs	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).

Sustainability efforts across the group continue to be coordinated through a quarterly meeting, facilitated by the Head: Vodacom Group Sustainability.

Each focus area champion reports back and feedback is channelled to the Social and Ethics Committee.

The Risk Management Committee overseas the comprehensive Operational Resilience Programme and provides feedback to the Executive Committee via the Chief Risk Officer and the Chief Technology Officer.

A Governance board is mandated to manage specific projects, policy requirements and good practice to improve service resilience, thus safeguarding the network and services against potential interruptions caused by natural disasters, technology failure or human error.

Independent periodic audits are undertaken to assess network resilience, reviewing the operational readiness and status of fire detection and prevention systems, evaluating the standards of power installations, and auditing building management systems across facilities.

The Chief Officer: External Affairs is responsible for advocacy of climate change risks and opportunities and influencing key stakeholders including Government, Business and Employees.

C1.3

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

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

C1.3a

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

Entitled to incentive	Type of incentive	Activity inventivized	Comment

Corporate executive team	Monetary reward	Emissions reduction target	GHG emission reduction targets are part of the Long Term Incentive for 2023 and 2024. The achievement of the targets positively impacts bonuses or discretionary pay; hence there exists a strong incentive to reach the emission reduction targets.
Business unit manager	Monetary reward	Emissions reduction target	The key performance indicators for responsibility towards natural resources include greenhouse gas reduction targets, which are included in employee's performance scorecards. The achievement of the targets positively impacts employee's bonuses or discretionary pay; hence there exists a strong incentive to reach the emission reduction targets.
Environment/Sustainability manager	Monetary reward	Emissions reduction target	The key performance indicators for responsibility towards natural resources include greenhouse gas reduction targets, which are included in employee's performance scorecards. The achievement of the targets positively impacts employee's bonuses or discretionary pay; hence there exists a strong incentive to reach the emission reduction targets.
All employees	Monetary reward	Efficiency target	All employees whose direct or indirect line function responsibilities have environmental impacts are empowered to manage environmental issues as integral part of their job and to establish systems that allow for employee training to ensure that they are up to date with the latest information regarding impacts and greenhouse gas reduction targets. The responsibility and accountability for environmental performance affects their performance scorecards, which in turn affect bonuses or discretionary pay.

C2. Risks and opportunities

C2.1

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

Yes

C2.1a

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

	From (years)	To (years)	Comment
Short-term	0	1	Given recent advances in technology, the 'clock speed' in the telco sector has shown a propensity to speed up quite dramatically, not just in terms of network technology, but also at the IT layer, which is increasingly important in underpinning the services offered to customers. Further, this is aligned with the financial year budgets, annual reduction targets and capital budgets required for the implementation of projects, which focus on short-term changes in actions.
Medium-term	1	3	Vodacom's Vision 2025 highlights the strategic objectives with goals to be achieved by 31 March 2025. Product or service planning has a medium term horizon.
Long-term	3	10	This aligns with more strategic view of climate-related risks and opportunities that affect traditional network planning which is typically between three and five years.

C2.1b

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

During FY2017 the concept of 'principal risks' was introduced in order to enhance the process of identifying, assessing and reporting on risks and opportunities.
Substantive financial or strategic impact is defined in the Principal Risks Framework which provides the Executive Committee and Board with a robust assessment of the principal risks facing the Company.
A heat map depicts the top 10 residual risks, after taking into account mitigating risk factors, that have the most significant impact on Vodacom's ability to achieve its strategic objectives in the long-term ('macro risks'), and in the short- to medium-term ('tactical sub-risks'), together with risk appetite statements for each. The risk appetite for each principal risk is reviewed and approved by the Board to enable informed risk-based decision-making.
Risks are also analyzed for its speed of impact, reflecting the rate at which the Company will experience adverse financial impacts if the risk materialised.

C2.2

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

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

The process used to determine which risks and opportunities could have a substantive financial or strategic impact on Vodacom:
At company level the Board Directors consider risks and opportunities, including climate-related issues, when they formulate strategy, approve budgets and monitor progress against business plans. The process is overseen by the Risk Management Committees (RMC) in each operation, which is chaired by the respective Managing Directors and include the Executive Committee members in each country.

An Enterprise Risk Management Framework was developed to provide context and guide the identification, analysis, evaluation, treatment, communication and ongoing monitoring of risks in all business units. The risk management framework is in alignment with the ISO 31000 International Risk Management Standard and other risk management best practices and is being rolled out across the Group.

The Group Risk division reporting to the Chief Risk Officer assists in identifying, assessing and recording the risks and opportunities facing the Group and, where appropriate, monitors mitigating actions.

At asset level risks and opportunities are identified and managed at four different levels within the organisation, namely at project, process, operational and tactical levels. These risks and opportunities are periodically reviewed and updated. A filtering and reporting process ensures that the relevant risk items are reported to the Audit, Risk and Compliance Committee (ARC Committee).

The day-to-day responsibility for the management of enterprise risk lies with the head of the business unit or support function, which conducts the activity which gives rise to the risk. Line management is guided and assisted by the Risk Group division, which reports to the Chief Risk Officer.

Risks and opportunities are prioritized through the following process:
• Define the risks - Various levels of management in each operating company define risks and opportunities at project, process, operational, tactical and strategic levels.
• Risks are assessed based on their potential impact on the operation (customers, business systems and employees) and reputation (stakeholders and brand). At level 1 the risk impact is seen as insignificant and at level 5 as catastrophic.
• Assess their likelihood - Risks are assessed based on the likelihood of them happening after taking into account the controls that are already in place to mitigate them. A scale from 1 to 5 is used to assess the likelihood of the risk, where 1 is “never” and 5 is “almost certain”. When a risk is rated with a likelihood as “5”, it means the controls in place will not prevent the risk from happening due to factors outside our control or the control effectiveness is poor.
• Classify the risk - Risks are classified as critical, high, medium and low based on the impact and likelihood score.
• Treat the risk - Management reviews all critical and high risks to determine which of these need additional treatment to reduce the risk to a medium or low. One such type treatment is the implementation of additional controls.

How Vodacom makes decisions to mitigate, transfer, accept or control the identified climate-related risks and to capitalize on opportunities:
All risks and opportunities, including climate-related issues, are captured on the risk management system, continually monitored and reviewed every six months. Quarterly risk reports are provided to the Audit, Risk and Compliance Committee (ARC Committee) and the Board.

Vodacom considers chronic physical risks relating to changes in precipitation patterns and extreme variability in weather patterns as South Africa’s rainfall over the past few years has been significantly below the long-term average.

In particular, the Western Cape experienced the worst drought recorded in history with dam levels at their lowest ever. Without drastic measures

to further drive down consumption, Cape Town was set to experience critical water shortages and the possibility of taps being turned off – a scenario known as Day Zero. This would have had a devastating impact on Vodacom operations in Cape Town.

Proactive measures taken to reduce the water footprint included changes to the water reticulation system at the Century City and Techno Centre offices in Cape Town to accommodate waterless urinal waste systems as well as regulating the flow of water in kitchens, showers and sluices while aesthetic water features have been switched off.

To provide alternative water supply to offices a ground water harvesting project at Century City was implemented and a borehole sunk at Techno Centre. The water collected is extensively filtered to drinking water standard.

The Century City ground water harvesting project and the Techno Centre borehole project reduced average daily municipal consumption from 17kl to 2kl per day and from 30kl to 2kl per day respectively.

Transitional risks and opportunities for Vodacom relate to anticipated increases in energy taxes or fuel levies as its South African network consumes approximately 87% of total electricity consumption.

Diesel and electricity consumption at base stations are monitored and initiatives aimed at operating more efficiently are implemented while adopting renewable and alternate sources of energy where feasible.

Hybrid Generator Power-Cubes – a combination of diesel generators and batteries that cut diesel use by up to 70% per site – were introduced to convert 24x7 generators to hybrid generator units, resulting in significant diesel fuel savings. Lithium ion (Li-Ion) batteries with longer life-expectancy replaced lead-acid batteries at radio sites.

The old inefficient UPSs were replaced with modern high-efficiency variants at 6 data centres across South Africa. Adiabatic cooling panels on air-conditioning chiller plants were installed to pre-cool the ambient air used by the chiller coils to reduce energy consumption.

These initiatives are aimed at reducing energy consumption and costs, carbon emissions and where possible, take advantage of the promulgated S12l tax allowances for energy efficiency.

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	South Africa's current climate-related regulation such as carbon taxes, national greenhouse gas reporting regulations and white paper on climate change to enable a transition to a low carbon economy have an impact on Vodacom's business operations. A carbon tax added to the fuel levy of 7 cents per litre on petrol, and 8 cents on diesel added operating cost. Vodacom has assessed all its facilities and registered with the DEFF, using a specific template of the National Atmospheric Emissions Inventory System (NAEIS). Vodacom is now annually reporting onto the South African Greenhouse Gas Emissions Reporting System (SAGERS). In order to save on diesel costs, carbon emissions and carbon tax Vodacom "build the last mile" at its own expense in order to get grid power to 6 sites in South Africa that were running exclusively on generator or alternative power. Vodacom also installed hybrid generators that can utilize several renewable energy sources together with a DC genset and battery bank to provide further system efficiencies which reduces diesel consumption.
Emerging regulation	Relevant, always included	Emerging regulatory risks such as increased fuel levies, water and energy tariffs and the Extended Producer Responsibility (EPR) Regulations and Schemes for post-consumer waste (published November 2020) are considered by Vodacom. For example, the increased water tariffs in the Cape Town region as a regulatory measure aims to affect behavior change in encouraging business and industry to reduce their water consumption. The Century City and Techno Centre offices are situated in Cape Town, therefore the national facilities team assess and manage these risks. Vodacom has also established a Water Crisis Steering Committee in South Africa to provide a response and action plan which aims to assist affected employees and their families, communities and customers across the country, to reduce levels of water usage. Although not a producer nor importer of the affected waste items, Vodacom does implement waste management practices and has formalised waste management targets for the office environment to be reached by 2025, against a 2017 baseline.

		The targets are to: Reduce single-use plastic waste by 80% Recycle paper waste in offices - 100% Convert food waste to compost - 90% Vodacom will continue to engage with suppliers to phase out single-use plastics in canteens nationwide. The use of water coolers and plastic drinking cups in offices are reduced by only procuring ecofriendly cups and employees are supplied with reusable glass bottles. During FY2021 food waste weighing 104 997kg was diverted from landfill by composting while the following were recycled: 5 316kg of plastic; 23 179kg of general office waste (cardboard and paper); 161kg of food packaging; and 407kg of polyconfibre cups. More than 430kg of fluorescents were diverted from landfills.
Technology	Relevant, always included	Vodacom believes that its technologies can play a significant role in enabling a low-carbon future e.g. creation of digital platforms - video-conferencing, smart working and virtual education. Technology leads to smarter ways of doing business whilst minimising the impact on the environment. The transition to the 'Fourth Industrial Revolution' – characterised by recent rapid developments in AI, Big Data analytics and blockchain technology, as well as the growth in the Internet of Things, connected homes and autonomous vehicles – is challenging many traditional business models and significantly reshaping consumer behaviour. Vodacom aims to build an open ecosystem to create a futureproof, flexible modern digital IT architecture for a superior customer experience, enabling exponential growth through scalable platform ecosystems. Vodacom therefore pioneered low-cost network technology on the continent through various partnerships – such as AST SpaceMobile and 2Africa – to connect more people in an increasingly digital world. Unfortunately, during FY2021, Project Loon collaboration with Alphabet, the parent company of Google, was discontinued. The project was piloted in Mozambique and comprised a fleet of balloons to provide internet services to remote regions in East Africa. Vodacom remains committed to the acceleration of rural coverage, and continue to explore alternate options.

Legal	Relevant, always included	Climate-related litigation claims could stem from non-compliance with the proposed carbon tax, national greenhouse gas reporting regulations and the white paper on climate change and could include monetary fines and/or prison sentences for those responsible of such oversight at Vodacom. Compliance risks are identified and assessed as part of the compliance management processes. Feedback on issues is reported as per Vodacom's risk management framework.
Market	Relevant, always included	Digital technology is disrupting traditional business models and significantly reshaping consumer behaviour. New technologies such as the Internet of Things (IoT) continue to spread through every aspect of daily life – bringing network intelligence and optimised energy use to a wide variety of machines, devices and processes. Vodacom therefore needs to continuously deploy new network technologies, while rolling out a national IoT network and developing new IoT applications and solutions to help customers reduce their emissions. In South Africa, Vodacom's Smart Utilities Management Service has installed 160 000 smart meters for both water and electricity to support municipalities, public and private entities to automate meter reading, perform billing integration, and provide user profiles through a cloud-based web platform. Additional benefits linked to this solution include reduced carbon emissions, prevention of revenue losses and improved energy theft reporting. Vodacom's 616 210 integrated smart logistics and fleet management solution monitors vehicles, driver behaviour and identification, and tracks stolen vehicles through its IoT capability. In Tanzania a similar IoT car tracking solution manages the performance and maintenance of the car in terms of speed, braking, fuel control and geofencing, among others. In the DRC, Vodacom introduced a car tracking device that enables the optimal management and efficiency of trucks. During FY2021 IoT.nxt partnered with Gilela Business Innovations to develop a fire control panel monitoring solution, which reduces the risk of fire due to malfunction. Live at 25 sites across South Africa, this solution is protecting insured assets worth R3 billion, by notifying insurers and insured clients of any potential faults. The IoT connections have enabled carbon savings for customers of approximately 1 648 494 tCO2e during FY2021. Vodacom's IoT connections increased 6.4% to 5.6 million, with revenue growth of32.8% during FY2021.

Reputation	Relevant, always included	Vodacom considers reputational risks relating to investors, government and customers requiring it to respond to climate change issues. As part of its commitment to accelerating socio-economic transformation, Vodacom identified and prioritised eight of the seventeen United Nations Sustainable Development Goals (SDGs), where it believes it can have the most meaningful impact by providing enabling technologies and innovative digital products and services to customers and stakeholders. Vodacom is supporting communities through digital inclusion in support of SDG11: Sustainable cities and communities. It strives to assist in making cities and human settlements more inclusive, safe, resilient and sustainable by offering innovative digital solutions. To stimulate agricultural productivity through digital solutions Vodacom, through Mezzanine, partnered with Agritechnovation to develop MyFarmWeb, a mobile and web-based solution aimed at leveraging geo-spatial mapping and 'IoT' sensor features to assist farmers in data-driven planning and decision-making. 3 600 farmers use the platform to drive efficient decision making for profitable and sustainable farming. Through MyFarmWeb, 950 000 hectares of commercial farming has been mapped in South Africa. The cloud-based Connected Farmer platform, developed in partnership with GIZ, services small-scale farmers and makes sourcing from smallholder farmers more realistic and executable for food manufacturers and retail businesses; increasing the number of smallholders and subsistence farmers in commercial agricultural value chains. Further, enterprises have real time visibility of their supply chains, as well as the ability to engage and communicate with smallholders directly. The application is currently used by various agribusinesses in South Africa, with more than 1 644 registered users. In the DRC 90 600 farmers use the Connected Farmer application during FY2021. Of this number 61 904 are producers, 21 546 are entrepreneurs and 7 150 are transporters - 76% are women. The Connected Farmer app is known as AgroMwinda, and has M-Pesa capability for convenient payments and also provides climate and market information through a USSD short code. These initiatives make an important contribution in improving agricultural productivity and food security, creating jobs and increasing incomes in the agriculture sector which could enhance Vodacom's reputation as a leader in environmental issues in the ITC industry.
Acute physical	Relevant, always included	Vodacom considers acute physical risks as weather-related disruptions such as storms or floods could damage base stations or the road infrastructure. Currently unreliable grid power exists in Mozambique, Lesotho, DRC and Tanzania. The mobile network base stations therefore rely extensively on diesel generators for electricity. The huge distances between the sites and the challenging

		terrain makes the logistics of refuelling and maintenance costly with today's infrastructure. With storms or floods the infrastructure could be negatively impacted making access to refuel and maintain the base station generators difficult. This could result in a disruption of operations and the non-availability of the network. In March 2019, the tropical cyclone Idai caused catastrophic damage in Mozambique, Zimbabwe, and Malawi, affecting more than 3 million people and leaving more than 1 000 people dead and thousands missing. Beira in Northern part of Mozambique, was especially affected; approximately 90% of the city's infrastructure was destroyed by the storm, affecting health and education facilities and thousands of acres of crops, which will significantly affect food security in the country. In response Vodacom restored communication services as quickly as possible and free-rated calls during the height of the crisis, both of which assisted with aid relief efforts. Vodacom with Vodafone donated US$1 million to aid in restoring roofs on schools to ensure education is least disturbed, this reflects Vodacom's commitment to addressing societal challenges through its core business activities and corporate social investments. In 2020/1 network operations in the Sofala, Manica and Zambezia regions of Mozambique were severely impacted by the recent cyclone, causing damage to infrastructure estimated to be around US$2.2 million (approx. R33 million). Fortunately, no employees or contractors were physically harmed by the cyclone. Recovery measures included repairs to towers and restoration of fibre cables. Assessments are under way to identify vulnerable sites and to build resilience to severe weather events, which persist in the region.
Chronic physical	Relevant, always included	The network is the backbone of Vodacom's business and the quality of its network allows Vodacom to distinguish it from the competitors. It attracts new customers and ensures retention of the existing customer base. Vodacom considers chronic physical risks relating to changes in average precipitation that could influence the network quality and the demand for Vodacom's solutions and services. Vodacom is therefore strengthening its resilience as an organisation by renewing the radio access network (RAN) to incorporate newer technologies that could withstand weather influences. During FY2021 Vodacom implemented project Raptor to deploy intelligent controls at 7 232 base stations in South Africa through a partnership with IoT.NXT. This IoT solution enables early detection of maintenance alarms, reduces the need for call-outs and reduces energy consumption by monitoring operating conditions in the base station cabinet and automatically switching off the air-conditioning when not needed. The Raptor project will expand to an additional 1 170 sites in FY2022. These projects improve energy efficiency, drives down operational cost, helps to expand data coverage and improve the customer experience.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Current regulation

Carbon pricing mechanisms

Primary potential financial impact

Increased direct costs

Company-specific description

In February 2019 the Carbon Tax Bill was passed in alignment with South Africa's commitment to the Paris Agreement to reduce greenhouse gas emissions by 42% by 2025. The first phase will run until December 2022, after which it will be reviewed. The tax follows the polluter pays principle whereby companies that exceed stipulated threshold activities will be penalised R120 per tonne of CO2 emitted.

It was also announced that carbon tax would be added to the fuel levy at 7 cents per litre on petrol, and 8 cents on diesel, effective 5 June 2019.

Both the Carbon Tax Act and the Customs and Excise Amendment Act came into effect on 1 June 2019. SARS is the main implementing administrative authority on the tax liability assessment.

The Department of Environment Forestry and Fisheries (DEFF) will assess the data submitted, which will form the tax base. The Department of Energy will supply the energy combustion data. All information will feed into the National Atmospheric Emissions Inventory System (NAEIS). Companies will self-assess and submit their emissions to SARS and if found to be incorrect, could be penalized.

The first carbon tax filing and payment for the period June to December 2019 was delayed to October 2020 due to Covid-19. The annual carbon tax accounts and payments for the period January to December 2020 are due by 29 July 2021.

In order to report an organization has to assess its company-wide energy generation capacity. The threshold for registration is 10MW thermal. So, for example, if a company has fifteen small boilers with a capacity of 700 kW each, the cumulative capacity is 10,5MW, which will require the company to register and report on these activities.

Businesses which have identified themselves as not liable for carbon tax during the first phase will still be required to submit environmental levy accounts to the DEFF regardless of whether any carbon tax payment is due.

While Vodacom is not liable to pay carbon tax in Phase 1, operating costs will increase due to the additional carbon tax on fuel.

In order to assess the carbon tax accurately, reporting of GHG emissions will be required together with verification of the reported South African emissions. This will place a financial compliance burden on Vodacom, while non-compliance could be met with penalties. Further, emission reporting could lead to more stringent licence to operate criteria, e.g. for inclusion in the FTSE/JSE Responsible Investment Index.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Low

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)

500,000

Potential financial impact figure – maximum (currency)

5,000,000

Explanation of financial impact figure

Financial impact relates to carbon tax on liters of diesel and petrol used in stationary combustion and mobile fuels throughout Vodacom South Africa's operations in FY2021.

Other financial impacts relate to penalties for non-compliance to submit GHG inventories and data which is estimated to be capped at R5 million for a first offence. However, there is no potential financial impact for Vodacom as current resources would be able to cope with the emissions reporting obligation.

Cost of response to risk

955,000

Description of response and explanation of cost calculation

In order to comply with regulatory requirements Vodacom has assessed all its facilities to determine whether its associated emission activities qualify for or exceed the 10MW thermal threshold to see if it needs to register with the DEFF, using a specific template of the National Atmospheric Emissions Inventory system (NAEIS). Vodacom is now annually reporting onto the South African Greenhouse Gas Emissions Reporting System (SAGERS).

Further, Vodacom annually appoints external consultants costing approximately R475 000 per annum to determine its organizational carbon footprint as well as the verification thereof to ensure it is free of material misstatements.

The processes for obtaining the required data are continually refined to ensure accurate and consistent data capturing.

In order to save on diesel costs, carbon emissions and carbon tax Vodacom “build the last mile” at its own expense in order to get grid power to sites that were running exclusively on generator or alternative power. Vodacom spent capital of R480 000 to connect 6 sites to the South African electricity grid.

During FY2021 Vodacom installed hybrid generators that can utilize several renewable energy sources together with a DC genset and battery bank to provide further system efficiencies which reduced diesel consumption by 8796 liters.

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Technology

Unsuccessful investment in new technologies

Primary potential financial impact

Decreased asset value or asset useful life leading to write-offs, asset impairment or early retirement of existing assets

Company-specific description

Vodacom, an information, communications and technology company, contribute to greenhouse gas (GHG) emissions predominantly through the use of energy to power its base station sites, data centres, switches and remote hubs. The electricity sourced from the grid is supplemented by electricity generated from diesel, solar panels, fuel cells, batteries and generators mostly owned and/or managed by Vodacom. Electricity

consumption in the Group remains the main source of emissions at 90% with fuel consumption at 8% and emissions associated with supply chain activities at 2%.

To reduce energy consumption, Vodacom installed free cooling technology at 90% of its base stations in Mozambique, Lesotho, Tanzania, DRC and South Africa. Free cooling is when electronic air-conditioning is supplemented with fresh air to reduce the temperatures of equipment resulting in reduced energy requirements of between 2 000–3 500 kWh per year per site. Further, since 2016 the majority of new sites are single A/C outdoor cabinets.

Higher temperatures will result in lesser usage of free cooling with the resultant increase in electrical energy consumed. This could make the free cooling equipment obsolete as well as increase the maintenance and replacement intervals on cooling equipment resulting in higher operational cost.

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, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

9,400,000

Potential financial impact figure – maximum (currency)

15,000,000

Explanation of financial impact figure

To date the equipment was installed at a capital cost of approximately R150 million. With higher average temperatures the energy use and cost could increase and the equipment may become obsolete. Should the energy use increase by 1%, then the operational expenses could increase by approximately R9.4 million per annum while a 10% redundancy rate of the equipment could result in a R15 million loss of capital invested.

Cost of response to risk

149,200,000

Description of response and explanation of cost calculation

Free cooling technology reduces the need for powered air-conditioning at base-stations by monitoring the external air temperature and when possible shuts down air-conditioning units to use ambient air to do the cooling whenever the outside temperature falls below 20°C. To manage an increase in temperatures Vodacom is upgrading its network with components that can withstand higher temperatures and is installing individual battery coolers rather than cooling the whole facility. Technicians are working on free cooling systems that will work even when the outside temperature is 30°C.

To date 3 500 free-cooling units were installed at base stations to help reduce air-conditioning use together with 840 smart meters installed at a capital cost of approx. R1.5 million. The technology reduced air-conditioning run-time and energy consumption by up to 45% as well as extended maintenance and replacement intervals on cooling equipment.

During 2019 Vodacom started with the rollout of project Raptor, which is an extension of traditional free cooling and entails a remote monitoring solution at 7 232 base stations that enables early detection of maintenance alarms, reduces the need for call-outs and decreases energy consumption by monitoring operating conditions within the base station cabinet and automatically switching off air-conditioning when not needed.

During FY2021 R147,7 million was spent on the installation of the Raptor project which resulted in energy savings of over 11GWh - approximately 2.8% of electricity consumed at base stations in South Africa.

The Raptor project will expand to an additional 1 170 sites in FY2022.

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Changes in precipitation patterns and extreme variability in weather patterns

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

Vodacom's international mobile operations make up 36% of total base stations and consist of 8 294 2G sites, 6 497 3G sites, 3 744 4G sites and 2 5G sites, with high-speed transmission extended to 91.5% of sites.

There are various challenges in providing connectivity to these areas, including the high costs in deploying base stations, lack of access to and unreliable grid power in Mozambique, Lesotho, DRC and Tanzania.

The mobile network base stations therefore rely extensively on diesel generators for electricity. The huge distances between the sites and the challenging terrain makes the logistics of refuelling and maintenance costly with today's infrastructure.

With more frequent rainfall the infrastructure could be negatively impacted making access to refuel and maintain the base station generators difficult. This could result in a disruption of operations and the non-availability of the network.

Higher temperatures will require more cooling at the mobile base stations resulting in more frequent refuelling of generators. Not only will the

logistics of refuelling and maintenance increase operational costs, but it could impact on the network quality.

Unplanned disruptions in network performance, and any resulting shortfalls in network quality and availability, negatively impact consumer sentiment, which can be rapidly shared on social media. Maintaining network quality and performance is both a significant source of competitive differentiation and revenue.

During 2019 two consecutive cyclones in Mozambique damaged major roads and infrastructure, affecting Vodacom's network services.

In 2020/1 network operations in the Sofala, Manica and Zambezia regions of Mozambique were severely impacted by the recent cyclone, causing damage to infrastructure. Fortunately, no employees or contractors were physically harmed by the cyclone. Assessments are under way to identify vulnerable sites and to build resilience to severe weather events, which persist in the region.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium

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)

33,000,000

Potential financial impact figure – maximum (currency)

62,300,000

Explanation of financial impact figure

The recent cyclone that impacted network operations in the Sofala, Manica and Zambezia regions of Mozambique caused damage to infrastructure estimated to be around US$2.2 million (approx. R33 million). Recovery measures included repairs to towers and restoration of fibre cables.

A shortage of diesel at the base stations could lead to the non-availability of the network and negatively impact customer usage resulting in a loss of revenue.

A cumulative one day shutdown of operations could result in loss of revenue of approx. R62.3 million based on current revenue levels in Lesotho, Mozambique, DRC and Tanzania.

Cost of response to risk

487,280,000

Description of response and explanation of cost calculation

In order to reduce the reliance on diesel for electricity generation Vodacom is actively looking at deploying small scale renewable and alternate energy technologies.

There are 1088 (FY2020) 950 solar-operated sites across the Group in the DRC, Mozambique and Lesotho that required capital investment of R485.5 million. During FY2021 Vodacom invested a further R1,78 million on the deployment of solar power solutions on BSC sites to reduce grid consumption.

Vodacom Lesotho has embraced the renewable technology in the largely rural country and about 23% of the total 366 sites are now powered through a combination of energy saving solar power technologies and are powered independently of diesel generators or the national grid.

Other environmentally conscious technologies include power system optimisation that ensures that in the event of power failure, a traditional site continues to operate for up to three hours on stored battery power before a diesel generator is activated.

Smart meters are used to monitor power consumption and remote control systems are used to operate base station sites, reducing the need for physical site visits.

Hybrid Generator Power-Cubes – a combination of diesel generators and batteries that cut diesel use by up to 70% per site – were introduced to convert 24x7 generators to hybrid generator units. Llithium ion (Li-Ion) batteries with longer life-expectancy replaced lead-acid batteries at radio sites.

The green base stations require less refuelling, maintenance and monitoring which greatly reduces ongoing operational costs and these cost savings will ultimately benefit customers.

Comment

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Reputation

Shifts in consumer preferences

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Company-specific description

Vodacom has helped to positively transform the lives of millions of people across markets by connecting them to voice and digital products and services. With access to the internet and data services now an essential part of people's lives, and key to facilitating economic development, Vodacom is committed to promoting digital inclusion and democratising data.

All activities involve partnerships of some sort – with business peers, government agencies, technology providers, civil society organisations,

academia and/or community representatives – aimed at identifying and implementing innovative ways of using mobile and data to make a significant social contribution.

Vodacom's approach to sustainability focuses on creating and protecting value, driving growth and innovation, and providing societal value through core business activities and to make a meaningful contribution to the countries in which it operates.

In 2020 society experienced a global crisis on a scale not yet experienced in modern history. In less than six months the COVID-19 pandemic has brought the world to a halt and in these uncertain times, the impacts of this virus will be felt for years to come. In the short-term, it may appear that the environment has been given a chance to recover through less pollution from a decline in global trade and travel.

The global COVID-19 outbreak presents profound risks for the countries and communities in which Vodacom operates and has challenged business models globally, upending traditional ways of working, shutting down certain sectors of the economy, disrupting supply chains, and severely constraining consumer spend. With people physically isolated, and with many workers operating remotely, Vodacom's mobile and fixed networks have never been more critical in helping to keep societies functioning.

The reputation and profitable growth of Vodacom is closely linked to the economic prosperity and social sustainability of the communities it operates.

Vodacom therefore has a responsibility to minimise its associated environmental impacts and through proactive actions can be seen as a champion of and environmental "thought" leader in South Africa and Africa.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

98,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

While there remains much uncertainty regarding the full social and economic impact of the COVID-19 pandemic, all scenarios indicate a significant downturn in economic activity globally, for at least the medium term.

The potential financial impact from reputational risk will emanate from a loss of customer confidence and loyalty leading to reduced demand for Vodacom's products and services, together with reduced funds available to spend.

An estimated 0.1% decrease in sales could result in a decrease in Group service revenue of approx. R98 million based on current revenue levels.

Cost of response to risk

110,000,000

Description of response and explanation of cost calculation

To manage reputational risk and to reduce the likelihood and magnitude thereof, Vodacom in response to the global pandemic, implemented numerous measures to ensure the safety of employees and contractors, to keep families connected, businesses to operate, students to learn, and healthcare facilities and governments to provide critical services.

During the pandemic, connectivity and communication services have been more important than ever. Vodacom implemented a 2-phased strategy: Phase 1 focused on the immediate health crisis with interventions to save lives and support society while Phase 2 focuses on economic recovery and stimulating employment by leveraging Vodacom's network, digital platforms and data analytics capabilities to deliver

economic value for societies, governments and businesses.

Vodacom pledged R87 million to support the roll out of cold-chain technology and provide logistics support to ensure the safe delivery of COVID-19 vaccines to vulnerable and hard-to-reach communities in South Africa, Tanzania, the DRC, Mozambique and Ghana.

A R13 million donation will secure vaccines for Lesotho while partnering with AUDA-NEPAD to build digital infrastructure for managing the distribution of COVID-19 vaccinations in up to 55 countries, leveraging the mVacciNation platform.

Vodacom South Africa donated R10 million towards the Discovery partnership, providing free online doctor consultations.

Support to governments across all markets include:
- The Mpilo app; a patient engagement platform that facilitates efficient and easy communication between patients, doctors and the Department of Health.
- mVacciNation supported the national Department of Health's administration of COVID-19 vaccinations in South Africa through the electronic vaccination delivery system.
- Vodacom South Africa zero-rated over 1 000 internet sites which included job portals, educational content, health and wellness information, and access to selected government sites, such as Home Affairs and communications, ambulance services and education platforms.
- In Lesotho, 160 schools are connected to the internet for free (equates to 40GB per school), while access to educational sites were zero-rated during COVID-19 with discounted educational bundles and devices for remote learning.

Vodacom will continue to demonstrate leadership and innovation, both in ensuring the resilience of Vodacom, and in helping individuals, companies and communities to adapt to the changing conditions.

Comment

C2.4

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

Yes

C2.4a

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

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of new technologies

Primary potential financial impact

Reduced direct costs

Company-specific description

South Africa's largest emitter, Eskom, is exempt from paying carbon taxes during the first phase that came into force on 1 June 2019. Had it been included its tax liability would have been R11.5-billion per annum and most likely it would have passed on the costs through increased tariffs, which will increase operational costs (electricity bills) for Vodacom as 87% of emissions are derived from grid electricity consumed in South Africa.

However, energy savings will result in large operational costs savings while benefits from potential tax allowances and incentives or subsidies for energy-efficient equipment and renewable energy technologies will add to an organization’s bottom line.

Further, reduced energy consumption could reduce load shedding by Eskom resulting in less frequent disruptions in operations and improve the network quality in South Africa. These cost savings could add to Vodacom's cost competitiveness in South Africa.

Vodacom's property portfolio therefor has consistently decreased its energy consumption since 2012, saving over 66 GWh. These savings have been achieved by implementing building automation and process optimisation; installation of energy efficient technologies; introduction of renewable energies and property rationalisation.

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)

14,810,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Vodacom spends over R900 million on energy every year, which is likely to increase in the future. By replacing the UPSs at data centres as well as installing the inverter aircons energy savings of 800 MWhs, emissions of 815 tCO2e and R810 000 in cost savings were achieved, together

with tax allowances that can be claimed on the equipment.

Additional energy savings during the COVID-19 lockdown was achieved by switching off non-critical loads generally used for kitchens, air-conditioning and lighting. This reduced energy consumption by 32% from 37GWh in FY2020 to 25GWh in FY2021 with cost savings of approximately R14 million. Only critical loads for IT infrastructure, security and cooling systems were maintained. Unfortunately, load shedding continued during the year, resulting in a slight increase in diesel consumption from generators.

Cost to realize opportunity

32,000,000

Strategy to realize opportunity and explanation of cost calculation

At Vodacom the primary source of energy to power operations is electricity from the grid. Vodacom's energy management approach therefore focuses on realising efficiencies, reducing energy consumption, while switching to alternative energy sources where possible, for both infrastructure and offices. It is continuously renewing its network, data centres and offices to support future technologies and services.

To benefit from tax and regulatory opportunities while at the same time combat the increases experienced in energy tariffs, Vodacom during FY2021 spent R29 million on replacing old inefficient UPSs with modern high-efficiency variants at 6 data centres across South Africa. It also installed adiabatic cooling panels on air-conditioning chiller plants that pre-cool the ambient air used by the chiller coils to reduce energy consumption.

Vodacom spent R3 million on procuring inverter aircons that has been estimated to deliver cost savings of R240pm per site.

The initiative is aimed at reducing energy consumption and costs, carbon emissions and where possible, take advantage of the promulgated S12l tax allowances for energy efficiency.

In FY2021 Vodacom signed a memorandum of agreement with the Council for Scientific and Industrial Research to provide additional expertise in energy efficiency and renewable energy within our property portfolio. The energy assessment aims to identify further opportunities to use energy more efficiently, saving on electricity costs in office buildings. Major consumers of electricity include lighting and heating, ventilation and air-conditioning systems, which are being evaluated as part of this exercise. This initiative will support achieving Vodacom's 2025 commitment to halve GHG emissions.

Comment

Identifier

Opp2

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

Primary potential financial impact

Reduced direct costs

Company-specific description

The first phase of the South African Carbon Tax that came into force on 1 June 2019 is seen as “weak” and industry is cautioned to prepare for a significant strengthening of the carbon tax during the second phase of implementation, which will begin in January 2023.

South Africa's largest emitter, Eskom, is exempt from paying carbon taxes during the first phase, but could be included in the second phase. Its first phase tax liability is estimated to be R11.5-billion per year and most likely it will pass on the costs through increased tariffs, which will increase operational costs (electricity bills) for Vodacom as 87% of emissions are derived from grid electricity consumed in South Africa.

However, by agreeing a tariff for renewable energy with IPPs today with known annual escalations, the energy costs can be contained which will add to the organization’s bottom line and aide cost competitiveness.

Vodacom believes that business performance should not come at a cost to the environment. As its most material environmental impact is from

the use of energy to power network sites it consistently explores alternative energy sources through an energy mix that includes own generation and independent power producers (IPPs) through power purchase agreements (PPAs). Currently Vodacom's energy mix include 1 088 solar-operated sites, as well as a smaller number of wind and other 'greenpowered' sites across all markets.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

22,260,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The PPA has the potential to reduce GHG emissions by 15% on an annual basis in the Nelson Mandela Bay region. During FY2021 1.2 GWhs of renewable energy was sourced from the PPA avoiding 1 210 tCO2e of emissions.

The solar PV installations in South Africa generated 890 MWhs of electricity avoiding 907 tCO2e of emissions with cost savings of approximately R960 000.

Savings from the installation of PowerCubes at base stations to save on energy cost was estimated to be R21.3 million by reducing the running time of a diesel generator by up to 80%, saving up to 90% on servicing costs and cutting fuel consumption and emissions by more than 50%.

Cost to realize opportunity

29,000,000

Strategy to realize opportunity and explanation of cost calculation

With customer demand for voice and data services growing at a rapid rate, Vodacom is striving to optimise power-intensive infrastructure by investing in climate-smart networks and solutions.

To reduce energy costs and carbon emissions, Vodacom, signed a Purchase Power Agreement (PPA) with an Independent Power Producer (IPP) to facilitate the supply of renewable energy to power Vodacom infrastructure and facilities in Nelson Mandela Bay (South Africa). The PPA covers 36 base station sites and has the potential to reduce GHG emissions by 15% on an annual basis in the region. The sources used to generate energy through this PPA include a variation of wind and solar energy.

Vodacom continues to invest in solar power. In addition to the 34kW solar installation at a BSC site in Randburg, solar power systems were installed at sites in Polokwane, Vereeniging and Bloemfontein with a combined capacity of 500kWp. By March 2021, 528kWp of solar power panels were installed at an estimated cost of R9 million, reducing the BSC site's monthly electricity bill by 25%.

Vodacom has conducted a feasibility study and is in the process of issuing a request for proposal to commence with the implementation of a 4.5 megawatt peak (MWp) solar plant at the Midrand campus.

Vodacom also has a Site Solution Innovation Centre (SSIC) focussing on energy and site infrastructure efficiency. An example of a SSIC innovation include the standardisation of hybrid energy technologies and high security and low cost site infrastructure. The hybrid technology 'PowerCube' was deployed in South Africa requiring an investment of R20 million. This integrates energy supplies from grid electricity, solar PV and diesel together with on-site battery storage, reducing the running time of a diesel generator by up to 80%, saving up to 90% on servicing costs and cutting fuel consumption and emissions by more than 50%.

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of recycling

Primary potential financial impact

Reduced direct costs

Company-specific description

Changes in the availability of natural resources and a continued increase in the cost of resources may affect Vodacom's cost of operation and competitiveness.

The ICT sector is a significant source, both directly and indirectly of electronic-waste (e-waste) including mobile handsets and electrical accessories, network equipment (such as air-conditioning units, batteries, generators, and other 'mixed-waste') and end-of-life ICT equipment. Vodacom has embedded the principles of reduce, reuse and recycle across operations and engage across the value chain to identify opportunities to improve efficiencies and reduce e-waste and general waste.

Vodacom's Group policy on waste management prioritises the reuse or recycling of e-waste in a safe and responsible manner. All local markets are required to keep records of their e-waste equipment and to use strictly selected and audited recycling suppliers.

With the promotion of digital inclusion and move into the fourth industrial revolution, the volume of e-waste is expected to increase. Responsible e-waste collection and management provides a valuable opportunity for income generation associated with the collection, recycling and re-use

of materials.

By identifying waste streams that can be reused and recycled, less waste is directed to landfill and behavior of customers, suppliers and the broader business community can be influenced.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

123,600,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Recycling or reusing equipment will reduce operational costs while reducing the number of third party waste deliveries to landfill sites and related carbon emissions.

During FY2020 costs avoided by using recovered network equipment amounted to R120 million while the sale of e-waste generated revenue of R3.6 million.

Cost to realize opportunity

1,000,000,000

Strategy to realize opportunity and explanation of cost calculation

For ongoing e-waste management Vodacom partnered with 3 SMME's in South Africa to manage the recycling of electronic waste. At no point in the waste management process does any network waste end up at a landfill site.

During FY2021 573 (FY2020: 977) tonnes of network equipment and handsets (e-waste) was collected, extracted for valuable components and disposed of in a safe and responsible manner at no cost.

The useful life of more than 201 (FY2020: 308) tonnes of network equipment was extended by reintroducing it into the network across the Vodacom Group in areas where the equipment is needed.

Obsolete batteries, classified as hazardous waste, follow a separate process. Batteries that cannot be rejuvenated or reused are sent to a licensed facility for incineration. During FY2021 Vodacom invested R1 billion in lithium-ion batteries, which are tamperproof, have a longer useful life than lead acid batteries and are less harmful to the environment. This resulted in 1 066 (FY2020: 1 189) tons of batteries across the group that were discarded responsibly.

The RedLovesGreen campaign encourages customers to donate or recycle old or unwanted devices conveniently and free of charge. Once the customer has successfully completed the online form, Vodacom collects the used smartphone, tablet or accessories from the applicable home address. If the device is in good condition, the personal data is wiped; the device is refurbished and donated to a Vodacom-supported school. If the device is not in a suitable condition it is sent to a Vodacom-approved recycling agency.

Vodacom collects depleted ink cartridges, considered to be hazardous waste, from stores nationwide. The ink cartridges are then refined for reuse or recycling. In FY2021 176 ink cartridges were collected. Paper-based activities and transactions are reduced in stores through digital initiatives such as self-checkout kiosks, digital express stores, e-receipts and electronic signatures.
Terms and conditions inserts in SIM card packages are no longer included, thereby avoiding the use of around 240 million paper pages each year.

Through the Voda-Admin app Vodacom operated completely paperless during the year. At least 80% of letters, memos, invoices and other

administrative documents are now transmitted and signed electronically.

Vodacom aims to reuse, recycle or resell 100% of its network waste, strengthening its approach to the circular economy, which encourages reuse of materials for as long as possible.

Comment

Identifier

Opp4

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Mobile data traffic has grown exponentially over the past five years and will continue to rise at a rapid rate.

By 2025 it is predicted that:
• the number of mobile internet users will increase to 5 billion, up 31.6% from the 3.8 billion users in 2019;
• the penetration rate (% of population) will increase from 49% to 61%; and
• the number of total IoT connections will increase to 24.6 billion, up 105% from the 12 billion connections in 2019.

As new technologies such as the Internet of Things (IoT) continue to spread through every aspect of daily life – bringing network intelligence and optimised energy use to a wide variety of machines, devices and processes – the beneficial climatic effects of the global ICT industry will increase.

One recent estimate is that the industry could account for a 20% reduction in total global GHG emissions by 2030, in effect maintaining emissions at 2015 levels despite a further 15 years of global population growth and increasing urbanisation and industrialisation in emerging markets.

The transition to the 'Fourth Industrial Revolution' – characterised by recent rapid developments in AI, Big Data analytics and blockchain technology, as well as the growth in the Internet of Things, connected homes and autonomous vehicles – is challenging many traditional business models and significantly reshaping consumer behaviour.

As an ICT company with operations and activities across emerging markets in Africa, Vodacom faces a particularly dynamic operating context that presents some challenging risks as well as exciting opportunities.

Vodacom's ambition is to transform the business from a conventional telco into a digital company that plays a leading role in the fourth industrial revolution. As such it is using technology to transform its business model and enable a customer-centric and digitally-connected world. Through connectivity, the Internet of Things (IoT), robotics and mobile financial services, it developed innovative, smart technologies to make the lives of customers easier, healthier and smarter.

Through Vodacom's subsidiary Mezzanine, the uptake of IoT gained traction in areas such as smart buildings, smart utilities, logistics, fleet and citizen engagement, as well as successfully deploying solutions in education, healthcare and agriculture.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

67,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

According to the report, The Mobile Economy 2020 from GSMA Intelligence, the mobile industry contribution to global GDP will grow from the current $4.1 trillion or 4.7% of GDP in 2019 to $4.9 trillion or 4.9% of GDP in 2024.

IoT connections increased by 6.4% to 5.6 million with revenue growth of 32.8% to R1.1 billion during FY2021.

Vodacom's digital, fixed and IoT businesses delivered service revenue of R1.7 billion, R3.7 billion and R1.1 billion respectively. In aggregate, these new services amounted to R13.4 billion and contributed 17.2% of Group service revenue.

Should this growth continue and result in a further 0.5% increase in demand for Vodacom South Africa's services, then revenue could increase by approx. R67 million per annum based on current enterprise service revenue levels.

Cost to realize opportunity

1,000,000,000

Strategy to realize opportunity and explanation of cost calculation

Vodacom identified opportunities to use Internet of Things (IoT) to promote resource efficiency through smart metering.

In South Africa, Vodacom's Smart Utilities Management Service installed 160 000 (FY2020: 54 900) smart meters for both water and electricity to support municipalities, public and private entities to automate meter reading, perform billing integration, and provide user profiles through a cloud-based web platform. Additional benefits linked to this solution include reduced carbon emissions, prevention of revenue losses and improved energy theft reporting.

Vodafone's head office in Paddington, London, uses the smart building solution which recently received a Verdantix award for smart building innovation. The solution provides real-time visibility of room and space utilisation and comfort in the building including air quality. A similar solution is used at Vodacom's head office in South Africa. It integrates building management system, water and electricity metering, diesel level monitoring and integrated workspace management systems. This enables the centralised monitoring of water, electricity and diesel consumption to facilitate the identification of resource savings opportunities by reporting on sustainability, monitoring alarms in the system and automating work order generation to avoid manual human intervention.

Vodacom's 616 210 integrated smart logistics and fleet management solution monitors vehicles, driver behaviour and identification, and tracks stolen vehicles through its IoT capability. In Tanzania a similar IoT car tracking solution manages the performance and maintenance of the car in terms of speed, braking, fuel control and geofencing, among others. In the DRC, Vodacom introduced a car tracking device that enables the optimal management and efficiency of trucks.

During FY2021 IoT.nxt partnered with Gilela Business Innovations to develop a fire control panel monitoring solution, which reduces the risk of fire due to malfunction. Live at 25 sites across South Africa, this solution is protecting insured assets worth R3 billion, by notifying insurers and insured clients of any potential faults.

The IoT connections have enabled carbon savings of approximately 1 648 494 tCO2e during FY2021 for customers.

Vodacom's 51% stake in subsidiary IoT.NxT required investment of approximately R1 billion and leverages on what IoT.NxT has been doing in the IoT market, combining it with existing IoT capabilities within Vodacom Business.

Comment

Identifier

Opp5

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Resilience

Primary climate-related opportunity driver

Resource substitutes/diversification

Primary potential financial impact

Increased revenues through access to new and emerging markets

Company-specific description

For Vodacom sustainability is an integral part of business strategy. As part of its commitment to accelerating socio-economic transformation, Vodacom has identified and prioritised seven of the seventeen United Nations Sustainable Development Goals (SDGs), where it believes it can have the most meaningful impact by providing enabling technologies and innovative digital products and services to customers and stakeholders.

Agriculture is a critical sector for the African economy, with a significant potential to mitigate poverty. The sector accounts for 65% of the continent's employment and 75% of domestic trade.

Vodacom has operations and activities across emerging markets in Africa where the digitisation of the agricultural value chain offer significant opportunities to boost productivity and to empower particularly small-scale farmers. Vodacom's solutions for the agriculture sector aggregate various data streams from various sources, and assist commercial and subsistence farmers to perform business transactions on their mobile devices.

Vodacom is supporting communities through digital inclusion in support of SDG11: Sustainable cities and communities. It strives to assist in making cities and human settlements more inclusive, safe, resilient and sustainable by offering innovative digital solutions.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

98,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

In Kenya, during FY2021 nearly KShs11 million has been disbursed via M-Pesa through the Connected Farmer solution while approximately KShs220 million worth of produce has been sold through the platform.

Smallholder farmers in Kenya made more than 12 000 deliveries of milk (some 3.7 million kilograms). In Zambia, nearly 11 000 deliveries of milk were made to local dairies in recent months, totalling over 200 000kg.

In Tanzania more than 20 000 smallscale cotton farmers used M-Kulima for cashless transactions of over TZS3.5 billion.

With sustainable agriculture and improved productivity there will be jobs created in future coupled with disposable income.

This could lead to an increased demand for Vodacom's solutions and services. An estimated 0.1% increase in sales could result in increased revenue of approx. R98 million per annum based on current revenue levels.

Cost to realize opportunity

21,000,000

Strategy to realize opportunity and explanation of cost calculation

Vodacom is assisting in building sustainability and enhancing resilience in communities by providing them with alternative ways of conducting business.

To stimulate agricultural productivity through digital solutions Vodacom, through Mezzanine, partnered with Agritechnovation to develop MyFarmWeb, a mobile and web-based solution aimed at leveraging geo-spatial mapping and 'IoT' sensor features to assist farmers in data-driven planning and decision-making. 3 600 farmers use the platform to drive efficient decision making for profitable and sustainable farming. Through MyFarmWeb, 950 000 hectares of commercial farming has been mapped in South Africa.

The cloud-based Connected Farmer platform, developed in partnership with GIZ with a budget of R21 million over three years, services small-scale farmers and makes sourcing from smallholder farmers more realistic and executable for food manufacturers and retail businesses; increasing the number of smallholders and subsistence farmers in commercial agricultural value chains. Further, enterprises have real time visibility of their supply chains, and can engage and communicate with smallholders directly.

The application is currently used by various agribusinesses in South Africa, with more than 1 644 registered users. In the DRC 90 600 farmers use the Connected Farmer app. Of this number 61 904 are producers, 21 546 are entrepreneurs and 7 150 are transporters - 76% are women. The Connected Farmer app is known as AgroMwinda, and has M-Pesa capability for convenient payments and also provides climate and market information through a USSD short code.

The M-Kulima app used in Tanzania has about 108 000 profiles with information on farm locations, farm size and farmers' gender among others, which enables Vodacom to provide relevant information. During the FY2021 cotton harvest season 30 000 farmers communicated via SMS.

These initiatives have been implemented across Kenya, Tanzania and Mozambique through Vodafone, making an important contribution in improving agricultural productivity and food security, creating jobs and increasing incomes in the agriculture sector.

Comment

C3. Business Strategy

C3.1

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

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

C3.1a

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

	Is your low-carbon transition plan a scheduled resolution item at AGMs?	Comment
Row 1	No, and we do not intend it to become a scheduled resolution item within the next two years	Vodacom has established an Energy Steerco which meets quarterly to update the company's low-carbon transition plan. Progress towards the plan is reported to the Social and Ethics Committee on a quarterly basis

C3.2

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

Yes, qualitative and quantitative

C3.2a

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

Climate-related scenarios and models applied	Details
2DS REMIND	Vodafone and Vodacom South Africa has committed to be Net Zero by 2040 with a plan of both emission reductions and carbon removals (offsets) to meet this target. Vodacom therefore embarked on a TCFD modelling project conducted using consultants who: -Held an initial workshop with both Sustainability and Risk Leads and engaged them on the identified climate-related risks and opportunities -Requested data to support impact modelling under three climate scenarios -8 climate impacts were modeled using climate datasets and Vodacom specific input data to calculate financial impact under 3 climate scenarios -Created reports to outline the outputs of the climate modelling and areas for future data improvements -Assumptions made per risk were stated. The scenarios and models applied are: Climate Model :REMIND-MAgPIE1.7-3.0 Climate Model Scenario: - Immediate 1.5C with CDR (Orderly, Alt) - Early, smooth transition - Delayed 2C with CDR (Disorderly, Alt) - Delayed, disruptive scenario - Nationally determined contributions (NDCs) (Hot house world, Alt) - Business as usual Areas considered as part of the scenario analysis: Physical and transitional risks: Change in cost of carbon offsets purchased Change to energy consumption Change to market demand Infrastructure damage from fire, storms and flooding

	Opportunities: Market Valuation Green Financing Environmental Performance Process followed: •Selected 3-5 material risks and opportunities for deep-dive risk modelling and financial impact analysis •Collected relevant data, based on availability and relevant functional SMEs, to calculate financial and strategic impacts of material risks and opportunities •Engaged with markets to understand mitigation/adaptation activities in place and identify gaps •Consolidated findings into climate impact toolkit and produce a report including a breakdown of material risks and a statement on business resilience under each scenario •Provided recommendations on how to further embed climate change into risk management process, including appropriate metrics for future monitoring For each impact, identified the area of the business impacted and modelled the level of impact under both time horizons (short, medium and long) and climate scenarios. Results of the scenario analysis: SCENARIO 1 : <2C–Early policy action, smooth transition: •In the short term, overall-climate related risk is relatively low •In the medium to long-term, there is a gradual increase in both transitional risk (relating to carbon regulation & taxation) and physical climate risks (although global temperatures are kept well-below 2-degrees, physical risk will increase) •Opportunities relating to low-carbon products/services and changing consumer preferences occur early and are greatest in this scenario SCENARIO 2: <2C –Late policy action, disruptive transition: •In the short term, overall-climate related risk is relatively low •In the medium to long-term, because of delayed action to address climate change there is increase across both transitional

	and physical risks. •Transitional risk relating to carbon/energy price and regulation is expected to be introduced abruptly, potentially impacting financial resilience SCENARIO 3: >3C –No further policy action, business as usual: •In the short term, overall-climate related risk is relatively low •In the medium to long-term, there is a significant increase in the variety and severity of physical climate risks (e.g. sea level rise, temperature increase, extreme weather). This will vary across markets and could potentially impact business continuity. •Transitional risk related to carbon pricing or regulation is minimal, no additional regulatory measures introduced beyond those existing today. •There are limited opportunities in this scenario Resulting from the TCFD modelling the SES Committee approved the establishment of an Energy steering committee consisting of key executives to drive sustainability strategy across all markets.

C3.3

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

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Vodacom is presented with exciting new opportunities beyond connectivity. The transition to the 'Fourth Industrial Revolution' – characterised by recent rapid developments in AI, Big Data analytics and blockchain technology, as well as the growth in the Internet of Things, connected homes and autonomous vehicles – is challenging many traditional business models and significantly reshaping consumer behaviour. Big Data and the Internet of Things (IoT) changes how products, businesses, homes and services operate - increased automation significantly optimising resources and efficiencies whilst providing valuable insights to improve decision-making.

		Technology leading to smarter ways of doing business whilst minimising the impact on the environment influenced strategy over the short-, medium- and long-term. In South Africa, Vodacom's Smart Utilities Management Service has installed 160 000 smart meters for both water and electricity to support municipalities, public and private entities to automate meter reading, perform billing integration, and provide user profiles through a cloud-based web platform. Additional benefits linked to this solution include reduced carbon emissions, prevention of revenue losses and improved energy theft reporting. Vodacom's 616 210 integrated smart logistics and fleet management solution monitors vehicles, driver behaviour and identification, and tracks stolen vehicles through its IoT capability. In Tanzania a similar IoT car tracking solution manages the performance and maintenance of the car in terms of speed, braking, fuel control and geofencing, among others. In the DRC, Vodacom introduced a car tracking device that enables the optimal management and efficiency of trucks. During FY2021 IoT.nxt partnered with Gilela Business Innovations to develop a fire control panel monitoring solution, which reduces the risk of fire due to malfunction. Live at 25 sites across South Africa, this solution is protecting insured assets worth R3 billion, by notifying insurers and insured clients of any potential faults. The IoT connections have enabled carbon savings for customers of approximately 1 648 494 tCO2e during FY2021. Vodacom's IoT connections increased 6.4% to 5.6 million, with revenue growth of 32.8% during FY2021.
Supply chain and/or value chain	Yes	Climate-related opportunities that have influenced Vodacom's strategy over the medium to long-term relates to their target of using 100% renewable energy by 2025 through a blend of: - exhausting energy efficiency options, - investing in generating own renewable energy to power operations, - procurement of renewable energy through PPA's and

		- purchasing renewable energy certificates. To this end and to reduce carbon emissions Vodacom signed a Purchase Power Agreement (PPA) with an Independent Power Producer (IPP) to facilitate the supply of renewable energy to power infrastructure and facilities in Nelson Mandela Bay (South Africa). The PPA covers 36 base station sites and has the potential to reduce GHG emissions by 15% on an annual basis in the region. The sources used to generate energy through this PPA include a variation of wind and solar energy. Vodacom has an energy policy which requires that all infrastructure be energy efficient. To this end they are working with suppliers to phase out fire suppressants and refrigerants with high global warming potential (GWP) in favour of gasses with a low GWP.
Investment in R&D	Yes	Vodacom believes that strategic advantage over the medium- and long-term can be obtained through providing technological innovative solutions that can reduce operating costs from fuel and electricity consumption, thereby reducing carbon emissions and Vodacom's impact on the environment while providing products and services that help customers to live and work more efficiently and flexibly. The Vodacom Site Solution Innovation Centre in Midrand is one of the first four projects to be certified as 'net zero' under the Green Building Council South Africa's (GBCSA) pilot certification programme in South Africa. The GBCSA is one of 14 green building councils participating in the World Green Building Council's Advancing Net Zero project, which aims to promote and support the acceleration of net zero carbon buildings to 100% by 2050. Net zero carbon buildings are defined as highly energy efficient buildings, with remaining energy demand supplied by on-site and/or off-site renewable sources, or through offsets. R&D at Vodacom's Innovation Centre has a high impact on business as it produces innovative solutions to Vodacom's energy needs for its network and operations such as the hybrid generator power-cube – a combination of diesel generators and batteries that cut diesel use by up to 70% per site. During Covid-19 Vodacom's Big Data and Analytics team supported governments across all markets through various initiatives, including: - Using Big Data analytics to provide aggregated data to help track the spread of the disease and monitor population movements. - Providing timely and authentic information on COVID-19 via different channels, including sending text messages on preventative health measures to 115.5 million customers.

		- Supporting the roll out of cold-chain technology and provide logistics support to ensure the safe delivery of COVID-19 vaccines to vulnerable and hard-to-reach communities in South Africa, Tanzania, the DRC, Mozambique and Ghana. - Partnering with AUDA-NEPAD to build digital infrastructure for managing the distribution of COVID-19 vaccinations in up to 55 countries, leveraging the mVacciNation platform.
Operations	Yes	Vodacom as an information, communications and technology company is a significant energy user with resultant greenhouse gas emissions associated with climate change. Vodacom's business strategy over the short-, medium- and long-term is influenced by the need to reduce greenhouse gas emissions through determining its carbon footprint, be energy efficient, develop and use alternative energy sources and sustainable resource utilization including water consumption. Vodacom therefore implemented a Carbon Management Strategy during FY2016 to guide business regarding managing internal energy and carbon performance. It contains a set of 9 guiding principles on how to work efficiently with dedicated resources to effectively track, manage and report performance. Vodacom has strengthened its commitment to the sustainable use of resources, by establishing a Carbon Management Implementation Plan containing all projects that relate to energy and carbon emissions. As a living document, it is designed to evolve as the business and its context changes, staying true to the business strategy and strategic sustainability priorities. During FY2018 Vodacom conducted an in-depth examination of its energy and climate change impacts. The review provided clarity on the areas of the business with the greatest energy demands and informed the development of action plans to drive further energy efficiencies and the adoption of renewable energy where feasible. In FY2020 Vodacom set long-term environmental targets to reduce its GHG emissions by 50% in 2025 from a 2017 base year. This will be achieved by investing in new technologies, free cooling, and using alternative energy

		sources such as generator-battery power hybrid units, and solar generation for remote base station sites. During FY2021 Vodacom installed a 34kW solar installation at a BSC site in Randburg, as well as solar power systems at sites in Polokwane, Vereeniging and Bloemfontein with a combined capacity of 500kWp. By March 2021, 528kWp of solar power panels were installed, reducing the BSC site's monthly electricity bill by 25%. Vodacom has conducted a feasibility study and is in the process of issuing a request for proposal to commence with the implementation of a 4.5 megawatt peak (MWp) solar plant at the Midrand campus.

C3.4

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

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Capital expenditures Capital allocation Access to capital Assets	Access to capital: In the previous financial year Vodacom secured a long-term sustainability-linked loan worth R2 billion with Standard Bank South Africa (SBSA), making it the first agreement of its kind for a telco in South Africa. The sustainability loan motivates Vodacom to better manage ESG factors by lowering the finance costs in accordance with sustainability performance. As part of the agreement, Vodacom and SBSA agreed on a set of targets for the loan, based on an overall ESG management score, of which the baseline is 55.8 points. The overall ESG management score will be assessed independently by Sustainalytics for the duration of the loan. Based on this assessment, Vodacom's ESG performance improved significantly - from 55.8 to 66.6 in FY2021, while overall risk exposure improved from 18.3 to 14.1.

		The ESG score is calculated based on seven key principles: corporate governance, product governance, carbon emissions, data privacy and security, business ethics, human capital, and human rights. While the overall score qualifies Vodacom for the maximum discount in finance costs, the improvements also demonstrate Vodacom's commitment to improving its sustainability performance, which is underpinned by the objective of connecting people for a better future. Vodacom takes great pride in being recognised by Sustainalytics for driving digital and financial inclusion while reducing its carbon footprint. In September 2020, the ESG rating agency ranked Vodacom second out of almost 196 companies in its Telecommunications Service industry grouping, and in the top 5% of its Global Universe of 13 000 companies.

C3.4a

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

C4. Targets and performance

C4.1

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

Absolute target

C4.1a

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

Target reference number

Abs 1

Year target was set

2020

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based)

Base year

2017

Covered emissions in base year (metric tons CO2e)

599,213

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

100

Target year

2025

Targeted reduction from base year (%)

50

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

299,606.5

Covered emissions in reporting year (metric tons CO2e)

609,738.15

% of target achieved [auto-calculated]

-3.5129912068

Target status in reporting year

Underway

Is this a science-based target?

Yes, we consider this a science-based target, but it has not been approved by the Science-Based Targets initiative

Target ambition

1.5°C aligned

Please explain (including target coverage)

During FY2020 Vodacom set a company-wide absolute target to reduce Scope 1 &2 GHG emissions by 50% in 2025 from a 2017 baseline.

C4.2

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

Target(s) to increase low-carbon energy consumption or production

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number

Low 1

Year target was set

2020

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

Target type: energy carrier

Electricity

Target type: activity

Consumption

Target type: energy source

Renewable energy source(s) only

Metric (target numerator if reporting an intensity target)

Percentage

Target denominator (intensity targets only)

Base year

2017

Figure or percentage in base year

0.2

Target year

2025

Figure or percentage in target year

100

Figure or percentage in reporting year

3.8

% of target achieved [auto-calculated]

3.6072144289

Target status in reporting year

Underway

Is this target part of an emissions target?

Abs1

Is this target part of an overarching initiative?

Science-based targets initiative

Please explain (including target coverage)

During FY2020 Vodacom set a company-wide target to use 100% renewable energy by 2025 through a blend of:
- exhausting energy efficiency options,
- investing in generating our own renewable energy to power our operations,
- procurement of renewable energy through PPA's and
- purchasing renewable energy certificates

This target is part of our absolute Scope 2 emissions reduction target Abs1.

C4.3

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

Yes

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	1	
To be implemented*	1	24
Implementation commenced*	1	641.1
Implemented*	3	11,569.52
Not to be implemented	0	

C4.3b

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

Initiative category & Initiative type

Energy efficiency in production processes

Machine/equipment replacement

Estimated annual CO2e savings (metric tonnes CO2e)

173.73

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

320,000

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

3,000,000

Payback period

4-10 years

Estimated lifetime of the initiative

6-10 years

Comment

Vodacom procured and installed inverter aircons that has been estimated to deliver savings of approximately 5% per site.

Initiative category & Initiative type

Low-carbon energy generation

Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)

72.42

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

210,000

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

1,780,000

Payback period

4-10 years

Estimated lifetime of the initiative

21-30 years

Comment

Solar Retrofit – deployment of solar power solution at base station sites to reduce grid electricity consumption.

Initiative category & Initiative type

Energy efficiency in production processes

Machine/equipment replacement

Estimated annual CO2e savings (metric tonnes CO2e)

641.1

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

980,000

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

28,940,000

Payback period

>25 years

Estimated lifetime of the initiative

11-15 years

Comment

Core Network Energy Savings – replacement of old, inefficient power conversion UPS with high-efficiency variants and installing adiabatic cooling panels on air-conditioning chiller plants that pre-cool the ambient air used by the chiller coils.

Initiative category & Initiative type

Energy efficiency in production processes

Smart control system

Estimated annual CO2e savings (metric tonnes CO2e)

11,323.37

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

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

20,650,000

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

147,400,000

Payback period

4-10 years

Estimated lifetime of the initiative

6-10 years

Comment

Digital WS 2: IoT.NXT Raptor and free-cooling installations – phased installation of Raptors to enable remote monitoring and management of elements on BTSs and can result in approximately 20% saving on the energy utilisation of the site due to more efficient cooling.

C4.3c

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

Method	Comment
Financial optimization calculations	Financial optimization taking energy consumption into account. Upgrading/replacing equipment is according to available budgets, depreciation rates, asset write-offs and other business drivers including an energy consumption analysis.
Employee engagement	Employees are empowered to manage environmental issues as an integral part of their job and to investigate more efficient technology interventions to lower operational costs through energy efficiency.
Partnering with governments on technology development	Vodacom makes use of the Eskom Demand Side Management (DSM) subsidies and rebates where available to help defray the capital costs of equipment and the NBI's Private Sector Energy Efficiency Project (PSEE) to leverage off the knowledge and skills of experts.

C4.5

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

Yes

C4.5a

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

Level of aggregation

Group of products

Description of product/Group of products

IoT - SMART METERING / SMART WORKING

Vodacom offers products that contribute to saving energy and reducing CO2 emissions for clients by giving end users detailed, real-time information that could lead to behaviour changes and enabling them to work differently from the traditional, carbon-intensive methods of doing business.

IoT solutions enable objects or devices such as cars, traffic or streetlights and buildings to send and receive real-time information through our network. This information enables business customers to gain insight into how their resources are being utilised. This enables customers to reduce costs, energy and fuel consumption, carbon emissions and improve efficiency in their assets and operations. Vodacom provides technology solutions for monitoring water and energy consumption, which prevents wastage from excessive or abnormal usage.

Additionally, the diesel tank monitoring solution provides early warning of possible leaks, enabling enterprises to act timeously to limit loss and avoid the environmental impact of diesel leakages.

The IoT.nxt partnership with Gilela Business Innovations developed a fire control panel monitoring solution, which reduces the risk of fire due to malfunction. Live at 25 sites across South Africa, this solution is protecting insured assets worth R3 billion, by notifying insurers and insured clients of any potential faults.

During FY2021 Vodacom Business had 5.6 million IoT connections which enabled carbon savings. This included more than 160 000 smart metering solutions and 616 210 smart logistics and fleet management solutions.

These IoT connections enabled carbon savings of approximately 1 648 494 mtCO2e during the year for customers.

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

17.2

Comment

Digital, fixed and IoT businesses delivered service revenue of R1.7 billion, R3.7 billion and R1.1 billion respectively. In aggregate, these new services amounted to R13.4 billion and contributed 17.2% of Group service 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

April 1, 2016

Base year end

March 31, 2017

Base year emissions (metric tons CO2e)

44,203

Comment

Scope 2 (location-based)

Base year start

April 1, 2016

Base year end

March 31, 2017

Base year emissions (metric tons CO2e)

555,010

Comment

Scope 2 (market-based)

Base year start

April 1, 2016

Base year end

March 31, 2017

Base year emissions (metric tons CO2e)

555,010

Comment

C5.2

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

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)

55,756.09

Comment

C6.2

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

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

C6.3

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

Reporting year

Scope 2, location-based

555,259.15

Scope 2, market-based (if applicable)

553,982.06

Comment

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

Fugitive gases – air-conditioning gas refills were not reported for Vodacom Mozambique, Lesotho, Tanzania and DRC

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

No emissions excluded

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

No emissions excluded

Explain why this source is excluded

Due to the Covid-19 pandemic data was unavailable for the international OpCo's for FY2021.
In FY2020 these emissions accounted for 0.38% of Scope 1&2 emissions.
It was not advisable to use proxies since these would not be accurate reflections considering the effects of COVID-19 on consumption in FY2021.

Source

Mobile fuel – fuel consumed by vehicles was not reported by Vodacom Lesotho

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

No emissions excluded

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

No emissions excluded

Explain why this source is excluded

Due to the Covid-19 pandemic Vodacom Lesotho did not provide mobile fuel consumption data.
In FY2020 these emissions accounted for 0,1% of Scope 1&2 emissions.
It was not advisable to use proxies since these would not be accurate reflections considering the effects of COVID-19 on consumption in FY2021.

C6.5

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

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO2e

21.89

Emissions calculation methodology

Consumption of office paper

Emission factors: Mondi Rotatrim Paper Profile and Sappi Typek Paper Profile – released October 2020 and May 2020 respectively, indicating electricity usage and CO2 emissions per tonne of paper.

Tonnes of paper purchased provided by the service providers were used to calculated emissions according to the GHG Protocol using the provided emission factors.

Assumptions: Data was provided for South African operations, but not for Mozambique, Tanzania, Lesotho & DRC and proxies were not calculated due to the unknown impact of Covid-19.

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

100

Please explain

Capital goods

Evaluation status

Relevant, not yet calculated

Please explain

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

Evaluation status

Relevant, calculated

Metric tonnes CO2e

55,187.69

Emissions calculation methodology

Transmission and Distribution losses from purchased electricity
KWhs consumed were used to calculate emissions according to the GHG Protocol using Eskom's 2020 emission factors for transmission & distribution losses, South Africa and the IEA 2019 emission factors for African countries.
Assumptions: This figure relates to transmission and distribution losses from electricity purchased in South Africa, Mozambique, Lesotho, Tanzania and DRC.

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

100

Please explain

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

5,036.17

Emissions calculation methodology

Third-party courier
Litres of diesel and petrol consumed by third party vehicles were used to calculate emissions according to the GHG Protocol using Defra's 2020 emission factors for fuel.
Assumptions: Third-party courier data applies to Vodacom SA only.

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

100

Please explain

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1,391.09

Emissions calculation methodology

Waste to landfill and recycled
Tonnes of waste to landfill (including hazardous waste) and recycled were used to calculate emissions according to the GHG Protocol using Defra's 2020 emission factors for waste disposal and Friedrich and Trois (2013), GHG emission factors developed for the collection, transport and landfilling of municipal waste in South African municipalities.
Assumptions: Waste from operations was calculated using the available records.

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

100

Please explain

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

828.44

Emissions calculation methodology

Business travel in rental cars, commercial airlines, hotel accommodation
Car rental - kilometres travelled, average engine size and unknown fuel type provided by service provider. Defra's 2020 emission factors for business travel - land used.
Air travel - flight information provided by service provider, including class of travel, departure dates and destination of each leg. Carbon Calculated determined the distance travelled. Defra's 2020 emission factors for business travel - air used.
Hotel accommodation - bednights provided by service provider. Defra's 2020 emission factors for hotel stay used.
Emissions were calculated according to the GHG Protocol.
Assumptions: Hotel accommodation was based on estimated number of nights away on business travel and calculations were based on 1 person occupying a room per night.

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

100

Please explain

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO2e

2,262.22

Emissions calculation methodology

Employee commuting

Employee commuting is based on the FY2017 commuting survey results combined with reduced occupancy assumptions (South Africa – 10%; Mozambique – 40%; Lesotho – 25%; Tanzania – 38% and DRC – 50% occupancy). Emissions were calculated according to the GHG Protocol using Defra's 2020 emission factors for business travel - land, based on the following tCO2e per employee: South Africa – 1.92; Mozambique – 1.4; Lesotho, Tanzania and DRC – 1.47 tCO2e.

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

100

Please explain

Upstream leased assets

Evaluation status

Relevant, not yet calculated

Please explain

Downstream transportation and distribution

Evaluation status

Relevant, not yet calculated

Please explain

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

Vodacom's services are not intermediate products that require further processing. It is not responsible for directly generating greenhouse gas emissions.

Use of sold products

Evaluation status

Relevant, not yet calculated

Please explain

Emissions from the use of goods and services sold by Vodacom, principally from the energy used by network equipment – such as routers – and the energy required to charge mobile devices.

End of life treatment of sold products

Evaluation status

Relevant, not yet calculated

Please explain

Vodacom sells mobile communication solutions and services. There is then no end of life treatment for sold products other than for handsets which make up a small % of Scope 3 emissions.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

Vodacom does not have any equipment or assets that are owned and leased to third parties.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

Emissions reported under Scope 1 & 2.

Investments

Evaluation status

Relevant, not yet calculated

Please explain

Other (upstream)

Evaluation status

Please explain

Other (downstream)

Evaluation status

Please explain

C6.7

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

No

C6.10

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

Intensity figure

0.0000062027

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

609,738.15

Metric denominator

unit total revenue

Metric denominator: Unit total

98,302,000,000

Scope 2 figure used

Market-based

% change from previous year

7.86

Direction of change

Decreased

Reason for change

Scope 1 & 2 emissions decreased by 0.19% mainly as a result of the installation of Raptor and free-cooling installations at base stations to enable remote monitoring and management, the installation of air-conditioners with inverters and the replacement of old, inefficient power conversion UPSes which resulted in energy savings and associated emissions of 1.99%, coupled with increased consumption of self-generated

and purchased renewable energy reducing emissions by 0.37% as well as a decreased emission factor in South Africa for purchased electricity. This was offset by increased diesel consumption due to load shedding and increased network traffic across all operations.
Revenue increased by 8.33% resulting in a decrease in the intensity figure for revenue.

Intensity figure

0.67

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

609,738.15

Metric denominator

Other, please specify

Terabyte of network traffic

Metric denominator: Unit total

914,581

Scope 2 figure used

Market-based

% change from previous year

35.35

Direction of change

Decreased

Reason for change

Scope 1 & 2 emissions decreased by 0.19% mainly as a result of the installation of Raptor and free-cooling installations at base stations to enable remote monitoring and management, the installation of air-conditioners with inverters and the replacement of old, inefficient power conversion UPSes which resulted in energy savings and associated emissions of 1.99%, coupled with increased consumption of self-generated and purchased renewable energy reducing emissions by 0.37% as well as a decreased emission factor in South Africa for purchased electricity.

This was offset by increased diesel consumption due to load shedding and increased network traffic across all operations.
The 0.19% decrease in Scope1 & 2 emissions, coupled with a 54.39% increase in network traffic across all operations as a result of growth in data traffic from increasing demand for internet and data services, resulted in a decrease in the intensity figure for network traffic.

C7. Emissions breakdowns

C7.1

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

No

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
South Africa	19,223.66
Mozambique	1,467.32
Lesotho	473.6
Other, please specify Tanzania	5,056.02
Democratic Republic of the Congo	29,535.49

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)
Stationary fuel	49,939.59
Fugitive emissions	2,313.55
Mobile fuel	3,502.95

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
South Africa	543,516.05	542,308.47	532,858.87	1,183.9
Mozambique	3,704.65	3,635.14	52,999.41	994.48
Lesotho	3,092.9	3,092.9	10,396.29	0
United Republic of Tanzania	4,923.28	4,923.28	16,264.57	0
Democratic Republic of the Congo	22.27	22.27	17,128.57	17,128.57

C7.6

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

By business division

C7.6a

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

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Access Network	417,895.39	416,618.3
Core Network	63,010.5	63,010.5
Data Centres	48,030.55	48,030.55
Offices	26,284.39	26,284.39
Retail	38.32	38.32

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?

Decreased

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	2,254.86	Decreased	0.37	The PPA that covers 36 base station sites in South Africa and Mozambique delivered an additional 1 181,5 MWhs of renewable electricity during FY2021. Self-generated renewable energy increased by 1 862.5 MWhs due to the

				installation of additional solar PV systems at base stations. Total Scope 1 & 2 emissions for FY2020 were 610 914 tCO2e. We therefore arrived at 0.37% through (2255 / 610 914) * 100 = 0.37%.
Other emissions reduction activities	12,138.2	Decreased	1.99	The installation of Raptor and free-cooling installations at base stations to enable remote monitoring and management, the installation of air-conditioners with inverters and the replacement of old, inefficient power conversion UPSes resulted in energy savings and associated emissions. Total Scope 1 & 2 emissions for FY2020 were 610 914 tCO2e. We therefore arrived at 1.99% through (12138 / 610 914) * 100 = 1.99%.
Divestment				
Acquisitions				
Mergers				
Change in output	19,252.1	Increased	3.15	The number of base stations increased by 747 or 3.37% while network traffic increased by 54.39% due to COVID-19 resulting in increased Scope 2 emissions. Total Scope 1 & 2 emissions for FY2020 were 610 914 tCO2e. We therefore arrived at 3.15% through (19252 / 610 914) * 100 = 3.15%.
Change in methodology	10,633.49	Decreased	1.74	The emissions factor for purchased electricity from Eskom in South Africa (Scope 2) decreased from 1.04 in 2019 to 1.02 kg CO2e per kWh in 2020. Total Scope 1 & 2 emissions for FY2020 were 610 914 tCO2e. We therefore arrived at 1.74% through (10633 / 610 914) * 100 = 1.74%.
Change in boundary				
Change in physical operating conditions	4,598.47	Increased	0.76	Load shedding in South Africa and power outages in Tanzania resulted in increased consumption of diesel in generators for the networks. Total Scope 1 & 2 emissions for FY2020 were 610 914 tCO2e. We therefore arrived at 0.76% through (4598 / 610 914) * 100 = 0.76%.

Unidentified				
Other				

C7.9b

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

Market-based

C8. Energy

C8.1

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

More than 0% but less than or equal to 5%

C8.2

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

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

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	211,538.37	211,538.37
Consumption of purchased or acquired electricity		19,306.95	610,340.76	629,647.71
Consumption of self-generated non-fuel renewable energy		5,001.86		5,001.86
Total energy consumption		24,308.81	821,879.13	846,187.94

C8.2b

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

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

C8.2c

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

Fuels (excluding feedstocks)

Diesel

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

208,831.7

MWh fuel consumed for self-generation of electricity

197,557.05

MWh fuel consumed for self-generation of heat

11,274.65

Emission factor

2.68787

Unit

kg CO2e per liter

Emissions factor source

Defra 2020 - Guidelines to Defra's GHG Conversion Factors for Company Reporting, Fuels, updated June 2020.
Available: https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020

Comment

Diesel consumed in generators & equipment and fleet vehicles.

Fuels (excluding feedstocks)

Petrol

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

2,706.67

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

2,706.67

Emission factor

2.31467

Unit

kg CO2e per liter

Emissions factor source

Defra 2020 - Guidelines to Defra's GHG Conversion Factors for Company Reporting, Fuels, updated June 2020.
Available: https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020

Comment

Petrol consumed in fleet vehicles.

C8.2d

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	5,001.86	5,001.86	5,001.86	5,001.86
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C8.2e

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

Sourcing method

Power purchase agreement (PPA) with a grid-connected generator with energy attribute certificates

Low-carbon technology type

Solar

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

South Africa

MWh consumed accounted for at a zero emission factor

1,183.9

Comment

Vodacom signed a Purchase Power Agreement (PPA) with an Independent Power Producer (IPP) - Power X - to facilitate the supply of renewable energy to power Vodacom infrastructure and 36 base station sites in Nelson Mandela Bay (South Africa).

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, not supported by energy attribute certificates

Low-carbon technology type

Low-carbon energy mix

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

Mozambique

MWh consumed accounted for at a zero emission factor

994.48

Comment

Purchased renewable electricity for Mozambique – source unknown and market-based emission factor assumed to be zero.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, not supported by energy attribute certificates

Low-carbon technology type

Low-carbon energy mix

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

Democratic Republic of the Congo

MWh consumed accounted for at a zero emission factor

17,128.57

Comment

Vodacom DRC electricity is purchased from the DRC national grid, which is predominantly a renewables mix and thus has a very low emission factor.

C9. Additional metrics

C9.1

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

C10. Verification

C10.1

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

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

C10.1a

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

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Vodacom Assurance Report FY2021.pdf

Page/ section reference

Pages 97 - 99

Relevant standard

ISAE 3410

Proportion of reported emissions verified (%)

30

C10.1b

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

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Vodacom Assurance Report FY2021.pdf

Page/ section reference

Pages 97 - 99

Relevant standard

ISAE 3410

Proportion of reported emissions verified (%)

98

Scope 2 approach

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Vodacom Assurance Report FY2021.pdf

Page/ section reference

Pages 97 - 99

Relevant standard

ISAE 3410

Proportion of reported emissions verified (%)

98

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, but we are actively considering verifying within the next two years

C11. Carbon pricing

C11.1

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

Yes

C11.1a

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

South Africa carbon tax

C11.1c

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

South Africa carbon tax

Period start date

January 1, 2020

Period end date

December 31, 2020

% of total Scope 1 emissions covered by tax

0

Total cost of tax paid

0

Comment

Both the Carbon Tax Act and the Customs and Excise Amendment Act came into effect on 1 June 2019.
The first carbon tax filing and payment for the period June to December 2019 was due by 31 July 2020, but delayed to October 2020 due to Covid-19. The annual carbon tax accounts and payments for the period January to December 2020 are due by 29 July 2021.
Vodacom is not liable to pay carbon tax in Phase 1, but needs to report on activities in NAEIS. The fuel levy of 7 cents per litre on petrol and 8 cents on diesel is added to operating costs as part of the fuel price.

C11.1d

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

As part of South Africa's ongoing efforts to move towards a low carbon economy and to meet South Africa's INDC targets, the Carbon Tax Act and the Customs and Excise Amendment Act came into effect on 1 June 2019.

The tax rate is set at R120 per tonne of CO2e (carbon dioxide equivalent) produced. During the first stage, a percentage-based threshold of 60% will apply, below which tax is not payable.

The intention is to provide for a tax-free liability threshold of 10 megawatts (MW) thermal capacity. The threshold is high enough to exclude non-industrial activities from the carbon tax, but low enough to make the tax applicable to most high-emitting industries in the country.

The South African Greenhouse Gas (GHG) Reporting Regulations came into law in April 2017. This mandatory regulation requires all South African companies that are in control of certain listed activities exceeding a specified threshold to report their GHG emissions to the Department of Environment Forestry and Fisheries (DEFF). The DEFF will use the GHG emissions reported by companies as basis for carbon tax liability calculations.

An entity liable for mandatory reporting was obliged to register each facility on the internet-based National Atmospheric Emission Inventory System (NAEIS) by 3 May 2017. Once registered, liable entities are required to report their aggregated South African facilities' GHG emissions at company level for the preceding calendar year to the DEFF by 31 March each year via NAEIS.

It is important to keep in mind that those businesses that have identified themselves as not liable for carbon tax during the first phase, will still be required to submit environmental levy accounts regardless of whether any carbon tax payment is due.

Vodacom is therefore complying with the carbon tax legislation by compiling its annual carbon footprint. It has assessed all its facilities to determine whether its associated emission activities qualify for or exceed the 10MW thermal threshold to see if it needs to register with the DEFF, using a specific template of the National Atmospheric Emissions Inventory system (NAEIS).

Vodacom has therefore registered with the DEFF and is now reporting onto the South African Greenhouse Gas Emissions Reporting System (SAGERS).

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

C12.1a

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

Type of engagement

Compliance & onboarding

Details of engagement

Code of conduct featuring climate change KPIs

% of suppliers by number

100

% total procurement spend (direct and indirect)

100

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

Rationale for the coverage of your engagement

Vodacom aims to ensure integrity in its supply chain processes by identifying and managing legal, social, ethical and environment-related risks. Vodacom encourages suppliers and business partners to adopt sustainable business practices.

Enhancing supplier performance supports improved service quality and productivity, stimulates innovation, and cultivates a responsible working environment. In FY2021 Vodacom worked with more than 9 495 (2020: 11 374) suppliers and invested over R57.3 billion (2020: R48.3 billion) to meet our business and customer needs across all markets.

All Vodacom suppliers must comply with its code of ethical purchasing, which compels them to understand, accept and commit to Vodacom's required ways of working. The code of ethical purchasing is based on international standards and sets out clear expectations across a range of issues applicable to the supply chain. Key requirement for suppliers including amongst others the safety of people working with Vodacom, responsible sourcing of minerals and protecting the environment.

Common risks faced by Vodacom employees and suppliers in their daily delivery of services stem from driving, working at heights or with high-voltage equipment. Therefore, Vodacom implements a robust health and safety management approach that addresses the workplace environment and work-related transport conditions for permanent employees, contractors, suppliers' employees and contractors.

Furthermore, Vodacom's mandatory code of conduct requires suppliers to adhere to and encourage support of the business principles across their operations. By doing this, the aim is to ensure safe and fair working conditions, as well as responsible and continual improvement, in managing environmental and social issues across the supply chain. These commitments extend across the supply chain – a supplier with a direct contractual relationship (tier 1 supplier) must ensure compliance across its own direct supply chain (tier 2 supplier) and beyond.

Impact of engagement, including measures of success

Vodacom expects every supplier to continually monitor their compliance with its code of ethical purchasing and, if they fail to do so, promptly implement mitigating actions. Suppliers must immediately report serious non-compliance to Vodacom to ensure effective and timely corrective action.

The nature of risks and activities determine the level of supplier scrutiny.

High-risk suppliers – including those operating in industries, sectors or countries with a history of poor standards – are required to complete a detailed evaluation process.

Suppliers complete an ethical, labour and environmental risk questionnaire, and provide supporting evidence to validate their responses. The supply chain team validates submissions and determines an overall sustainability score. Vodacom conducts intensive on-site audits of local suppliers when evaluating their compliance with the code of ethical purchasing.

During FY2021, 65 key suppliers completed this evaluation process. The audits also examine contractual requirements in accordance with the underlying risk profile of each supplier. Where non-compliance with health and safety, quality and environmental standards were identified, evidence of a completed corrective action plan must be presented.

Comment

C12.1b

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

Type of engagement

Education/information sharing

Details of engagement

Run an engagement campaign to education customers about your climate change performance and strategy

% of customers by number

1

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

1

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

Vodacom's procurement spend is predominantly on network infrastructure and related services. The products offered customers, such as phones and tablets, also account for a significant part of procurement spend.

Vodacom's policy on waste management prioritises safe and responsible reuse and recycling of unwanted material. The waste hierarchy ensures sustainable practices are embedded throughout operations and supply-chain activities. All Vodacom's markets use certified local service providers to dispose of telecommunication equipment.

In South Africa, Vodacom uses three SMEs who are assessed and approved to manage electronic waste recycling. They keep records of e-waste, are regulated and licensed recyclers.

Impact of engagement, including measures of success

When reuse options are exhausted, the next step in the waste hierarchy is employed: recycling obsolete equipment. At no point in the waste management process is any network waste sent to a landfill site.

During FY2021 573 tonnes (2020: 977 tonnes) of equipment was sent to approved recycling agencies within the Group.

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?

No

C12.3f

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

Vodacom has specialist regulatory and government relations teams who engage with Government, Regulators, and Business Partners such as Business Unity South Africa (BUSA) and the National Business Initiative (NBI) on policy issues impacting the business including climate change. They participate actively through written submissions and formal hearings on legislative and regulatory changes. Feedback on issues is reported as per Vodacom's risk management framework.

C12.4

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

Publication

In mainstream reports

Status

Complete

Attach the document

Vodacom Integrated Report 2021.pdf

Page/Section reference

Integrated Report - p1 - 99

Content elements

Governance

Strategy
Risks & opportunities
Emissions figures

Comment

Publication
In voluntary sustainability report

Status
Complete

Attach the document

Vodacom Sustainability Report 2021.pdf

Page/Section reference
Sustainability Report - p 1- 96

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

Comment

C15. Signoff

C-FI

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

C15.1

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

	Job title	Corresponding job category
Row 1	Executive Head: Vodacom Group Sustainability	Environment/Sustainability manager

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	98,302,000,000

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

Yes

SC0.2a

(SC0.2a) Please use the table below to share your ISIN.

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	ZA	E000132577

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

Not allocated to clients

Emissions in metric tonnes of CO2e

5,036.17

Uncertainty (±%)

5

Major sources of emissions

Upstream distribution courier

Verified

No

Allocation method

Other, please specify

Not able to apportion emissions

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Third-party courier

Litres of diesel and petrol consumed by third party vehicles were used to calculate emissions according to the GHG Protocol using Defra's 2020 emission factors for fuel.

Assumptions: Third-party courier data applies to Vodacom SA only.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

Vodacom Sustainability Report 2021 p. 55

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Customer base is too large and diverse to accurately track emissions to the customer level	Improved customer data management systems

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

Yes

SC1.4a

(SC1.4a) Describe how you plan to develop your capabilities.

Implement improved customer data management systems

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission	Are you ready to submit the additional Supply Chain questions?
I am submitting my response	Investors Customers	Public	No, I will complete the Supply Chain questions and return to submit them by the deadline shown on my dashboard. I understand that if I do not return to submit my additional Supply Chain questions by the deadline, they will not be submitted to customers.

Please confirm below