

Welcome to your CDP Climate Change Questionnaire 2018

**This new platform provides an enhanced disclosure experience, with features and functionality to assist your pathway through the questionnaire.**

The questions presented are specific to your company, and determined by your response to each question as you work through the questionnaire.

You will find a link to CDP's reporting guidance and scoring methodology with each question. **All companies are strongly advised to refer to the reporting guidance before completing each question. These can also be accessed from the CDPwebsite.**

C0. Introduction

This module requests information about your organization’s disclosure to CDP and will help data users to interpret your responses in the context of your business operations, timeframe and reporting boundary.

The information provided here should apply consistently to your responses throughout the questionnaire and be complete and accurate as it may determine response options presented in subsequent

C0.1

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

Vodacom Group Limited (herein after referred to as Vodacom) is an African unified communications provider with over 73.8 million customers using its wide range of products and services. Core consumer products and services include voice, messaging and data across mobile and fixed networks, while continuing to transform and expand into new verticals, including financial services, self-service sales care and entertainment offerings. It also provides various communication solutions to Enterprise customers in the public sector, and amongst large, medium and small enterprises. These include connectivity and unified communication services, Cloud and Hosting, managed mobility, data security and the Internet of Things (IoT).

From its roots in South Africa, Vodacom has grown its operations to include networks in Tanzania, the Democratic Republic of Congo ('DRC'), Mozambique, Lesotho and Kenya, and its mobile networks cover a total population of approximately 284 million people. Through Vodacom Business Africa (VBA), Vodacom offers business-managed services to enterprises in 32 countries across the continent. In August 2017 Vodacom concluded the acquisition of a 34.94% indirect stake in Safaricom, the number one mobile operator in Kenya.

Vodacom is majority owned by Vodafone (64.5% holding) and was listed on the South African Stock Exchange (JSE) on 18 May 2009. Its head office is in Johannesburg, South Africa.

≤ 5000

C0.1

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years
Row 1	01/04/2017	31/03/2018	No

C0.2

C0.3

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

Afghanistan	No
Åland Islands	No
Albania	No
Algeria	No
American Samoa	No

Andorra	No
Angola	No
Anguilla	No
Antarctica	No
Antigua and Barbuda	No
Argentina	No
Armenia	No
Aruba	No
Australia	No
Austria	No
Azerbaijan	No
Bahamas	No
Bahrain	No
Bangladesh	No
Barbados	No
Belarus	No
Belgium	No
Belize	No
Benin	No
Bermuda	No
Bhutan	No
Bolivia (Plurinational State of)	No
Bonaire, Sint Eustatius and Saba	No
Bosnia and Herzegovina	No
Botswana	No
Bouvet Island	No
Brazil	No
British Indian Ocean Territory	No
British Virgin Islands	No
Brunei Darussalam	No
Bulgaria	No
Burkina Faso	No
Burundi	No
Cabo Verde	No
Cambodia	No
Cameroon	No
Canada	No
Cayman Islands	No
Central African Republic	No
Chad	No
Chile	No
China	No
China, Hong Kong Special Administrative Region	No

China, Macao Special Administrative Region	No
Christmas Island	No
Cocos (Keeling) Islands	No
Colombia	No
Comoros	No
Congo	No
Cook Islands	No
Costa Rica	No
Cote d'Ivoire	No
Croatia	No
Cuba	No
Curaçao	No
Cyprus	No
Czechia	No
Democratic People's Republic of Korea	No
Democratic Republic of the Congo	Yes
Denmark	No
Djibouti	No
Dominica	No
Dominican Republic	No
Ecuador	No
Egypt	No
El Salvador	No
Equatorial Guinea	No
Eritrea	No
Estonia	No
Ethiopia	No
Falkland Islands (Malvinas)	No
Faroe Islands	No
Fiji	No
Finland	No
France	No
French Guiana	No
French Polynesia	No
French Southern Territories	No
Gabon	No
Gambia	No
Georgia	No
Germany	No
Ghana	No
Gibraltar	No
Greece	No
Greenland	No
Grenada	No

Guadeloupe	No
Guam	No
Guatemala	No
Guernsey	No
Guinea	No
Guinea-Bissau	No
Guyana	No
Haiti	No
Heard Island and McDonald Islands	No
Holy See	No
Honduras	No
Hungary	No
Iceland	No
India	No
Indonesia	No
Iran (Islamic Republic of)	No
Iraq	No
Ireland	No
Isle of Man	No
Israel	No
Italy	No
Jamaica	No
Japan	No
Jersey	No
Jordan	No
Kazakhstan	No
Kenya	No
Kiribati	No
Kuwait	No
Kyrgyzstan	No
Laos, People's Democratic Republic of	No
Latvia	No
Lebanon	No
Lesotho	Yes
Liberia	No
Libya	No
Liechtenstein	No
Lithuania	No
Luxembourg	No
Madagascar	No
Malawi	No
Malaysia	No
Maldives	No
Mali	No

Malta	No
Marshall Islands	No
Martinique	No
Mauritania	No
Mauritius	No
Mayotte	No
Mexico	No
Micronesia (Federated States of)	No
Monaco	No
Mongolia	No
Montenegro	No
Montserrat	No
Morocco	No
Mozambique	Yes
Myanmar	No
Namibia	No
Nauru	No
Nepal	No
Netherlands	No
New Caledonia	No
New Zealand	No
Nicaragua	No
Niger	No
Nigeria	No
Niue	No
Norfolk Island	No
Northern Mariana Islands	No
Norway	No
Oman	No
Pakistan	No
Palau	No
Panama	No
Papua New Guinea	No
Paraguay	No
Peru	No
Philippines	No
Pitcairn	No
Poland	No
Portugal	No
Puerto Rico	No
Qatar	No
Republic of Korea	No
Republic of Moldova	No
Réunion	No

Romania	No
Russian Federation	No
Rwanda	No
Saint Barthélemy	No
Saint Helena	No
Saint Kitts and Nevis	No
Saint Lucia	No
Saint Martin (French part)	No
Saint Pierre and Miquelon	No
Saint Vincent and the Grenadines	No
Samoa	No
San Marino	No
Sao Tome and Principe	No
Saudi Arabia	No
Senegal	No
Serbia	No
Seychelles	No
Sierra Leone	No
Singapore	No
Sint Maarten (Dutch part)	No
Slovakia	No
Slovenia	No
Solomon Islands	No
Somalia	No
South Africa	Yes
South Georgia and the South Sandwich Islands	No
South Sudan	No
Spain	No
Sri Lanka	No
State of Palestine	No
Sudan	No
Suriname	No
Svalbard and Jan Mayen Islands	No
Swaziland	No
Sweden	No
Switzerland	No
Syrian Arab Republic	No
Taiwan (Province of China)	No
Tajikistan	No
Thailand	No
The former Yugoslav Republic of Macedonia	No
Timor Leste	No
Togo	No
Tokelau	No





C1. Governance

Board-level oversight of climate-related issues is considered best practice and provides an indication of the importance of climate-related issues to the organization.

This module is intended to capture the governance structure of your company with regard to climate change, and provides data users with an understanding of the organization's approach to climate-related

C1.1

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

Yes

C1.1

C1.1a

(C1.1a) Identify the position(s) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)

Please explain (≤ 1000)

Director on board

The chairman of the Board appointed Social and Ethics Committee, an independent non-executive director, 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.

Row 1

*This question only appears if you select "Yes" in response to C1.1.*

C1.1a

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 (≤ 2400)

Row 1

Scheduled – all meetings

Reviewing and guiding strategy

Yes

Oversight of climate related risks and opportunities at Board level occurs quarterly at the:  
 - Social and Ethics Committee  
 - Risk Management Committee  
 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.

Reviewing and guiding major plans of action

Yes

Reviewing and guiding risk management policies

Yes

Reviewing and guiding annual budgets

No

Reviewing and guiding business plans

No

Setting performance objectives

Yes

Monitoring implementation and performance of objectives

Yes

Overseeing major capital expenditures, acquisitions and divestitures

No

Monitoring and overseeing progress against goals and targets for addressing climate-related issues

Yes

Other, please specify

No

*This question only appears if you select "Yes" in response to C1.1.  
 C1.1b*

C1.2

(C1.2) Below board-level, provide the highest-level management 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
Row 1	Environment/ Sustainability manager	Both assessing and managing climate-related risks and opportunities	Quarterly

C1.2

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.	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 at the Sustainability Committee meetings and feedback is channelled to the Social and Ethics Committee.	≤ 5000
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C1.2a

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

C1.3a	(C1.3a) Provide further details on the incentives provided for the management of climate-related issues.		
Row 1	Who is entitled to benefit from these incentives?	Corporate executive team	
	Types of incentives	Monetary reward	
	Activity incentivized	Emissions reduction target	
	Comment (≤ 2400)	The key performance indicators for responsibility towards natural resources include greenhouse gas reduction targets, which are included in executive performance scorecards. The achievement of the targets positively impacts bonuses or discretionary pay; hence there exists a strong incentive to reach the emission reduction targets.	≤ 2400

Row 2	Who is entitled to benefit from these incentives?	Business unit manager
	Types of incentives	Monetary reward

Activity incentivized

Emissions reduction target

Comment (≤ 2400)

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.

≤ 2400

Row 3

Who is entitled to benefit from these incentives?

Environment/Sustainability manager

Types of incentives

Monetary reward

Activity incentivized

Emissions reduction target

Comment (≤ 2400)

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.

≤ 2400

Row 4

Who is entitled to benefit from these incentives?

All employees

Types of incentives

Monetary reward

Activity incentivized

Efficiency target

Comment (≤ 2400)

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.

≤ 2400

*This question only appears if you select "Yes" in response to C1.3.*

*C1.3a*

**C2. Risks and opportunities**

Evaluating exposure to climate-related risks and opportunities over a range of time horizons allows for a strategy for the transition to a low-carbon economy recognized in the Paris Agreement and UN SDGs. This module focuses on processes for identifying, assessing, and managing climate-related issues as well as on the climate-related risks and opportunities identified by your organization. Many of the challenges you face when reporting on climate-related issues are common to other aspects of corporate reporting, requiring you to provide statements about your prospective condition. Some organizations, particularly accounting firms and their governing bodies, have published guidance about how to prepare statements that contain forward-looking information. Before completing the questions covering risks, you may wish to consult with your financial, legal, and/or compliance departments for advice on your company's general approach to the provision of forward-looking statements and information concerning risks. Note that the questions relate to "inherent" risk and not the "residual" risk after management measures have been taken into account.

C2.1

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

	From (years)	To (years)	Comment (≤ 2400)
Short-term	0	1	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 2020 developed in 2017 highlights 5 strategic objectives with goals to be achieved by 31 March 2020.
Long-term	3	10	This aligns with more strategic view of climate-related risks and opportunities.

C2.1

C2.2

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

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

C2.2

C2.2a

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

	Frequency of monitoring	How far into the future are risks considered?	Comment (≤ 1000)
Row 1	Six-monthly or more frequently	3 to 6 years	Risk and control procedures are implemented in each operation of Vodacom, i.e. South Africa, Mozambique, Lesotho, Tanzania the DRC.

This question only appears if you select "Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes" or "A specific climate change risk identification, assessment, and management process" in response to C2.2.  
C2.2a

C2.2b

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

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 of "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.

This question only appears if you select "Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes" or "A specific climate change risk identification, assessment and management process" in response to C2.2.  
C2.2b

≤ 5000

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

Relevance & inclusion

Please explain (≤ 2400)

Current regulation

Relevant, always included

Current regulatory risks such as increased fuel levies, water and energy tariffs 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.

Emerging regulation

Relevant, always included

South Africa's emerging climate-related regulation such as carbon taxes, national greenhouse gas reporting regulations and draft bills on climate change to enable a transition to a low carbon economy will have an impact on Vodacom's business operations.  
 Vodacom has therefore assessed all its facilities to determine if it needs to register with the DEA, using a specific template of the National Atmospheric Emissions Inventory system (NAEIS).

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.  
 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, e.g. smart metering & Just4U.  
 Using its IoT and Big Data capabilities Vodacom has partnered with government departments to digitise and automate services to the public. Our smart metering solution for the Department of Public Works sends alerts for maintenance schedules and enables early detection of leaks in the water supply chain.  
 Vodacom has a Big Data and Analytics team that is currently working with the Water Research Council to use mobile technology to create awareness of the water scarcity reality in South Africa and disseminate messaging to customers alerting them to water shortages in the country, high risk areas and water saving hints and tips.

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 draft bill 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	<p>Digital technology is disrupting traditional business models and significantly reshaping consumer behaviour.</p> <p>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.</p> <p>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.</p> <p>In November 2016 Vodacom commenced with building its NarrowBand Internet of Things (NB-IoT), a low-power wide-area network technology that will reduce IoT users' carbon emissions through the use of various applications. During FY2018 the first commercial NB-IoT network in Africa was launched and good progress was made in further enhancing the IoT platform to support true end-to-end application capabilities and propositions.</p> <p>In FY2018 revenue from digital services, IoT, infotainment and advertising contributed 3.2% of total revenue and is fast growing.</p>
Reputation	Relevant, always included	<p>Vodacom considers reputational risk and views sustainability as an integral part of business strategy.</p> <p>As part of its commitment to accelerating socio-economic transformation, 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 approaches, through applications such as smart buildings, smart water management, intelligent transport systems, and new efficiencies in energy consumption and waste management.</p> <p>During FY2017 Vodacom partnered with the GIZ and launched the 'Connected Farmer' cloud-based platform that will link thousands of smallholder farmers in South Africa to the commercial agriculture value chain.</p> <p>In South Africa, over 200 000 smallholder farmers and an estimated 2 million subsistence farmers have an important role to play in food security and poverty reduction, yet their access to markets, information and finance is limited or non-existent. There is also a lack of available data on smallholder farmers and their supply chains, which is a barrier to informed decision-making. Sourcing from smallholder farmers as a result of the platform becomes more realistic and executable for food manufacturers and retail businesses, increasing the number of smallholders and subsistence farmers in commercial agricultural value chains.</p> <p>This initiative is making 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.</p>
Acute physical	Relevant, always included	<p>Vodacom considers acute physical risks as weather-related disruptions such as storms or floods could damage base stations or the road infrastructure.</p> <p>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.</p> <p>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.</p>
Chronic physical	Relevant, always included	<p>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.</p> <p>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.</p> <p>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. The RAN renewal programme improves energy efficiency, drives down operational cost, helps to expand data coverage and improve the customer experience.</p>
Upstream	Relevant, always included	<p>Vodacom acknowledges that water scarcity is one of the greatest risks to the global economy. This is particularly relevant in South Africa, which is facing an ongoing drought situation, compounded by a rainfall climate of great variability.</p> <p>In particular, the Western Cape is experiencing the worst drought recorded in history with dam levels at their lowest ever. Without drastic measures to further drive down consumption, Cape Town is set to experience critical water shortages and the possibility of taps being turned off – a scenario known as Day Zero. This will have a devastating impact on Vodacom operations in Cape Town.</p> <p>Proactive measures to reduce the water footprint include 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.</p> <p>Vodacom 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.</p>

Downstream	<input type="checkbox"/> Relevant, always included	<p>Vodacom considers transitional risks and opportunities as anticipated increases in energy taxes or fuel levies can be costly as its South African network consumes approximately 81% of total electricity consumption.</p> <p>To reduce consumption and cost diesel and electricity usage at base stations are monitored and initiatives aimed at operating more efficiently are implemented while adopting renewable and alternate sources of energy where feasible.</p> <p>In order to reduce emissions, diesel theft and costs 107 sites out of 130 off-grid sites (82%) have been connected to on-grid.</p> <p>Hybrid Generator Power-Cubes were successfully field trialed and all the long term off-grid sites were converted from 24x7 generators to hybrid generator units, resulting in significant diesel fuel savings.</p>	
<p><i>This question only appears if you select "Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes" or "A specific climate change risk identification, assessment, and management process" in response to C2.2.</i></p> <p><i>C2.2c</i></p>			
C2.2d	<p>(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.</p>	<p>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.</p> <p>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.</p> <p>In particular, the Western Cape is experiencing the worst drought recorded in history with dam levels at their lowest ever. Without drastic measures to further drive down consumption, Cape Town is set to experience critical water shortages and the possibility of taps being turned off – a scenario known as Day Zero. This will have a devastating impact on Vodacom operations in Cape Town.</p> <p>Proactive measures to reduce the water footprint include 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.</p> <p>Transitional risks and opportunities for Vodacom relate to anticipated increases in energy taxes or fuel levies as its South African network consumes approximately 81% of total electricity consumption.</p> <p>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.</p> <p>In order to reduce emissions, diesel theft and costs 107 sites out of 130 off-grid sites (82%) have been connected to on-grid.</p>	≤ 5000
<p><i>This question only appears if you select "Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes" or "A specific climate change risk identification, assessment, and management process" in response to C2.2</i></p> <p><i>C2.2d</i></p>			
C2.3	<p>(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?</p>	<input type="checkbox"/> Yes	
<p><i>C2.3</i></p>			

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

Row 1

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Policy and legal: Enhanced emissions-reporting obligations

Type of financial impact driver

Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description (≤ 2400)

The Department of Environmental Affairs (DEA) on 3 April 2017 gazetted regulations for mandatory reporting of greenhouse gas emissions under the National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004). The purpose of the regulations is to introduce a single national reporting system for greenhouse gas emissions. The South African Revenue Service (SARS) will be the main implementing administrative authority on the tax liability assessment while the DEA will lead the monitoring, reporting and verifying emissions process, which will form the tax base. DEA will directly collect the process emissions information while the Department of Energy (DOE) will supply the energy combustion data. All information will feed into the National Atmospheric Emissions Inventory System (NAEIS). According to the draft Carbon Tax Bill, companies will self assess and submit their emissions to SARS and if found to be incorrect, could be penalized.

In order to report to the DEA 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.

It is important to keep in mind that those 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 DEA regardless of whether any carbon tax payment is due.

In order to assess the carbon tax accurately, reporting of GHG emissions will be required together with verification of the reported 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.

≤ 2400

Time horizon

Current

Likelihood

Very likely

Magnitude of impact	Low		
Potential financial impact	5,000,000.00	0 - 99999999999	
Explanation of financial impact (≤ 1000)	<p>Additional cost relate to penalties for non-compliance to submit GHG inventories and data which is estimated to be capped at R5 000 000 for a first offence.</p> <p>However, there is no potential financial impact for Vodacom as current resources would be able to cope with the emissions reporting obligation.</p>		≤ 1000
Management method (≤ 1500)	<p>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 DEA, using a specific template of the National Atmospheric Emissions Inventory system (NAEIS).</p> <p>Further, Vodacom annually appoints external consultants to determine its organizational carbon footprint as well as the verification thereof to ensure it is free of material misstatements.</p> <p>The processes for obtaining the required data are continually refined to ensure accurate and consistent data capturing.</p>		≤ 1500
Cost of management	500,000.00	0 - 99999999999	
Comment (≤ 1000)	<p>Costs of about R500 000 per annum have been incurred relating to the appointment of external consultants to compile the carbon footprint and disclosure thereof well as the external verification of the carbon inventory.</p>		≤ 1000

Row 2

Identifier	Risk 2
Where in the value chain does the risk driver occur?	Direct operations
Risk type	Physical risk
Primary climate-related risk driver	Chronic: Changes in precipitation patterns and extreme variability in weather patterns
Type of financial impact driver	Increased operating costs (e.g., inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants)

Company- specific description (≤ 2400)	<p>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.</p> <p>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.</p> <p>Maintaining network quality and performance is essential as unplanned disruptions in network performance negatively impact consumer sentiment, which is sometimes rapidly disseminated on social media.</p>	≤ 2400
Time horizon	Current	
Likelihood	Likely	
Magnitude of impact	Medium-low	
Potential financial impact	47,800,000.00	0 - 99999999999
Explanation of financial impact (≤ 1000)	<p>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 profit.</p> <p>A cumulative one day shutdown of operations could result in loss of revenue of approx. R47.8 million based on current revenue levels in Lesotho, Mozambique, DRC and Tanzania.</p>	≤ 1000
Management method (≤ 1500)	<p>In order to reduce the reliance on diesel for electricity generation Vodacom is actively looking at deploying small scale renewable and alternate energy technologies.</p> <p>There are 871 solar-operated sites across the Group in the DRC, Mozambique and Lesotho.</p> <p>Vodacom Lesotho has embraced the renewable technology in the largely rural country. The operation now has 90 solar sites (2017: 74), accounting for about 30% of the total of 298 sites in the country.</p> <p>These sites are powered through a combination of energy saving solar power technologies that are helping to reduce carbon emissions. The 'green' base stations are powered independently of diesel generators or the national grid and are among the first of their kind world-wide.</p> <p>Vodacom Lesotho's 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.</p> <p>In addition, 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.</p> <p>The green base stations require less refuelling, maintenance and monitoring which greatly reduces ongoing operational costs and these cost savings will ultimately benefit customers.</p>	≤ 1500
Cost of management	2,000,000.00	0 - 99999999999

Comment (≤ 1000)

To date Vodacom invested capital of about R400 million on the solar sites across the group. 10 roof-top solar sites require capital investment of R2 million with costs savings of approximately R96 000 per annum.

≤ 1000

Row 3

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

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

Type of financial impact driver

Reduced revenue and higher costs from negative impacts on workforce (e.g., health, safety, absenteeism)

Company- specific description (≤ 2400)

Water scarcity is one of the greatest risks to the global economy. This is particularly relevant in South Africa, which is facing an ongoing drought situation, compounded by a rainfall climate of great variability.

In particular, the Western Cape is experiencing the worst drought recorded in history with dam levels at their lowest ever. Without drastic measures to further drive down consumption, Cape Town is set to experience critical water shortages and the possibility of taps being turned off – a scenario known as Day Zero. This will have a devastating impact on Vodacom operations in Cape Town.

≤ 2400

Time horizon

Current

Likelihood

Very likely

Magnitude of impact

Medium-high

Potential financial impact

466,000,000.00

0 - 999999999999

Explanation of financial impact (≤ 1000)

Temporary office closures due to water shortages or Day Zero will impact on continued operations, employees and customers resulting in loss of income.

Other costs relate to the repair of damaged equipment.

A one week shut down of country wide South African operations could result in loss of profits of approximately R466 million based on current operating profit.

≤ 1000

Management method (≤ 1500)	<p>Vodacom does not have a large water footprint in the normal course of its business, but recognises the importance of ensuring efficient usage of water as a critical natural resource.</p> <p>To this end, Vodacom has 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.</p> <p>In South Africa, the national facilities team has proactively taken measures to reduce the water footprint in all regions.</p> <p>These include 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.</p> <p>In addition, aesthetic water features in these offices have been switched off.</p> <p>These initiatives have led to water savings of 150kl and 100kl per month respectively.</p> <p>At the data centres, cooling loads were removed from evaporative cooling systems and are being supplied by air cooled chillers. This has achieved significant water savings, with water consumption decreasing by 300kl per month.</p> <p>Changes to air-conditioning systems at the Vodacom Century City offices saw the introduction of an air-side economy cycle to complement the ice plant which is due for completion at the end of March 2018. This project will significantly reduce the need for evaporative cooling.</p>		≤ 1500
Cost of management	2,000,000.00	0 - 999999999999	
Comment (≤ 1000)	Vodacom spent capital of approximately R2m on the water savings initiatives.		≤ 1000

Row 4

Identifier	Risk 4
Where in the value chain does the risk driver occur?	Direct operations
Risk type	Transition risk
Primary climate-related risk driver	Market: Increased cost of raw materials
Type of financial impact driver	Market: Increased production costs due to changing input prices (e.g., energy, water) and output requirements (e.g., waste treatment)

Company- specific description (≤ 2400)

As part of South Africa’s ongoing efforts to move towards a low carbon economy and to meet South Africa’s INDC targets, National Treasury has published a second draft Carbon Tax Bill in December 2017. The carbon tax will help the South African government to meet these reduction targets and it is currently scheduled to come into effect from January 2019.

The draft Carbon Tax Bill proposes that the carbon tax on diesel and petrol non-stationary emissions be included in the fuel tax regime.

Only scope 1 emissions are expected to be liable to tax and Eskom might be taxed too and will most likely pass on the costs, which will increase operational costs (electricity bills).

The SA National Treasury introduced a levy for using non-renewable energy sources to cover generation costs for renewable energy. This levy was increased to 5.5c/kWh during the 2015 Budget Speech and is supposed to be withdrawn when the electricity shortage was over.

To ensure a minimal impact on the price of electricity in the initial phase of the Carbon Tax, a credit for (or reduction in) the electricity generation levy and the renewable electricity premium, built into the current price of electricity, will be introduced. However, the risk exists that this credit could be withdrawn or reduced in the future.

In order to assist SA’s national power supplier (Eskom) with electricity supply and financial liquidity, large annual electricity cost increases have been experienced in the last few years. The National Energy Regulator of South Africa (Nersa) granted Eskom a 5,23% electricity tariff increase, much lower than the 19,9% requested by Eskom, which came into effect on 1 April 2018.

The increased cost of electricity and fuel will directly affect Vodacom’s profitability for both current operations and future expansion projects in South Africa. Further, the electricity and fuel levy increases will lead to reductions in the disposable income of clients and a potential slowing in consumer spend.

≤ 2400

Time horizon

Current

Likelihood

Very likely

Magnitude of impact

Medium-low

Potential financial impact

27,600,000.00

0 - 99999999999

Explanation of financial impact (≤ 1000)

Based on current consumption levels, a 2c/kWh increase in the non-renewable energy levy will increase operational expenses by an additional approx. R10 million per annum whereas repealing the 5.5c/kWh levy would reduce electricity costs in South Africa by approx. R27.6 million per annum.

Connecting off-grid sites to on-grid and installing the power cubes resulted in cost savings of R4.26 million per annum.

≤ 1000

In South Africa approximately 94% of Vodacom’s CO2 emissions are generated from purchased electricity consumed. The network consumes approximately 81% of electricity whereas the data centres and offices consume about 10 & 9% respectively.

During FY2018 Vodacom conducted an in-depth examination of energy and climate change impacts, which provided clarity on areas of the business with the greatest energy demands with action plans to drive energy efficiencies.

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.

In order to reduce emissions, diesel theft and costs 107 sites out of 130 off-grid sites (82%) have been connected to on-grid. Vodacom has improved their site planning process by incorporating the national distribution network GIS map from ESKOM that indicates all the medium voltage network lines in SA. This ensures that at planning stage the proximity to grid power is consciously considered.

Hybrid Generator Power-Cubes were successfully field trialed and all the long term off-grid sites were converted from 24x7 generators to hybrid generator units, resulting in significant diesel fuel savings.

Systematically 90% of the eligible containerised sites in the network were retrofitted with free cooling solutions resulting in energy consumption reductions with the remaining 10% earmarked to be retrofitted in FY2019

Management method (≤ 1500)

≤ 1500

Cost of management

7,600,000.00

0 - 999999999999

Comment (≤ 1000)

Converting 8 off-grid sites to on-grid and installing 8 power-cubes required capital investment of R7.6 million.

≤ 1000

*This question only appears if you select “Yes” in response to C2.3.  
C2.3a*

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

C2.4

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

Row 1

Identifier	Opp1
Where in the value chain does the opportunity occur?	Direct operations
Opportunity type	Resource efficiency
Primary climate-related opportunity driver	Move to more efficient buildings
Type of financial impact driver	Reduced operating costs (e.g., through efficiency gains and cost reductions)
Company- specific description (≤ 2400)	<p>Vodacom sees a seamless connection between creating value for the company and improving the lives and wellbeing of people living in all the countries in which it operates. It recognises that in order to create a sustainable future for business it has an ethical responsibility towards giving back to society while protecting the environment. Vodacom's revenue comes from selling mobile data, voice and messaging services to individual consumers, coupled with connectivity and network provision services to Enterprise customers.</p> <p>It therefore needs network infrastructure, data centres, distribution infrastructure and software applications, collectively viewed as manufactured capital, that requires significant financial capital to build and maintain.</p> <p>It also requires natural capital such as land and energy to deploy and operate the manufactured capital.</p> <p>It therefore has a strong focus on energy efficiency within the network and buildings and is conscious of creating workplaces which encourages agility, collaboration and innovation.</p>
Time horizon	Long-term
Likelihood	Likely
Magnitude of impact	Low
Potential financial impact	3,200,000.00 0 - 99999999999
Explanation of financial impact (≤ 1000)	<p>Financial impact relates to the energy, water, paper and travel cost savings as well as the tax allowances that can be claimed on the equipment installed.</p> <p>A 1% reduction in utility costs could save Vodacom approximately R3.2 million annually in international operations.</p> <p>Other impacts relate to staff satisfaction and wellbeing stemming from using ergonomic chairs and a good working space, which will increase collaborative team work.</p>

Strategy to realize opportunity (≤ 1500)	<p>With the launch of Vodacom Lesotho's new headquarters, it set a leading example in promoting a green economy. It represents the first of its kind 'green building' in the country. The roof of the building is covered with solar panels that generate the primary source of power for the building. The new building's reliance on solar power is aimed at reducing the cost of electricity for the business and mitigating environmental impacts.</p> <p>Vodacom Lesotho's broader environmental initiatives include encouraging recycling and the separation of waste products in the office, the use of technology in boardrooms, promoting telecommuting and reducing carbon footprint.</p> <p>Vodacom Tanzania moved from Mlimani city office park to a new Vodacom Tower resulting in a 50% decrease in water and energy consumption as a result of implementing advanced technology such as usage of movement sensors for lights and water taps. A focus on promoting a paper-less environment that emphasises digital working has generated a 60% reduction in paper usage.</p> <p>These are testament to Vodacom's commitment to the climate action goal in Lesotho and reducing its impact on the environment.</p>		≤ 1500
Cost to realize opportunity	80,000,000.00	0 - 99999999999	
Comment (≤ 1000)	Vodacom Lesotho's head office was built with a capital investment of R80 million.		≤ 1000
Row 2			
Identifier	Opp2		
Where in the value chain does the opportunity occur?	Direct operations		
Opportunity type	Resource efficiency		
Primary climate-related opportunity driver	Use of recycling		
Type of financial impact driver	Reduced operating costs (e.g., through efficiency gains and cost reductions)		
Company- specific description (≤ 2400)	<p>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. In order to promote adequate waste management and reduce the negative impact of waste to the environment and community in which it operates, Vodacom developed a waste management strategy and creates awareness in respect of waste management practices internally through the adoption of a waste hierarchy (Reduce, Re-use, Recycle &amp; Compost, Create Energy, Dispose) which is being used in day to day business activities and in decision-making processes.</p> <p>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.</p>		≤ 2400
Time horizon	Medium-term		
Likelihood	Very likely		
Magnitude of impact	Medium-low		
Potential financial impact	60,000,000.00	0 - 99999999999	
Explanation of financial impact (≤ 1000)	Recycling or reusing equipment will reduce operational costs while reducing the number of third party waste deliveries to landfill sites and related carbon emissions. The reuse of old and obsolete equipment saved approximately R60 million due to reduced need to purchase new batteries.		≤ 1000

Strategy to realize opportunity (≤ 1500)

As technology advances, Vodacom replaces network equipment with new, more energy efficient equipment that improves network service and makes operations more efficient. This generates electronic waste (e-waste).  
 In FY2018 349 tonnes of network equipment and handsets were reused or recycled (2017: 69 tonnes). The increase was mainly due to the recovery of a large volume of obsolete network equipment from the implementation of Project Rhees where old equipment was replaced.  
 During FY2018 Vodacom extended the useful life of network equipment by re-introducing more than 170 tons of network equipment into the network. In addition, more than 86 tons of tested and chemically rejuvenated 2V and 12V lead acid batteries were redeployed as backup batteries to radio sites, thereby reducing the need to dispose of the old batteries or to purchase new batteries resulting in cost savings.  
 Vodacom initiated a pilot project to remove polystyrene containers from waste bins, bale them separately and pass them onto a third party that repurposes them to make photo frames. This initiative enabled a 47% reduction in waste sent to landfill. The transportation of waste has consequently been reduced from five to three trips a week. Vodacom is reducing paper usage and printer ink in office buildings. Paper, plastic and general waste is separated from the other waste. Hazardous wastes, including batteries, toners, and electronic wastes are given to licensed recycling or disposal facilities.

≤ 1500

Cost to realize opportunity

0.00

0 - 99999999999

Comment (≤ 1000)

No money other than salaries and wages were spent on making use of obsolete equipment.

≤ 1000

Row 3

Identifier

Opp3

Where in the value chain does the opportunity occur?

Customer

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Type of financial impact driver

Increased revenue through demand for lower emissions products and services

<p>Company- specific description (≤ 2400)</p>	<p>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:</p> <ul style="list-style-type: none"> <li>• the number of mobile internet users will increase to 5 billion, up 51.5% from the 3.3 billion users in 2017;</li> <li>• the penetration rate (% of population) will increase from 43% to 61%; and</li> <li>• the number of total IoT connections will increase to 25.1 billion, up 235% from the 7.5 billion connections in 2017 .</li> </ul> <p>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.</p> <p>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. Research in 2016 found that 76% of businesses surveyed say that IoT will be ‘critical’ to their success and nearly 50% are already using IoT to support large-scale business transformation. Digital technology is disrupting traditional business models and significantly reshaping consumer behaviour.</p> <p>Vodacom is presented with exciting new opportunities beyond connectivity, and requires it to rethink the networks and technology of the future, redefine customer engagement and develop a company culture that attracts the best digital talent. It also presents opportunities to deliver significant social value through transforming education, healthcare, financial services and agriculture.</p>	<p>≤ 2400</p>
<p>Time horizon</p>	<p>Medium-term</p>	
<p>Likelihood</p>	<p>Very likely</p>	
<p>Magnitude of impact</p>	<p>Medium-high</p>	
<p>Potential financial impact</p>	<p>350,000,000.00</p>	<p>0 - 99999999999</p>
<p>Explanation of financial impact (≤ 1000)</p>	<p>According to the report, The Mobile Economy 2018 from GSMA Intelligence, the mobile industry contribution to global GDP will grow from the current \$3.6 trillion or 4.5% of GDP in 2017 to \$4.6 trillion or 5.0% of GDP in 2022. Should this 0.5% growth result in a corresponding increase in demand for Vodacom South Africa’s services, then revenue could increase by approx. R350 million per annum based on current revenue levels.</p>	<p>≤ 1000</p>
<p>Strategy to realize opportunity (≤ 1500)</p>	<p>Vodacom’s Vision 2020 strategy is aligned to ensure that it is best positioned to seize the opportunities presented by significant levels of digitalisation and highly connected consumers. It is envisaged that customers can reduce their GHG emissions by two tonnes for every tonne of GHG Vodacom generates from own operations. Vodacom’s strategy is thus to deploy new network technologies, while rolling out a national IoT network and developing new IoT applications and solutions to help customers reduce their emissions.</p> <p>In November 2016 Vodacom commenced with building its NarrowBand Internet of Things (NB-IoT), a low-power wide-area network technology that will reduce IoT users’ carbon emissions through the use of various applications. This first commercial NB-IoT network in Africa was launched during FY2018 and good progress was made in further enhancing the IoT platform to support true end-to-end application capabilities and propositions.</p> <p>Vodacom partnered with PTC as their ThingWorx® IoT platform contains a comprehensive set of integrated IoT-specific development tools and capabilities to enable developers to rapidly connect, build and deploy smart, connected solutions for the IoT that can enable improved operational efficiency. During FY2018 a few class-leading solutions for Enterprise customers was completed, leveraging off the ThingWorx® IoT platform – this early success will be expanded to develop and mature further new IoT applications and solutions.</p>	<p>≤ 1500</p>

Cost to realize opportunity	82,000,000.00	0 - 9999999999
Comment (≤ 1000)	Vodacom had a capital budget of about R82 million for FY2018 to build the narrowband Internet of Things (NB-IoT) network.	
Row 4		
Identifier	Opp4	
Where in the value chain does the opportunity occur?	Customer	
Opportunity type	Resilience	
Primary climate-related opportunity driver	Resource substitutes/diversification	
Type of financial impact driver	Increased revenue through new products and services related to ensuring resiliency	
Company- specific description (≤ 2400)	<p>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.</p> <p>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 approaches, through applications such as smart buildings, smart water management, intelligent transport systems, and new efficiencies in energy consumption and waste management.</p>	
Time horizon	Medium-term	
Likelihood	More likely than not	
Magnitude of impact	Medium	
Potential financial impact	215,000,000.00	0 - 99999999999
Explanation of financial impact (≤ 1000)	<p>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 0.25% increase in sales could result in increased revenue of approx. R215 million per annum based on current revenue levels.</p>	

Strategy to realize opportunity (≤ 1500)

Vodacom is assisting in building sustainability and enhancing resilience in communities by providing them with alternative ways of conducting business. During FY2017 Vodacom partnered with the GIZ and launched the 'Connected Farmer' cloud-based platform that will link thousands of smallholder farmers in South Africa to the commercial agriculture value chain.

In South Africa, over 200 000 smallholder farmers and an estimated 2 million subsistence farmers have an important role to play in food security and poverty reduction, yet their access to markets, information and finance is limited or non-existent. There is also a lack of available data on smallholder farmers and their supply chains, which is a barrier to informed decision-making.

Sourcing from smallholder farmers as a result of the platform becomes 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 will have real time visibility of their supply chains, as well as the ability to engage and communicate with smallholders directly.

This initiative leverages off similar projects that have been implementing across Kenya, Tanzania and Mozambique through Vodafone, which is making an important contribution in improving agricultural productivity and food security, creating jobs and increasing incomes in the agriculture sector.

≤ 1500

Cost to realize opportunity

21,000,000.00

0 - 9999999999

Comment (≤ 1000)

Vodacom and GIZ's combined investment in the 'Connected Farmer' platform, a cloud-based web and mobile software solution, is estimated to be around R21 million over three years.

≤ 1000

*This question only appears if you select "Yes" in response to C2.4.  
C2.4a*

C2.5

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

Impact

Description (≤ 2400)

Impacted for some suppliers, facilities, or product lines

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 is presented with exciting new opportunities beyond connectivity. Vodacom's strategy is thus to 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 November 2016 Vodacom commenced with building its NarrowBand Internet of Things (NB-IoT), a low-power wide-area network technology that will reduce IoT users' carbon emissions through the use of various applications. During FY2018 the first commercial NB-IoT network in Africa was launched and good progress was made in further enhancing the IoT platform to support true end-to-end application capabilities and propositions.

Research in 2016 found that 76% of businesses surveyed say that IoT will be 'critical' to their success and nearly 50% are already using IoT to support large-scale business transformation.

The IoT applications have a medium-high impact on Vodacom as it has the potential to form a large part of products and services offered.

Products and services

Supply chain and/or value chain

Impacted

Vodacom does not have a large water footprint in the normal course of its business, but recognises the importance of ensuring efficient usage of water as a critical natural resource.

Water scarcity is one of the greatest risks to the global economy. This is particularly relevant in South Africa, which is facing an ongoing drought situation, compounded by a rainfall climate of great variability.

In particular, the Western Cape is experiencing the worst drought recorded in history with dam levels at their lowest ever. Without drastic measures to further drive down consumption, Cape Town is set to experience critical water shortages and the possibility of taps being turned off – a scenario known as Day Zero.

In South Africa, the national facilities team has proactively taken measures to reduce the water footprint in all regions, but in particular made changes to the water reticulation system at the Century City and Techno Centre offices in Cape Town and changes to air-conditioning systems at the Vodacom Century City offices where an air-side economy cycle was introduced to complement the ice plant which will significantly reduce the need for evaporative cooling.

Day Zero will have a devastating high impact on Vodacom operations in Cape Town as temporary office closures due to water shortages will impact on continued operations, employees and customers resulting in loss of income. To this end, Vodacom has 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.

Adaptation and mitigation activities

Impacted for some suppliers, facilities, or product lines

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.

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, e.g. smart metering & Just4U.

Using its IOT and Big Data capabilities Vodacom has partnered with government departments to digitise and automate services to the public. Our smart metering solution for the Department of Public Works sends alerts for maintenance schedules and enables early detection of leaks in the water supply chain.

The 'Theta Nathi' App is another great example of a citizen engagement platform which is being rolled out to municipalities in South Africa. This application enables citizens to connect to their municipalities alerting them to service delivery issues such as water availability, electricity cuts and potholes.

These technologies have a medium impact on Vodacom as it leads to smarter ways of doing business whilst minimising the impact on the environment.

Investment in R&D

Impacted

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.

Vodacom has a Big Data and Analytics team that is currently working with the Water Research Council to use mobile technology to create awareness of the water scarcity reality in South Africa and disseminate messaging to customers alerting them to water shortages in the country, high risk areas and water saving hints and tips.

Operations

Other, please specify

C2.5

Impacted

In South Africa, approximately 94% of Vodacom's CO2 emissions are generated from purchased electricity consumed. The network consumes approximately 81% of electricity whereas the data centres and offices consume about 10 & 9% respectively.  
In Mozambique, Lesotho, DRC and Tanzania the mobile network base stations rely extensively on diesel generators for electricity as grid power is currently very unreliable. Energy consumption has a very high impact on Vodacom's operations in order to maintain network quality and performance which is essential for business sustainability as unplanned disruptions in network performance negatively impact consumer sentiment, which is sometimes rapidly disseminated on social media.

C2.6

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

	Relevance	Description (≤ 2400)
Revenues	Impacted for some suppliers, facilities, or product lines	Vodacom's profit formula is to generate profit by efficiently utilizing mobile and fixed-line assets to provide Consumer and Enterprise customers with voice, data, messaging and related services. Its competitive differentiation lies in the quality of its network, the nature of products and services, the extent of its regional footprint, the quality of the relationships with key stakeholders, and a proven ability to manage the cost base. Vodacom is meeting the growing demand for data, by expanding data networks to new areas and constantly improving the network experience in high-demand areas such as major towns and cities. To this end Vodacom has extended its international footprint with 252 sites producing revenue with energy costs and carbon emissions. During FY2018 the data revenue of international operations grew strongly by 12%. Impact – medium.
Operating costs	Impacted	Vodacom's network, data centres, offices and base stations consume vast amounts of electricity and diesel to operate and maintain network quality and performance. Increases in electricity and diesel prices are factored into financial planning as well as savings from energy efficiency projects such as retrofitting radio sites with free cooling solutions at approximately 1 500 towers, reducing energy costs by approximately R72 million per annum. Impact - medium
Capital expenditures / capital allocation	Impacted	Capital allocation is focused on improving customer experience on networks by extending voice and data coverage, improving data network speeds and investing in Business Intelligence tools to drive growth. During FY2018 Vodacom incurred capital expenditure of R2.7 billion for the roll out of additional 4G sites in Tanzania and Lesotho and expanded 3G coverage in the DRC and Mozambique. As part of digital transformation, Vodacom continues to invest in enhancing its IT systems. During FY2018 it has invested capital of R11.6 billion across the group in strengthening networks and IT infrastructure, realising a capital intensity of 13.4%. Impact - high

Acquisitions and divestments	Impacted	<p>To operate Vodacom needs network infrastructure, data centres, distribution infrastructure and software applications, collectively viewed as manufactured capital, that requires significant financial capital to build and maintain.</p> <p>It also requires natural capital such as land and energy to deploy and operate the manufactured capital.</p> <p>Vodacom therefore has a strategy to focus on energy efficiency within the network, to invest in green buildings and to adopt renewable energy where feasible and is conscious of creating workplaces which encourages agility, collaboration and innovation.</p> <p>To this end Vodacom Lesotho launched its new headquarters during FY2018, which was built with a capital investment of R80 million. The roof of the building is covered with solar panels that generate the primary source of power for the building reducing the cost of electricity while mitigating environmental impacts.</p> <p>Vodacom Tanzania moved from Mlimani city office park to a new Vodacom Tower resulting in a 50% decrease in water and energy consumption as a result of implementing advanced technology such as usage of movement sensors for lights and water taps.</p> <p>Impact – medium-low</p>
Access to capital	Not impacted	<p>Vodacom's infrastructure and energy needs require significant financial capital to build and maintain. However, Vodacom currently has a strong balance sheet so can invest its own capital in most instances.</p>
Assets	Impacted	<p>The network is the backbone of Vodacom's business and the quality of its network allows Vodacom to distinguish it from the competitors. It is a large user of energy in operations and to reduce energy consumption, Vodacom has installed free cooling technology at its base stations in South Africa, Mozambique, Lesotho, Tanzania and the DRC. Free cooling is when electronic air-conditioning is supplemented with fresh air to reduce the temperatures of equipment resulting in about 45% reduction in energy consumption.</p> <p>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.</p> <p>To date free cooling equipment was installed at a capital cost of approximately R91 million. A 10% redundancy rate of the equipment could result in a R9.1 million loss of capital invested.</p> <p>Impact - low</p>
Liabilities	Not impacted	<p>No direct impact on liabilities identified.</p>
Other		

C2.6

C3. Business Strategy

CDP data users are interested in organizations' forward-looking strategies and financial decisions that are driven by climate-related future market opportunities, public policy objectives, and corporate responsibilities. This module allows organizations to disclose whether they have acted upon integrating climate-related issues in to their business strategy. The module includes questions on scenario analysis and transition planning which are important evolutions in strategic environmental planning.

Given the importance of forward-looking assessments of climate-related risks and opportunities, scenario analysis is an important and useful tool for an organization to use, both for understanding strategic implications of climate-related risks and opportunities, and for informing stakeholders of how the organization is positioning itself in recognition of these issues. It also can aid investors, lenders, and insurance underwriters in informing their own financial decision making.

Transition planning is also an important evolution of strategic environmental planning, and includes all the relevant changes that need to be made to the company's business model before the company can adjust to a low-carbon future. This is especially relevant for companies operating in high impact sectors.

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

C3.1

C3.1a (C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy? No, but we anticipate doing so in the next two years

This question only appears if you select "Yes" in response to C3.1.

C3.1a

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

i) 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 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. To assist with tracking progress Vodacom now participates in the Group reporting process where electricity, diesel, fuel cells and water consumption are tracked systematically and reported to its majority shareholder, Vodafone, at six monthly intervals.

ii) Short term strategy influenced by climate-related issues relates to improving energy efficiency and reducing emissions across the network and activities as well as the setting of targets to reduce Vodacom's carbon emissions by 5% per base station site per 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.

Vodacom is in the process of assessing the feasibility of these targets in the market, and continues to address the energy challenges and seeks opportunities to contribute to a low carbon future. Vodacom follows developments in the energy sector closely and aims to commit to a revised carbon reduction target in the near future.

iii) During FY2018 Vodacom Lesotho launched its new headquarters that represents the first of its kind 'green building' in the country. The roof of the building is covered with solar panels that generate the primary source of power for the building reducing the cost of electricity while mitigating environmental impacts. Vodacom Lesotho's head office incorporate broader environmental initiatives to encouraging recycling and the separation of waste products in the office, the use of technology in boardrooms, promoting telecommuting and reducing its carbon footprint.

Vodacom Tanzania moved from Mlimani city office park to a new Vodacom Tower resulting in a 50% decrease in water and energy consumption as a result of implementing advanced technology such as usage of movement sensors for lights and water taps. A focus on promoting a paper-less environment that emphasises digital working has generated a 60% reduction in paper usage.

These are testament to Vodacom's commitment to the climate action goal in Lesotho and Tanzania to reduce its impact on the environment.

iv) Long term strategy changes relate to deploying the technologies that Vodacom and its suppliers have developed which now makes it possible to build a site powered by renewable energy that makes economic sense. Coupled with the environmental benefits of reduced diesel usage and subsequent reduced emissions, green power solutions provide a promising opportunity for operators. Further, this will allow Vodacom to service undeveloped areas not on the electricity grid, with the bare minimum environmental footprint.

Another long term strategy relates to the renewal of the radio access network (RAN) to add single RAN (SRAN) and software defined radio (SDR) technologies to the network as well as fibre-optic cables and high speed IP-microwave transmission at base stations. SRAN allows the accommodation of 2G, 3G and LTE on the same base station and together with SDR the network can be upgraded to newer technologies such as 4G or LTE. The RAN renewal programme improves energy efficiency, drives down operational cost and helps to expand data coverage.

This question only appears if you select "Yes" in response to C3.1.

C3.1c

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

The Department of Science and Technology in 2018 published the second edition of the South African Risk and Vulnerability Atlas (SARVA). This on-line portal is open to all stakeholders, aims to equip decision-makers at national, provincial and local government as well as NGOs and the private sector with information on impact and risk associated with global change. The data is essential in planning for current and projected global and climate change impacts and assists decision makers in implementing adaption strategies.

This SARVA tool is used by Vodacom's technology and infrastructure planning and maintenance teams to take cognisance of climate-change risks in the roll out of new property and network infrastructure and maintenance of existing property and infrastructure.

Vodacom's holding company, Vodafone, has used climate-related scenario analysis in the setting of Science-based targets.

The energy mix in the Vodacom Group of companies varies from country to country and as such as in-depth review needs to be done on the energy plans in each of these countries in the near future.

This question only appears if you select "No, but we anticipate doing so in the next two years" or "No, and we do not anticipate doing so in the next two years" in response to C3.1a.

C3.1g

C4. Targets and performance

Questions in this module focus on emission targets, additional climate-related targets, details on emission reduction initiatives and low carbon products.

Target setting provides direction and structure to environmental strategy. Providing information on quantitative targets and qualitative goals, and progress made against these targets, can demonstrate your organization’s commitment to improving climate-related issues management at a corporate level. This information is relevant to investors’ understanding of how your company is addressing and monitoring progress regarding the risks and opportunities disclosed.

Questions on emission reduction initiatives allow CDP data users to understand the organization’s commitment to reducing emissions beyond business-as-usual scenario.

C4.1

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

Intensity target

C4.1

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Row 1

Target reference number

Int 1

Scope

Scope 1+2 (location-based)

% emissions in Scope

100.00

0 - 100

% reduction from baseline year

5.00

0 - 100

Metric

Other, please specify

Base year

Metric tonnes CO2e per base station site  
2017

1900 - 2018

Start year

2018

1900 - 2018

Normalized baseline year emissions covered by target (metric tons CO2e)

29.82

0 - 999999999999

Target year

2018

2000 - 2100

Is this a science-based target?

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

% achieved (emissions)

100.00

0 - 100

Target status

Expired

Please explain (≤ 2400)

This target relates to fuel and electricity consumption per base station site taking growth into account. Vodacom’s emissions decreased by 10.83% year-on-year, thereby exceeding the target of a 5% reduction per base station site per year.

≤ 2400

% change anticipated in absolute Scope 1+2 emissions

-0.31

-999 - 999

% change anticipated in absolute Scope 3 emissions

0.00

-999 - 999

This question only appears if you select "Intensity target" or "Both absolute and intensity target" in response to C4.1.  
C4.1b

C4.2

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

C4.2

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

C4.3

C4.3a

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

	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	3.00	
	0 - 999999999999	0 - 999999999999
To be implemented*	1.00	784.00
	0 - 999999999999	0 - 999999999999
Implementation commenced*	1.00	81.00
	0 - 999999999999	0 - 999999999999
Implemented*	2.00	9,095.00
	0 - 999999999999	0 - 999999999999
Not to be implemented	0.00	

0 - 99999999999

0 - 99999999999

This question only appears if you select "Yes" in response to C4.3.  
C4.3a

C4.3b

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

Row 1

Activity type

Energy efficiency: Processes

Description of activity

Fuel switch

Estimated annual CO2e savings (metric tonnes CO2e)

9,045.00

0 - 99999999999

Scope

Scope 1

Yes

Scope 2 (location-based)

No

Scope 2 (market-based)

No

Scope 3

No

Select all that apply:

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

3,300,000

0 - 99999999999

Investment required (unit currency – as specified in CC0.4)

3,200,000

0 - 99999999999

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment (≤ 1500)

In order to reduce emissions, diesel theft and costs 107 sites out of 130 off-grid sites (82%) have been connected to on-grid.

≤ 1500

Row 2

Activity type

Low-carbon energy installation

Description of activity

Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)

50.00

0 - 99999999999

Scope

Scope 1  
Scope 2 (location-based)  
Scope 2 (market-based)  
Scope 3

No
Yes
No
No

Select all that apply:

Voluntary/Mandatory

Annual monetary savings (unit currency – as specified in CC0.4)

0 - 999999999999

Investment required (unit currency – as specified in CC0.4)

0 - 999999999999

Payback period

Estimated lifetime of the initiative

Comment (≤ 1500)

≤ 1500

*This question only appears if you select "Yes" in response to C4.3.*

*C4.3b*

C4.3c

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

Method

Comment (≤ 2400)

Row 1

Financial optimization calculations

Financial optimization taking energy consumption into account. A key consideration in the RAN (Radio Access Network) equipment renewal programme is that every item of the existing radio network and core network is re-evaluated in terms of energy consumption and included in all decisions for roll-out and replacement. Upgrading the RAN will be according to available budgets, depreciation rates, asset write-offs and other business drivers including the energy consumption analysis.

Row 2

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.

Row 3

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.

*This question only appears if you select "Yes" in response to C4.3.  
C4.3c*

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

*C4.5*

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.

Row 1

Level of aggregation

Group of products

Description of product/Group of products (≤ 2400)

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.  
Vodacom launched cloud solutions five years ago and tremendous growth lead to the development of a Cloud Monitor for Virtual Environments to allow the user's in-house administrators to monitor the complete virtual environment of server loads and generate customised reports. It also gives customers a view on performance, resource utilization and Scope 2 emissions of their workloads in each geographical location.

≤ 2400

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

2.30

0 - 100

Comment (≤ 2400)

Vodacom will grow its Cloud business, with emphasis on the application level versus infrastructure products. It will continue to attract large global brands through co-location, with a strong pipeline of new opportunities. In addition, it will look to partner with hyperscale Cloud providers – such as Microsoft Azure, Amazon Web Services, Alibaba and Google – whose platforms are used by many existing customers. Vodacom will also expand its professional capability to assist customers in migrating their existing workloads, as well as building new capabilities on the new platforms.

≤ 2400

Row 2

Level of aggregation

Group of products

Description of product/Group of products (≤ 2400)

INTERNET OF THINGS (IoT)  
Significant levels of digitalisation and highly connected consumers can minimise their own energy needs, particularly through Internet of Things (IoT) intelligent networked devices and processes. Vodafone's research in 2016 found that 76% of businesses surveyed say that IoT will be 'critical' to their success and nearly 50% are already using IoT to support large-scale business transformation. IoT solutions can help customers reduce their GHG emissions by two tonnes for every tonne of GHG generated from operations.

≤ 2400

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

1.00

0 - 100

Comment (≤ 2400)

In November 2016 Vodacom commenced with building its NarrowBand Internet of Things (NB-IoT), a low-power wide-area network technology that will reduce IoT users' carbon emissions through the use of various applications. During FY2018 the first commercial NB-IoT network in Africa was launched and good progress was made in further enhancing the IoT platform to support true end-to-end application capabilities and propositions. As IoT become more mainstream, the % contribution to revenue will increase.

≤ 2400

*This question only appears if you select "Yes" in response to C4.5.*

*C4.5a*

C5. Emissions methodology

A meaningful and consistent comparison of emissions over time is an essential step in environmental reporting. This module allows companies to provide the base year and base year emissions and provide

C5.1

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

Scope 1

Base year start

Base year end

Base year emissions (metric tons CO2e)  0 - 999999999999

Comment (≤ 2400)  ≤ 2400

Scope 2 (location-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)  0 - 999999999999

Comment (≤ 2400)  ≤ 2400

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)  0 - 999999999999

Comment (≤ 2400)  ≤ 2400

*C5.1*

C5.2

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

ABI Energia Linee Guida	<input type="text" value="No"/>
Act on the Rational Use of Energy	<input type="text" value="No"/>
American Petroleum Institute Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry, 2009	<input type="text" value="No"/>
Australia - National Greenhouse and Energy Reporting Act	<input type="text" value="No"/>
Bilan Carbone	<input type="text" value="No"/>

Brazil GHG Protocol Programme	No
Canadian Association of Petroleum Producers, Calculating Greenhouse Gas Emissions, 2003	No
China Corporate Energy Conservation and GHG Management Programme	No
Defra Voluntary 2017 Reporting Guidelines	No
ENCORD: Construction CO2e Measurement Protocol	No
Energy Information Administration 1605B	No
Environment Canada, Sulphur hexafluoride (SF6) Emission Estimation and Reporting Protocol for Electric Utilities	No
Environment Canada, Aluminum Production, Guidance Manual for Estimating Greenhouse Gas Emissions	No
Environment Canada, Base Metals Smelting/Refining, Guidance Manual for Estimating Greenhouse Gas Emissions	No
Environment Canada, Cement Production, Guidance Manual for Estimating Greenhouse Gas Emissions	No
Environment Canada, Primary Iron and Steel Production, Guidance Manual for Estimating Greenhouse Gas Emissions	No
Environment Canada, Lime Production, Guidance Manual for Estimating Greenhouse Gas Emissions	No
Environment Canada, Primary Magnesium Production and Casting, Guidance Manual for Estimating Greenhouse Gas Emissions	No
Environment Canada, Metal Mining, Guidance Manual for Estimating Greenhouse Gas Emission	No
EPRA (European Public Real Estate Association) guidelines, 2011	No
European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for installations	No
European Union Emissions Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for aircraft operators	No
Hong Kong Environmental Protection Department, Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings, 2010	No

ICLEI Local Government GHG Protocol	No
India GHG Inventory Programme	No
International Wine Industry Greenhouse Gas Protocol and Accounting Tool	No
IPCC Guidelines for National Greenhouse Gas Inventories, 2006	No
IPIECA's Petroleum Industry Guidelines for reporting GHG emissions, 2003	No
IPIECA's Petroleum Industry Guidelines for reporting GHG emissions, 2nd edition, 2011	No
ISO 14064-1	No
Japan Ministry of the Environment, Law Concerning the Promotion of the Measures to Cope with Global Warming, Superseded by Revision of the Act on Promotion of Global Warming Countermeasures (2005 Amendment)	No
Korea GHG and Energy Target Management System Operating Guidelines	No
New Zealand - Guidance for Voluntary, Corporate Greenhouse Gas Reporting	No
Philippine Greenhouse Gas Accounting and Reporting Programme (PhilGARP)	No
Programa GEI Mexico	No
Regional Greenhouse Gas Initiative (RGGI) Model Rule	No
Smart Freight Centre: GLEC Framework for Logistics Emissions Methodologies	No
Taiwan - GHG Reduction Act	No
Thailand Greenhouse Gas Management Organization: The National Guideline Carbon Footprint for organization	No
The Climate Registry: Electric Power Sector (EPS) Protocol	No
The Climate Registry: General Reporting Protocol	No
The Climate Registry: Local Government Operations (LGO) Protocol	No
The Climate Registry: Oil & Gas Protocol	No
The Cool Farm Tool	No
The GHG Indicator: UNEP Guidelines for Calculating Greenhouse Gas Emissions for Businesses and Non-Commercial Organizations	No
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)	Yes

The Greenhouse Gas Protocol Agricultural Guidance:  
Interpreting the Corporate Accounting and Reporting  
Standard for the Agricultural Sector

No

The Greenhouse Gas Protocol: Public Sector Standard  
The Tokyo Cap-and Trade Program

No

US EPA Climate Leaders: Direct Emissions from Iron and  
Steel Production

No

US EPA Climate Leaders: Direct Emissions from  
Municipal Solid Waste Landfilling

No

US EPA Climate Leaders: Direct HFC and PFC Emissions  
from Manufacturing Refrigeration and Air Conditioning  
Equipment

No

US EPA Climate Leaders: Direct HFC and PFC Emissions  
from Use of Refrigeration and Air Conditioning  
Equipment

No

US EPA Climate Leaders: Indirect Emissions from  
Purchases/ Sales of Electricity and Steam

No

US EPA Climate Leaders: Direct Emissions from  
Stationary Combustion

No

US EPA Climate Leaders: Direct Emissions from Mobile  
Combustion Sources

No

US EPA Mandatory Greenhouse Gas Reporting Rule

No

WBCSD: The Cement CO2 and Energy Protocol

No

World Steel Association CO2 emissions data collection  
guidelines

No

Other, please specify

No

C5.2

C6. Emissions data

Reporting emissions is best practice and a pre-requisite to understanding and reducing negative environmental impacts.

This module examines emissions data details and is aligned with TCFD Metrics & Targets recommended disclosure b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions,

C6.1

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

Row 1

Gross global Scope 1 emissions (metric tons CO2e)

31,261.53

0 - 99999999999

Comment (≤ 2400)

≤ 2400

C6.1

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 (≤ 2400)

≤ 2400

C6.2

C6.3

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

Row 1

Scope 2, location-based

504,305.82

0 - 99999999999

Scope 2, market-based (if applicable)

504,305.82

0 - 99999999999

Comment (≤ 2400)

No instruments purchased.

≤ 2400

C6.3

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

C6.4

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.

Row 1

Source (≤ 2400)	Geographies - Vodacom Kenya's mobile network	≤ 2400
Relevance of Scope 1 emissions from this source	Emissions excluded due to recent acquisition	
Relevance of location-based Scope 2 emissions from this source	Emissions excluded due to recent acquisition	
Relevance of market-based Scope 2 emissions from this source (if applicable)	Emissions excluded due to recent acquisition	
Explain why the source is excluded (≤ 2400)	In August 2017 Vodacom concluded the acquisition of a 34.94% indirect stake in Safaricom, the number one mobile operator in Kenya. In the past eight months these operations contributed less than 10% of profit for the financial year ending March 2018.	≤ 2400

*This question only appears if you select "Yes" in response to C6.4.*

C6.4a

C6.5

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

Purchased goods and services		
Evaluation status	Relevant, calculated	
Metric tonnes CO2e	239.01	0 - 99999999999
Emissions calculation methodology (≤ 2400)	Consumption of office paper Emission factors: Mondi Rotatrim Paper Profile and Sappi Typek Paper Profile – both released February 2017 indicating electricity usage and CO2 emissions per tonne of paper. Tonnes of paper purchased provided by the service providers were used to calculate emissions according to the GHG Protocol using the provided emission factors. Assumptions: Data was provided for all operations and extrapolated according to the equity ratios.	≤ 2400
Percentage of emissions calculated using data obtained from suppliers or value chain partners	100.00	0 - 100
Explanation (≤ 2400)		≤ 2400
Capital goods		
Evaluation status	Relevant, not yet calculated	
Metric tonnes CO2e		0 - 99999999999
Emissions calculation methodology (≤ 2400)		≤ 2400

Percentage of emissions calculated using data obtained from suppliers or value chain partners		0 - 100
Explanation (≤ 2400)		
Fuel-and-energy-related activities (not included in Scope 1 or 2)		
Evaluation status	Relevant, calculated	
Metric tonnes CO2e	44,908.87	0 - 99999999999
Emissions calculation methodology (≤ 2400)	<p>Transmission and Distribution losses from purchased electricity          KWhs consumed were used to calculate emissions according to the GHG Protocol using Defra's 2017 emission factors for transmission &amp; distribution, South Africa and the IEA 2017 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.</p>	
Percentage of emissions calculated using data obtained from suppliers or value chain partners	100.00	0 - 100
Explanation (≤ 2400)		
Upstream transportation and distribution		
Evaluation status	Relevant, calculated	
Metric tonnes CO2e	9.76	0 - 99999999999
Emissions calculation methodology (≤ 2400)	<p>Third-party transport          Kilometres travelled in third party vehicles were used to calculate emissions according to the GHG Protocol using Defra's 2017 emission factors for passenger vehicles.          Assumptions: Distances travelled in third party vehicles were calculated using the available records for 2016 for operations in Tanzania only.</p>	
Percentage of emissions calculated using data obtained from suppliers or value chain partners	100.00	0 - 100
Explanation (≤ 2400)		
Waste generated in operations		
Evaluation status	Relevant, calculated	
Metric tonnes CO2e	736.39	0 - 99999999999

Emissions calculation methodology (≤ 2400)

Waste to landfill and recycled  
Tonnes of waste to landfill and recycled were used to calculate emissions according to the GHG Protocol using Defra's 2017 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.

≤ 2400

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

100.00

0 - 100

Explanation (≤ 2400)

≤ 2400

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

7,990.14

0 - 99999999999

Emissions calculation methodology (≤ 2400)

Business travel in rental cars, commercial airlines, hotel accommodation  
Car rental - kilometres travelled, engine size and type of fuel used provided by service provider. Defra's 2017 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 2017 emission factors for business travel - air used.  
Hotel accommodation - bednights provided by service provider. Emissions factor sourced from UNEP World Meteorological Organisation Climate Change And Tourism Report; A2.2.3 Accommodation.  
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.

≤ 2400

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

100.00

0 - 100

Explanation (≤ 2400)

≤ 2400

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO2e

11,409.61

0 - 99999999999

Emissions calculation methodology (≤ 2400)

Employee commuting  
A commuting survey was completed for Vodacom South Africa in 2012. A total of 707 surveys were received with 696 useable surveys. Due to the low percentage of response, this figure was combined with the 2009 Vodacom South Africa employee commuting survey and an average of the two was used to extrapolate the emissions per FTE for the Vodacom group according to the GHG Protocol using Defra's 2017 emission factors for business travel - land.

≤ 2400

Percentage of emissions calculated using data obtained from suppliers or value chain partners	100.00	0 - 100
Explanation (≤ 2400)		
Upstream leased assets		
Evaluation status	Relevant, not yet calculated	
Metric tonnes CO2e		0 - 999999999999
Emissions calculation methodology (≤ 2400)		
Percentage of emissions calculated using data obtained from suppliers or value chain partners		0 - 100
Explanation (≤ 2400)		
Downstream transportation and distribution		
Evaluation status	Relevant, calculated	
Metric tonnes CO2e	6,254.90	0 - 999999999999
Emissions calculation methodology (≤ 2400)	Third-party transport Litres of diesel and petrol consumed by third party vehicles were used to calculate emissions according to the GHG Protocol using Defra's 2017 emission factors for fuel. Assumptions: Fuel consumed by third party vehicles was calculated using the available records for South African operations only.	
Percentage of emissions calculated using data obtained from suppliers or value chain partners	100.00	0 - 100
Explanation (≤ 2400)		
Processing of sold products		
Evaluation status	Not relevant, explanation provided	
Metric tonnes CO2e		0 - 999999999999
Emissions calculation methodology (≤ 2400)		
Percentage of emissions calculated using data obtained from suppliers or value chain partners		0 - 100
Explanation (≤ 2400)	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
Metric tonnes CO2e	0 - 999999999999
Emissions calculation methodology (≤ 2400)	≤ 2400
Percentage of emissions calculated using data obtained from suppliers or value chain partners	0 - 100
Explanation (≤ 2400)	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	Not relevant, explanation provided
Metric tonnes CO2e	0 - 999999999999
Emissions calculation methodology (≤ 2400)	≤ 2400
Percentage of emissions calculated using data obtained from suppliers or value chain partners	0 - 100
Explanation (≤ 2400)	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
Metric tonnes CO2e	0 - 999999999999
Emissions calculation methodology (≤ 2400)	≤ 2400
Percentage of emissions calculated using data obtained from suppliers or value chain partners	0 - 100
Explanation (≤ 2400)	Vodacom does not have any equipment or assets that are owned and leased to third parties.
Franchises	
Evaluation status	Relevant, not yet calculated
Metric tonnes CO2e	0 - 999999999999

Emissions calculation methodology (≤ 2400) [ ] ≤ 2400

Percentage of emissions calculated using data obtained from suppliers or value chain partners [ ] 0 - 100

Explanation (≤ 2400) [ ] ≤ 2400

Investments

Evaluation status [Not relevant, explanation provided]

Metric tonnes CO2e [ ] 0 - 999999999999

Emissions calculation methodology (≤ 2400) [ ] ≤ 2400

Percentage of emissions calculated using data obtained from suppliers or value chain partners [ ] 0 - 100

Explanation (≤ 2400) [Vodacom accounts for emissions on the equity share approach.] ≤ 2400

Other (upstream)

Evaluation status [ ]

Metric tonnes CO2e [ ] 0 - 999999999999

Emissions calculation methodology (≤ 2400) [ ] ≤ 2400

Percentage of emissions calculated using data obtained from suppliers or value chain partners [ ] 0 - 100

Explanation (≤ 2400) [ ] ≤ 2400

Other (downstream)

Evaluation status [ ]

Metric tonnes CO2e [ ] 0 - 999999999999

Emissions calculation methodology (≤ 2400) [ ] ≤ 2400

Percentage of emissions calculated using data obtained from suppliers or value chain partners [ ] 0 - 100

Explanation (≤ 2400) [ ] ≤ 2400

C6.5

C6.7

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

No

C6.7

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.

Row 1

Intensity figure

0.0000062008

0 - 999999999999

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

535,567.35

0 - 999999999999

Metric denominator

unit total revenue

Metric denominator: Unit total

86370000000

0 - 10000000000000

Scope 2 figure used

Location-based

% change from previous year

11.95

0 - 999

Direction of change

Decreased

Reason for change (≤ 2400)

A 6.43% decrease in Scope 1 & 2 emissions mainly as a result of energy efficiency initiatives such as turning off-grid sites to on-grid saving diesel and installing solar PV at sites reducing electricity consumption by 1.59%, coupled with an increase of 6.26% in revenue earned, resulted in a decrease in the intensity figure for revenue.

≤ 2400

Row 2

Intensity figure

2.2100000000

0 - 999999999999

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

407,267.26

0 - 999999999999

Metric denominator

Other, please specify

Metric denominator: Unit total

Terabyte of network traffic  
184472.82

0 - 10000000000000

Scope 2 figure used

Location-based

% change from previous year

26.22

0 - 999

Direction of change

Decreased

Reason for change (≤ 2400)

Scope 1 & 2 emissions for the network decreased by 4,44% due to energy efficiency initiatives such as turning off-grid sites to on-grid saving diesel and installing solar PV at sites reducing electricity consumption, coupled with a 29,53% increase in network traffic, resulted in a decrease in the intensity figure for network traffic.

≤ 2400

C6.10

C7. Emissions breakdowns

This module enables respondents to break down Scope 1 and Scope 2 emissions by country, business division, facility and sector.

By breaking down emissions by country or regional level, information and data can be made available to regions, states and sub-national bodies to help guide the development of emissions-related legislation.

Breaking down emissions by business division, facility, and activity grants data users and investors transparency into the sources of a company's Scope 1 and 2 emissions and allows tracking the performance

C7.1

(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?

Yes

C7.1

C7.1a

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

	Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
Row 1	CO2	0.82	IPCC Fourth Assessment Report (AR4 - 100 year)
		0 - 999999999999	
Row 2	Other, please specify	0.53	IPCC Fourth Assessment Report (AR4 - 100 year)
	Novac 1230		
		0 - 999999999999	
Row 3	Other, please specify	31,260.18	IPCC Fourth Assessment Report (AR4 - 100 year)
	CO2e		
		0 - 999999999999	

*This question only appears if you select "Yes" in response to C7.1.*

C7.1a

C7.2

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

	Country/Region	Scope 1 emissions (metric tons CO2e)
Row 1	South Africa	9,853.43
		0 - 999999999999
Row 2	Mozambique	7,073.96
		0 - 999999999999
Row 3	Lesotho	438.31
		0 - 999999999999
Row 4	Other, please specify Tanzania	1,203.72
		0 - 999999999999
Row 5	Democratic Republic of the Congo	12,692.11
		0 - 999999999999

C7.2

C7.3

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

By business division  
By facility  
By activity

No
No
Yes

C7.3

C7.3c

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

	Activity (≤ 500)	Scope 1 emissions (metric tons CO2e)
Row 1	<input type="text" value="Stationary fuel"/>	<input type="text" value="27,473.27"/>
		0 - 999999999999
Row 2	<input type="text" value="Fugitive emissions"/>	<input type="text" value="1.35"/>
		0 - 999999999999
Row 3	<input type="text" value="Mobile fuel"/>	<input type="text" value="3,786.91"/>
		0 - 999999999999

*This question only appears if you select "By activity" in response to C7.3.*

C7.3c

C7.5

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

	Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Row 1	South Africa	491,457.82	491,457.82	501,487.57	0.00
		0 - 9999999999	0 - 9999999999	0 - 9999999999	0 - 9999999999
Row 2	Mozambique	2,513.86	2,513.86	38,854.19	0.00
		0 - 9999999999	0 - 9999999999	0 - 9999999999	0 - 9999999999
Row 3	Lesotho	6,501.70	6,501.70	10,484.91	0.00
		0 - 9999999999	0 - 9999999999	0 - 9999999999	0 - 9999999999
Row 4	Tanzania	3,823.61	3,823.61	8,695.95	0.00
		0 - 9999999999	0 - 9999999999	0 - 9999999999	0 - 9999999999
Row 5	Democratic Republic of the Congo	8.83	8.83	6,790.47	0.00
		0 - 9999999999	0 - 9999999999	0 - 9999999999	0 - 9999999999

C7.5

C7.6

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

By business division  
By facility  
By activity

Yes
No
No

C7.6

C7.6a

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

	Business division (≤ 500)	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Row 1	Access Network	338,197.42	338,197.42
		0 - 99999999999	0 - 99999999999
Row 2	Core Network	69,503.64	69,503.64
		0 - 99999999999	0 - 99999999999
Row 3	Data Centres	53,870.95	53,870.95
		0 - 99999999999	0 - 99999999999
Row 4	Offices	42,514.03	42,514.03
		0 - 99999999999	0 - 99999999999
Row 5	Retail	219.78	219.78
		0 - 99999999999	0 - 99999999999

*This question only appears if you select "Business division" in response to C7.6.  
C7.6a*

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?

*C7.9*

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)	Emissions value (percentage)	Please explain calculation (≤ 2400)
Change in renewable energy consumption	<input type="text"/>	<input type="text"/>	<input type="text"/>
	0 - 99999999999	0 - 999	

Other emissions reduction activities

9,095.00	Decreased	1.59	Scope 1 & 2 emissions decreased by 6.43% mainly as a result of energy efficiency initiatives such as turning off-grid sites to on-grid saving diesel and installing solar PV at sites reducing electricity consumption. Total Scope 1 & 2 emissions for 2017 were 572 363 tCO2e. We therefore arrived at 1.59% through $(9\ 095 / 572\ 363) * 100 = 1.59\%$ .
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0 - 999999999999

0 - 999

Divestment

1,664.00	Decreased	0.29	In August 2017 Vodacom Tanzania Ltd was successfully listed on the Dar Es Salaam Stock Exchange, thereby diluting the Vodacom Group shareholding in the company from 82% to 61.6%. Total Scope 1 & 2 emissions for 2017 were 572 363 tCO2e. We therefore arrived at 0.29% through $(1\ 664 / 572\ 363) * 100 = 0.29\%$ .
----------	-----------	------	--

0 - 999999999999

0 - 999

Acquisitions

--	--	--	--

0 - 999999999999

0 - 999

Mergers

--	--	--	--

0 - 999999999999

0 - 999

Change in output	7,083.00	Increased	1.24	The number of base stations increased by 4.93% while network traffic increased by 29.53% resulting in increased Scope 2 emissions. Total Scope 1 & 2 emissions for 2017 were 572 363 tCO <sub>2</sub> e. We therefore arrived at 1.24% through $(7\ 083 / 572\ 363) * 100 = 1.24\%$ .
	0 - 999999999999		0 - 999	

Change in methodology	33,120.00	Decreased	5.79	The emissions factor for purchased electricity from Eskom (Scope 2) decreased from 1.00 in 2016 to 0.98 kg CO <sub>2</sub> e per kWh in 2017. The lower local emission factors for African countries were used from the IEA, rather than the African average emissions factor. Total Scope 1 & 2 emissions for 2017 were 572 363 tCO <sub>2</sub> e. We therefore arrived at 5.79% through $(33\ 120/572\ 363) * 100 = 5.79\%$ .
	0 - 999999999999		0 - 999	

Change in boundary				
--------------------	--	--	--	--

Change in physical operating conditions				
---	--	--	--	--

Unidentified				
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Other				
-------	--	--	--	--

*This question only appears if you select "Increased", "Decreased" or "Remained the same overall" in response to C7.9.  
C7.9a*

C7.9b

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

Location-based

*This question only appears if you select "Increased", "Decreased" or "Remained the same overall" in response to C7.9.  
C7.9b*

C8. Energy

Energy related activities represent, for many sectors, the most significant GHG emission sources. This module provides transparency on the consumption and generation of energy by organizations to enable greater insight into this emissions source.

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%

C8.1

C8.2

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

Indicate whether your organization undertakes this energy-related activity

Consumption of fuel (excluding feedstocks)	<input type="text" value="Yes"/>
Consumption of purchased or acquired electricity	<input type="text" value="Yes"/>
Consumption of purchased or acquired heat	<input type="text" value="No"/>
Consumption of purchased or acquired steam	<input type="text" value="No"/>
Consumption of purchased or acquired cooling	<input type="text" value="No"/>
Generation of electricity, heat, steam, or cooling	<input type="text" value="Yes"/>

*The energy-related activities that you select in response to C8.2 determine which energy breakdowns you will be prompted to respond to in the proceeding questions. Please note, if your response to C8.2 is amended, data in dependent questions may be erased.*

C8.2

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	<input type="text" value="HHV (higher heating value)"/>	<input type="text" value="0.00"/>	<input type="text" value="124,508.64"/>	<input type="text" value="124,508.64"/>
		0 - 9999999999	0 - 9999999999	0 - 9999999999
Consumption of purchased or acquired electricity		<input type="text" value="0.00"/>	<input type="text" value="566,313.09"/>	<input type="text" value="566,313.09"/>

	0 - 9999999999	0 - 9999999999	0 - 9999999999
Consumption of self-generated non-fuel renewable energy	<input type="text" value="1,641.17"/>		<input type="text" value="1,641.17"/>
	0 - 9999999999		0 - 9999999999
Total energy consumption	<input type="text" value="1,641.17"/>	<input type="text" value="690,821.73"/>	<input type="text" value="692,462.90"/>
	0 - 9999999999	0 - 9999999999	0 - 9999999999

*This question appears if you selected "Yes" to any of the activities listed in C8.2. A row will appear in this table for each energy-related activity selected in C8.2. The "Total energy consumption" row will always appear.*  
 C8.2a

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	<input type="text" value="Yes"/>
Consumption of fuel for the generation of steam	<input type="text" value="No"/>
Consumption of fuel for the generation of cooling	<input type="text" value="No"/>
Consumption of fuel for co-generation or tri-generation	<input type="text" value="No"/>

*This question only appears if you select "Consumption of fuel (excluding feedstocks)" in response to C8.2. Each option that you select in this table will appear as an additional column in C8.2c.*  
 C8.2b

C8.2c

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

Row 1		
Fuels (excluding feedstocks)	<input type="text" value="Diesel"/>	
Heating value	<input type="text" value="HHV (higher heating value)"/>	
Total fuel MWh consumed by the organization	<input type="text" value="120,098.48"/>	0 - 9999999999

MWh fuel consumed for the self-generation of electricity	<input type="text" value="109,256.35"/>	0 - 9999999999
--	---	----------------

MWh fuel consumed for self-generation of heat	<input type="text" value="0.00"/>	0 - 9999999999
---	-----------------------------------	----------------

Row 2

Fuels (excluding feedstocks)	<input type="text" value="Petrol"/>
------------------------------	-------------------------------------

Heating value	<input type="text" value="HHV (higher heating value)"/>
---------------	---

Total fuel MWh consumed by the organization	<input type="text" value="4,410.16"/>	0 - 9999999999
---	---------------------------------------	----------------

MWh fuel consumed for the self-generation of electricity	<input type="text" value="0.00"/>	0 - 9999999999
--	-----------------------------------	----------------

MWh fuel consumed for self-generation of heat	<input type="text" value="0.00"/>	0 - 9999999999
---	-----------------------------------	----------------

*This question only appears if you select "Consumption of fuel" in C8.2 and a column appears in the table for each fuel application selected in C8.2b. The "Total MWh consumed by the organization" and "MWh consumed for the generation of heat" columns will always appear.*  
C8.2c

C8.2d

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

Diesel

Emission factor	<input type="text" value="0.25146"/>	-99 - 999999
-----------------	--------------------------------------	--------------

Unit	<input type="text" value="metric tons CO2e per MWh"/>
------	---

Emission factor source (≤ 2400)	<input type="text" value="Defra 2017 - Guidelines to Defra's GHG Conversion Factors for Company Reporting, Fuels, updated July 2017. Available: www.ukconversionfactorscarbonsmart.co.uk"/>	≤ 2400
---------------------------------	---	--------

Comment (≤ 2400)	<input type="text"/>	≤ 2400
------------------	----------------------	--------

Petrol

Emission factor	<input type="text" value="0.24049"/>	-99 - 999999
-----------------	--------------------------------------	--------------

Unit	<input type="text" value="metric tons CO2e per MWh"/>
------	---

Emission factor source (≤ 2400)	<input type="text" value="Defra 2017 - Guidelines to Defra's GHG Conversion Factors for Company Reporting, Fuels, updated July 2017. Available: www.ukconversionfactorscarbonsmart.co.uk"/>	≤ 2400
---------------------------------	---	--------

Comment (≤ 2400)

≤ 2400

*This question only appears if you input data into C8.2c. A corresponding row will appear for each fuel that you reported in C8.2c.  
C8.2d*

C8.2e

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	110,897.52	110,897.52	1,641.17	1,641.17
	0 - 999999999	0 - 999999999	0 - 999999999	0 - 999999999
Heat	0.00	0.00	0.00	0.00
	0 - 999999999	0 - 999999999	0 - 999999999	0 - 999999999
Steam	0.00	0.00	0.00	0.00
	0 - 999999999	0 - 999999999	0 - 999999999	0 - 999999999
Cooling	0.00	0.00	0.00	0.00
	0 - 999999999	0 - 999999999	0 - 999999999	0 - 999999999

*This question only appears if you select "Generation of electricity, heat, steam, or cooling" in response to C8.2.  
C8.2e*

C8.2f

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

Row 1

Basis for applying a low-carbon emission factor

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

Comment (≤ 2400)

No instruments were purchased.

≤ 2400

*This question only appears if you select "Consumption of purchased or acquired electricity", "Consumption of purchased or acquired heat", "Consumption of purchased or acquired steam" or "Consumption of purchased or acquired cooling" in response to C8.2.  
C8.2f*

## C9. Additional metrics

CDP data users seek to understand in which areas, beyond GHG emissions, companies are trying to reduce their environmental impacts. This new module requests reporting organizations to present relevant climate-related metrics that may indirectly or directly impact their emissions or energy use.

C9.1

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

*C9.1*

C10. Verification

Verification and assurance is good practice in environmental reporting as it ensures the quality of data and processes disclosed.

This module requests details on the verification status that applies to organizations' reported Scope 1, 2 and 3 emissions, as well as on the verification of other climate-related information reported in the

C10.1

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

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

C10.1

C10.1a

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

Row 1	
Scope	Scope 1
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 ( $\leq 1$ )	$\leq 1$
Page/ section reference ( $\leq 500$ )	P46-48 $\leq 500$
Relevant standard	ISAE 3410
Proportion of reported emissions verified (%)	72 0 - 100

Row 2

Scope	<input type="text" value="Scope 2 location-based"/>
Verification or assurance cycle in place	<input type="text" value="Annual process"/>
Status in the current reporting year	<input type="text" value="Complete"/>
Type of verification or assurance	<input type="text" value="Limited assurance"/>
Attach the statement ( $\leq 1$ )	<input type="text"/> $\leq 1$
<i>This column is only for attaching the applicable document for this question, no text should be entered here.</i>	
Page/ section reference ( $\leq 500$ )	<input type="text" value="P46-48"/> $\leq 500$
Relevant standard	<input type="text" value="ISAE 3410"/>
Proportion of reported emissions verified (%)	<input type="text" value="98"/> 0 - 100

*This question only appears if you select "Third-party verification or assurance process in place" for Scope 1 and/or Scope 2 emissions in response to C10.1.  
C10.1a*

C10.1b

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

Row 1

Scope	<input type="text" value="Scope 3- at least one applicable category"/>
Verification or assurance cycle in place	<input type="text" value="Annual process"/>
Status in the current reporting year	<input type="text" value="Complete"/>
Attach the statement ( $\leq 1$ )	<input type="text"/> $\leq 1$
<i>This column is only for attaching the applicable document for this question, no text should be entered here.</i>	
Page/section reference ( $\leq 500$ )	<input type="text" value="P46-48"/> $\leq 500$
Relevant standard	<input type="text" value="ISAE 3410"/>

*This question only appears if you select "Third-party verification or assurance process in place" for Scope 3 emissions in response to C10.1  
C10.1b*

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

*C10.2*

C11. Carbon pricing

Carbon pricing has emerged as a key policy mechanism to drive greenhouse gas emissions reductions and mitigate the dangerous impacts of climate change. As the number of jurisdictions with carbon pricing policies has doubled over the last decade, CDP data users are interested in understanding how companies are affected by these schemes.

C11.1

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

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

C11.1

C11.1d

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

As part of South Africa's ongoing efforts to move towards a low carbon economy and to meet South Africa's INDC targets, National Treasury has published a draft Carbon Tax Bill. The carbon tax will help the South African government to meet these reduction targets and it is currently scheduled to come into effect from January 2019.

The tax rate is set at R120 per tonne of CO<sub>2</sub>e (carbon dioxide equivalent) produced. During the first stage, a percentage-based threshold of 60% will apply, below which tax is not payable.

It is important to keep in mind that those businesses which 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.

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 Environmental Affairs (DEA). The DEA will use the GHG emissions reported by companies as basis for carbon tax liability calculations.

Vodacom is therefore complying with the impending carbon tax legislation by compiling its annual carbon footprint. It has also 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 DEA, using a specific template of the National Atmospheric Emissions Inventory system (NAEIS).

≤ 5000

*This question only appears if you select "Yes" or "No, but we anticipate being regulated in the next three years" in response to C11.1.*

C11.1d

C11.2

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

No

C11.2

C11.3

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

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

C11.3

C12. Engagement

In order to truly reduce global emissions, companies must engage with their value chain on climate-related issues. Questions in this module examine how organizations are working with their suppliers, customers and other partners.

This module provides data users with insight into the different types of activities in which organizations engage to influence public policy on climate-related issues.

C12.1

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

- Yes, our suppliers
- Yes, our customers
- Yes, other partners in the value chain
- No, we do not engage

Yes
No
No
No

Select all that apply:

C12.1

C12.1a

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

Row 1

Type of engagement

Details of engagement

- Collect climate change and carbon information at least annually from suppliers
- Other, please specify

Yes
No

Select all that apply:

% of suppliers by number

0 - 100

% total procurement spend (direct and indirect)

0 - 100

% Scope 3 emissions as reported in C6.5

0 - 100

Rationale for the coverage of your engagement (≤ 2400)

≤ 2400

Impact of engagement, including measures of success (≤ 2400)

≤ 2400

Comment (≤ 2400)

≤ 2400

This question only appears if you select "Yes, our suppliers" in response to C12.1.

C12.1a

C12.3

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

- Direct engagement with policy makers
- Trade associations
- Funding research organizations
- Other
- No

No
Yes
No
No
No

Select all that apply:  
C12.3

C12.3b

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

No

This question only appears if you select "Trade associations" in response to C12.3.  
C12.3b

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.

≤ 5000

This question only appears if you select "Direct engagement with policy makers", "Trade associations", "Funding research organizations" and/or "Other" in response to C12.3.  
C12.3f

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).

Row 1

Publication

In mainstream reports

Status

Complete

Attach the document (≤ 1)

≤ 1

This column is only for attaching the applicable document for this question, no text should be entered here.

Content elements

- Governance
- Strategy

Yes
Yes

Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics  
Other, please specify

Yes
Yes
No
No
No

Select all that apply:

Row 2

Publication

Status

Attach the document (≤ 1)

≤ 1

*This column is only for attaching the applicable document for this question, no text should be entered here.*

Content elements

Governance  
Strategy  
Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics  
Other, please specify

No
Yes
No

Select all that apply:

C12.4

C14. Signoff

C-FI

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

≤ 9999

*Please note that completing this field is optional and will not be scored.*

*Please click the "File upload" button (paperclip icon) to drag and drop a file.*

C14.1

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

Job title (≤ 200)

Corresponding job category

Acting Executive Head:  
Vodacom Group  
Sustainability

Environment/Sustainability  
manager

Row 1

*C14.1*

Submit your response

\*In which language are you submitting your response?

Please confirm how your response should be handled by CDP

*Please refer to the Terms for an explanation of how CDP will use your data based on your selection.*

\*Public or Non-Public Submission

\*I am submitting to

I am submitting my response

Investors

Please see CDP's Privacy Policy

Please read CDP's Terms for responding to Investors (2018 Climate Change)

\*Please confirm below

I have read and accept the applicable Terms