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About this report

Our Annual Report 2020 provides further details on Vodafone's progress against our sustainable business strategy.



Read more Vodafone.com/ar2020

Our business

Who we are:

A leading technology communications company keeping society connected and building a digital future for everyone.

Sustainability is at the core of our purpose:

'We connect for a better future'

We are optimistic about how technology and connectivity can enhance the future and improve people's lives.

Through our business, we aim to build a digital society that enhances socio-economic progress, embraces everyone and does not come at the cost of our planet.

That is why we have committed to improve one billion lives and halve our environmental impact by 2025.



Our sustainable business strategy

We believe that Vodafone has a significant role to play in contributing to the societies in which we operate. Last year, we articulated our purpose – with the ambition to improve one billion lives and halve our environmental impact by 2025, building on a decade of initiatives, efforts and products from our business.

Our sustainable business strategy helps the delivery of our 2025 targets across three pillars: Digital Society, Inclusion for All and Planet. We aspire to enable an inclusive and sustainable digital society.

In parallel, we remain dedicated to ensuring that Vodafone operates responsibly and ethically, supported by our corporate disclosure programme. This is an area which we believe is more important than ever, given the ongoing COVID-19 crisis and the role business plays in supporting society during this period of uncertainty and change.





Sustainable business governance

The Group Executive Committee (ExCo) — chaired by the Group Chief Executive — has overall accountability to the Vodafone Group Plc Board for Vodafone's sustainable business performance. The Group Director of SDGs, Sustainable Business and Foundations defines and leads Vodafone's sustainable business strategy worldwide and is responsible for the activities of the Group Sustainable Business team. The Group Director of SDGs, Sustainable Business and Foundations reports to the Group External Affairs Director who is a member of the ExCo.

The ExCo regularly reviews the progress of the sustainable business strategy. All external publications are reviewed by the Vodafone Group Disclosure Committee. The Committee is responsible for ensuring the accuracy and timeliness of Group disclosures and approves, on behalf of the Group Chief Executive, the controls and procedures related to the release of financial and non-financial information.

To demonstrate our commitment to delivering on our purpose, we will be introducing a number of purpose-led ambitions into our Executive global long-term incentive plan. Subject to shareholder approval at our 2020 AGM, these ambitions will be included from FY21 onwards, and will be directly linked to the progress made across our three pillars of Digital Society, Inclusion for All and Planet.

For details on our most recent materiality assessment, please refer to our <u>Sustainable Business Report 2019</u>. We continue to engage with a range of stakeholders to ensure we focus on the areas most relevant for our business and society. This has particularly been the case during the COVID-19 crisis.



Read more on Vodafone's five-point plan to help counter the impact of COVID-19 at page 54 of the ARA

Corporate governance

Vodafone is committed to delivering strong corporate governance for our shareholders, employees, suppliers, partners and customers, especially during these times of uncertainty and instability presented by the COVID-19 pandemic. We seek to maintain the highest levels of corporate governance to support the creation of long-term sustainable value for the benefit of all our stakeholders.



Read more on Vodafone's approach to corporate governance at page 72 of the ARA

Sustainable business governance structure

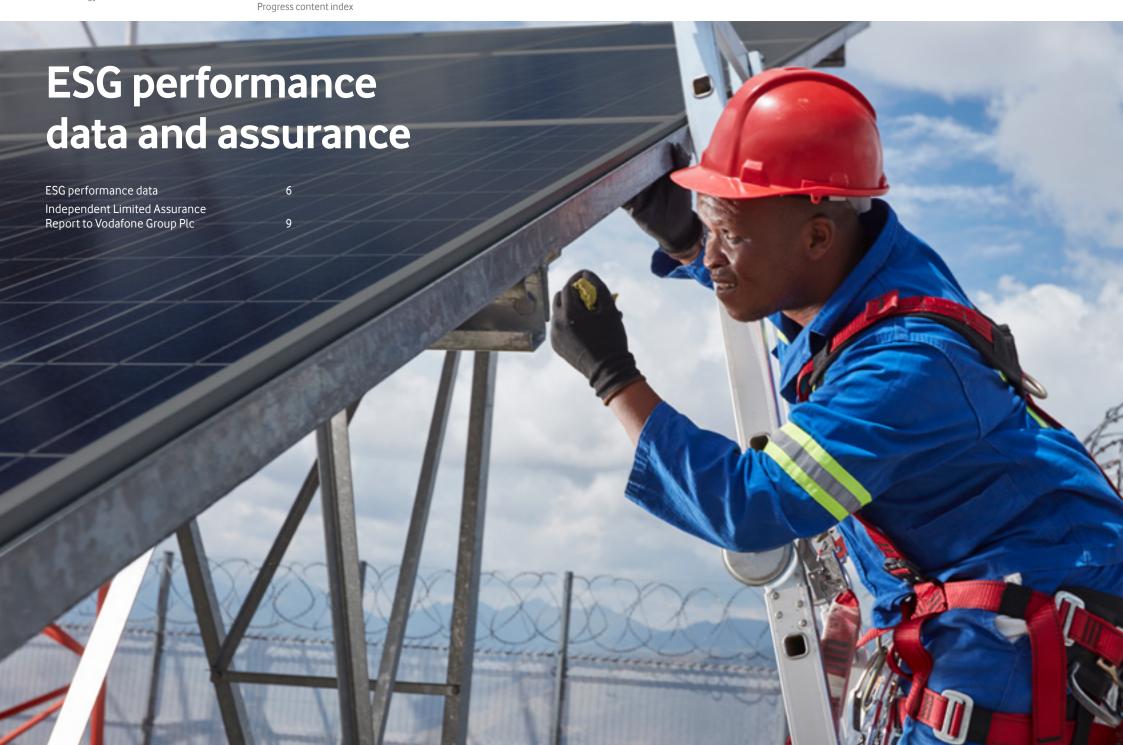


Core accountabilities and responsibilities

 Ultimate accountability for Vodafone's sustainable business strategy.

Vodafone Group Plc ESG Addendum 2020

- Sets overarching sustainable business direction.
- Responsible for sustainable business strategy and performance.
- Implements strategy.
- Engages with and supports the business through Group and local market teams.
- Engages with key external stakeholders.



GRI and UNGC

Communication on Progress content index

ESG performance data

	2018	2019	2020
DIGITAL SOCIETY	<u>'</u>		
Number of people connected to our next-generation networks (millions)*			144.0
Number of connected vehicles served by Vodafone's Internet of Things (IoT) platform (millions)		25	31
Number of M-Pesa customers (millions)	33.0	37.1	41.5
Estimated number of female M-Pesa customers (millions)	14.9	16.9	17.0
INCLUSION FOR ALL			
Estimated number of female customers in Africa (excluding Egypt) and Turkey (millions)	41.6	46.3	46.2
Total number of young people supported to access digital skills, learning and employment opportunities (cumulative progress to date)		533,698	708,172
Total number of Future Jobs Finder completions (cumulative progress to date)		478,986	539,273
Total number of opportunities for young people to receive a digital learning experience at Vodafone (cumulative progress to date)		55,577	113,322
Digital work experience opportunities provided during the year		46,833	104,420
Internship opportunities provided during the year		974	1,747
Apprenticeship opportunities provided during the year		518	400
Graduate opportunities provided during the year		677	805
PLANET**			
Our greenhouse gas (GHG) emissions			
Scope 1 and 2 (market-based method)			
Scope 1 GHG emissions (million tonnes CO ₂ e) (market-based method)	0.29	0.26	0.28
Scope 2 GHG emissions (million tonnes CO ₂ e) (market-based method)	1.78	1.76	1.56
Total Scope 1 and Scope 2 GHG emissions (million tonnes CO ₂ e) (market-based method)	2.07	2.01	1.84
Scope 1 and 2 (location-based method)			
Scope 1 GHG emissions (million tonnes CO ₂ e) (location-based method)	0.29	0.26	0.28
Scope 2 GHG emissions (million tonnes CO ₂ e) (location-based method)	2.29	1.91	1.66
Total Scope 1 and Scope 2 GHG emissions (million tonnes CO ₂ e) (location-based method)	2.58	2.17	1.94
GHG emissions (tonnes CO ₂ e) per petabyte of mobile data carried on Vodafone's networks	591	374	230

^{*}Defined as 4G/5G mobile networks and over 30Mbps fixed networks

^{**2018} and 2019 environmental performance data has been re-baselined in line with our policy that disposals are removed in the year of disposal, unless otherwise noted.

Introduction

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Turn September September				
Purchased goods and services 6,400 ADDO 3.3 See of sold products 1,500 2,500 2.0 Use and energy-related actestives 1,700 500 50 Use and energy-related actestives 700 6,000 50 Using separated and sociates 700 6,000 50 Using separate limited and sociates 60 60 60 Using separated limited out operations 1 1 1 Using separated limited out operations 6		2018	2019	2020
See of sold products 1,000 2,000	Scope 3 emissions by source*** (thousand tonnes CO ₂ e)			
	Purchased goods and services	6,400	4,000	3,700
quel and energy yelalted activities 900 700 conit ventures and associates 700 6,000 5,000 5,000 6,000 <	Use of sold products	1,600	2,100	2,100
bint ventures and associates 6,000 6,000 5,000 <td< td=""><td>Upstream leased assets</td><td>1,700</td><td>50</td><td>50</td></td<>	Upstream leased assets	1,700	50	50
Sustementated in unrepertation 1	Fuel and energy-related activities	900	700	700
Asize generated in our operations 1	Joint ventures and associates	700	6,000	5,300
Ratio of GHG emissions savings for customers to our own emissions GHG footprint (tonnes CO2e) 2.6 2.9 footage in sistions as voided as a consequence of lot technologies and service (million tonnes CO2e) 5.3 5.5 Energy use GWh) Service of Control of Service (million tonnes CO2e) Service (Million Service (million tonnes CO2e) Service (Million Service (million tonnes CO2e)	Business travel	60	60	50
State Stat	Waste generated in our operations	1	1	1
Paris Pari	Ratio of GHG emissions savings for customers to our own emissions GHG footprint (tonnes CO ₂ e)	2.6	2.9	3.8
Selegy S	Total emissions avoided as a consequence of IoT technologies and service (million tonnes CO ₂ e)	5.3	5.9	6.9
Ketwork base station sites 3,627 3,665 3, Cechnology centres 1,538 1,540	Energy use			
1,536 1,540 1,555 1,540 1,555 1,540 1,555 1,55	Energy use (GWh)			
Offices 301 277 Stetal 55 46 Stotal 552 55 46 Stotal 552 55	Network base station sites	3,627	3,665	3,810
State Stat	Technology centres	1,538	1,540	1,430
State Stat	Offices	301	277	256
Series S	Retail	55	46	45
Grid electricity 4,414 4,460 3,50 Grid renewable energy 804 821 1,50 Diesel and petrol 215 167 Sther 83 74 Strid renewable energy purchased (% of total electricity use) 15,4% 15,6% 25 Suitding a circular economy 50 84 Stotal waste recovered and recycled 84 84 Network waste received or recycled 9 84 See DEPLE 95 95 Werage headcount 100,879 102,428 104,135 Werage number of employees 91,980 92,005 92,866 Werage number of contractors 8,899 10,423 11,269 Women in management and leadership (%) 30% 31% 31 Women in senior leadership (%) 26% 28% 26	Total	5,521	5,528	5,541
Sird renewable energy 804 821 11, 20, 30, 31, 31, 32, 33, 33, 33, 33, 33, 33, 33, 33, 33	Energy use by source (GWh)			
On-site renewable energy 6 5 Diesel and petrol 215 167 Other 83 74 Grid renewable energy purchased (% of total electricity use) 15.4% 15.6% 25 Building a circular economy 5 4	Grid electricity	4,414	4,460	3,916
Sees and petrol 215 167	Grid renewable energy	804	821	1,369
Strict renewable energy purchased (% of total electricity use) 83 74 Strict renewable energy purchased (% of total electricity use) 15.6% 25 Strictling a circular economy Total waste recovered and recycled 84 Network waste reused or recycled 99 PEOPLE Werage headcount 100,879 102,428 104,135 Werage number of employees 91,980 92,005 92,866 Werage number of contractors 8,899 10,423 11,269 Women in management and leadership (%) 30% 31% 31 Women in senior leadership (%) 26% 28% 3	On-site renewable energy	6	5	6
Side renewable energy purchased (% of total electricity use) 15.6% 25.5 Building a circular economy 84 Set words waste reused or recycled 84 Network waste reused or recycled 95.00 EVENTE 85.00 Waverage headcount 100,879 102,428 104,135 Waverage number of employees 91,980 92,005 92,866 Waverage number of contractors 8,899 10,423 11,269 Women in management and leadership (%) 30% 31% 31 Women in senior leadership (%) 26% 28% 3	Diesel and petrol	215	167	177
Building a circular economy Fotal waste recovered and recycled 84 Vetwork waste reused or recycled 95 PEOPLE 91,980 102,428 104,135 Average number of employees 91,980 92,005 92,866 Average number of contractors 8,899 10,423 11,269 Vomen in management and leadership (%) 30% 31% 31% Vomen in senior leadership (%) 26% 28% 3	Other	83	74	72
Fotal waste recovered and recycled 84 Network waste reused or recycled 95 PEOPLE 100,879 102,428 104,135 Average headcount 91,980 92,005 92,866 Average number of employees 8,899 10,423 11,269 Average number of contractors 30% 31% 3 Vomen in management and leadership (%) 26% 28% 3	Grid renewable energy purchased (% of total electricity use)	15.4%	15.6%	25.9%
Fotal waste recovered and recycled 84 Network waste reused or recycled 95 PEOPLE 100,879 102,428 104,135 Average headcount 91,980 92,005 92,866 Average number of employees 8,899 10,423 11,269 Average number of contractors 30% 31% 3 Vomen in management and leadership (%) 26% 28% 3	Building a circular economy			
PEOPLE People werage headcount 100,879 102,428 104,135 Average number of employees 91,980 92,005 92,866 Average number of contractors 8,899 10,423 11,269 Women in management and leadership (%) 30% 31% 3 Women in senior leadership (%) 26% 28% 3	Total waste recovered and recycled			84.9%
Average headcount 100,879 102,428 104,135 Average number of employees 91,980 92,005 92,866 Average number of contractors 8,899 10,423 11,269 Vomen in management and leadership (%) 30% 31% 31% Vomen in senior leadership (%) 26% 28% 3	Network waste reused or recycled			99.9%
Werage number of employees 91,980 92,005 92,866 Average number of contractors 8,899 10,423 11,269 Vomen in management and leadership (%) 30% 31% 3 Vomen in senior leadership (%) 26% 28% 3	PEOPLE			
Average number of contractors 8,899 10,423 11,269 Vomen in management and leadership (%) 30% 31% 3 Vomen in senior leadership (%) 26% 28% 3	Average headcount	100,879	102,428	104,135****
Average number of contractors 8,899 10,423 11,269 Vomen in management and leadership (%) 30% 31% 3 Vomen in senior leadership (%) 26% 28% 3	Average number of employees	91,980	92,005	92,866****
Women in management and leadership (%) 30% 31% 3 Women in senior leadership (%) 26% 28% 3	Average number of contractors	8,899	10,423	11,269****
	Women in management and leadership (%)	30%	31%	31%
Vomen on the Board	Women in senior leadership (%)	26%	28%	26%
3570	Women on the Board	33%	42%	42%

^{***} The 2018 and 2019 Scope 3 emissions data has not been re-baselined to remove New Zealand.
**** The 2020 employee data has been adjusted to account for Liberty being included.

GRI and UNGC Communication on

Progress content index

	2018	2019	2020
RESPONSIBLE SUPPLY CHAIN			
Number of site assessments conducted (either by Vodafone or through JAC)	98	85	74
Number of issues related to forced labour identified	16	9	16
Number of remedial actions taken in response to forced labour issues identified	16	9	16
Number of reports to our external <i>Speak Up</i> hotline related to modern slavery concerns	0	1	0
Number of sites where we have conducted a confidential survey of supplier employees via their personal mobile phones	10	12	20
SAFETY			
Total recordable fatalities			
Total recordable fatalities (employees)	0	0	0
Total recordable fatalities (suppliers' employees/contractors)			1
Total recordable fatalities (members of the public)	3	0	2
Lost-time incidents (employees only)	·		
Number of lost-time incidents	64	64	33
Lost-time incident rate per 1,000 employees	0.62	0.62	0.37

Independent Limited Assurance Report to Vodafone Group Plc

Grant Thornton UK LLP ('Grant Thornton' or 'we') were engaged by Vodafone Group Services Limited to provide limited assurance to Vodafone Group Plc ('Vodafone') over the Subject Matter Information described below for the year ended 31 March 2020.

Limited assurance conclusion

Based on the work we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Subject Matter Information has not been collated, in all material respects, in accordance with the Reporting Criteria.

This conclusion is to be read in the context of what we say in the remainder of this report.

Subject Matter Information

The scope of our work was limited to assurance over the information included within Vodafone's ESG Addendum ('the Report') for the year ended 31 March 2020 listed in Appendix 1 to our report ('the Subject Matter Information').

Our assurance does not extend to any other information that may be included in the Report or displayed on Vodafone's website for the current year or for previous periods unless otherwise indicated.

Reporting Criteria

The Reporting Criteria used for the measurement or evaluation of the Subject Matter Information and to form our judgements are Vodafone's Basis of Preparation as set out in the 'Scope of reporting' and 'How we report our key performance indicators' sections (together 'the Reporting Criteria') of the Report. The Subject Matter Information needs to be read and understood together with the Reporting Criteria.

Inherent limitations

Our work was designed to consider the collation of the Selected Information and was not designed to test the underlying market level data. Our work was conducted at the Vodafone Group Head Office and remotely at Grant Thornton offices. Physical visits to other Vodafone locations did not take place.

The absence of a significant body of established practice on which to draw to measure or evaluate the Subject Matter Information allows for different, but acceptable, measurement or evaluation techniques and can affect comparability between entities and over time. In particular, we draw attention to the methodological and assumption-based limitations Vodafone have disclosed in the Reporting Criteria.

Directors' responsibilities

The Directors of Vodafone are responsible for:

- the design, implementation and maintenance of internal control relevant to the preparation and presentation of Subject Matter Information that is free from material misstatement, whether due to fraud or error:
- selecting and/or establishing suitable Reporting Criteria;
- measuring or evaluating and presenting the Subject Matter Information in accordance with the Reporting Criteria; and
- the preparation of the Report and the Reporting Criteria and their contents.

Our responsibilities

We are responsible for:

- planning and performing the engagement to obtain limited assurance about whether the Subject Matter Information has been collated in accordance with the Reporting Criteria;
- forming an independent limited assurance conclusion, based on the work we have performed and the evidence we have obtained; and
- reporting our limited assurance conclusion to Vodafone.

Our independence, professional standards and quality control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

We apply International Standard on Quality Control (UK) 1, 'Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements' and accordingly we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Assurance standards and level of assurance

We performed a limited assurance engagement in accordance with International Standard on Assurance Engagements 3000 (Revised) 'Assurance Engagements other than Audits and Reviews of Historical Financial Information' ('ISAE 3000') and, in respect of the greenhouse gas emissions information included within the Subject Matter Information, in accordance with International Standard on Assurance Engagements 3410 – 'Assurance Engagements on Greenhouse Gas Statements' ('ISAE 3410'), issued by the International Auditing and Assurance Standards Board. These standards require that we plan and perform this engagement to obtain limited assurance about whether the Subject Matter Information is free from material misstatement.

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risk which vary in nature from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Accordingly, we do not report a reasonable assurance conclusion.

Work performed

Considering the circumstances of the engagement our work included, but was not restricted to:

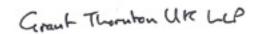
- assessing the suitability of the Reporting Criteria as the basis of preparation for the Subject Matter Information;
- assessing the risk of material misstatement of the Subject Matter Information, whether due to fraud or error, and responding to the assessed risk as necessary in the circumstances:
- conducting interviews with relevant
 Vodafone management and examining
 selected documents to obtain an
 understanding of the processes, systems and
 controls in use for collating and reporting the
 Subject Matter Information;
- performing selected limited substantive testing including agreeing a selection of the collated Subject Matter Information to a selection of the Vodafone market level data submissions submitted by Vodafone markets to the Vodafone Group Head Office;

- considering the appropriateness of a selection of selected carbon conversion factor calculations, other unit conversion factor calculations and other calculations used by Vodafone to collate the Subject Matter Information including by reference to widely recognised and established conversion factors;
- re-performing a selection of selected calculations used by Vodafone to collate the Subject Matter Information;
- agreeing a selection of the relevant prior period and baseline data to previously reported data where these were used in the calculation of the Subject Matter Information, including re-performing a selection of the calculations:
- performing analytical review procedures over the collated Subject Matter Information, including a comparison to the prior period's amounts having due regard to changes in the business;
- evaluating the overall presentation of the Subject Matter Information; and
- reading the Report and narrative accompanying the Subject Matter Information in the Report with regard to the Reporting Criteria, and for consistency with our findings.

Intended use of this report

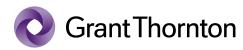
This limited assurance report, including our conclusion, is made solely to Vodafone in accordance with the terms of our engagement letter dated 27 April 2020. That agreement permits disclosure to other parties, solely for the purpose of Vodafone showing that it has obtained an independent limited assurance report in connection with the Subject Matter Information. Our work has been undertaken so that we might state to Vodafone those matters we are required to state to them in an independent limited assurance report and for no other purpose. We have not considered the interest of any other party in the Subject Matter Information.

To the fullest extent permitted by law, we do not accept or assume responsibility and deny any liability to any party other than Vodafone for our work or this limited assurance report, including our conclusion.



Grant Thornton UK LLP

Chartered Accountants Reading 29 May 2020



The maintenance and integrity of Vodafone's website is the responsibility of the Directors of Vodafone; the work carried out by us does not involve consideration of these matters and, accordingly, we accept no responsibility for any changes that may have occurred to the reported Subject Matter Information, the Report or the Reporting Criteria presented on Vodafone's website since the date of our limited assurance report.

Vodafone Group Plc ESG Addendum 2020

Subject Matter Information (Appendix 1)

The Underlying Subject Matter and Subject Matter Information are listed here. The information in this Appendix needs to be read together with the attached limited assurance report and the Reporting Criteria.

Underlying Subject Matter	Subject Matter Information
	Total
Vodafone energy use: (GWh)	5,541
Vodafone GHG emissions: Scope 1 (million tonnes CO ₂ e)	0.28
Vodafone GHG emissions: Scope 2 (market-based method) (million tonnes CO ₂ e)	1.56
Vodafone GHG emissions: Total Scope 1 and 2 (market-based method) (million tonnes CO ₂ e)	1.84
Vodafone GHG emissions: Scope 3 (air travel only) (million tonnes CO ₂ e)	0.05
Vodafone GHG emissions: Scope 2 (location-based method) (million tonnes CO ₂ e)	1.66
Vodafone GHG emissions: Total Scope 1 and 2 (location-based method) (million tonnes CO ₂ e)	1.94
GHG emissions per petabyte of traffic on Vodafone's networks (million tonnes CO ₂ e)	230
Energy and GHG emissions: Energy from renewable sources (%)	25.9
Number of total emissions avoided as a consequence of IoT technologies and service (million tonnes CO ₂ e)	6.9
Ratio of GHG emission savings for customers to own GHG footprint (ratio)	3.8



Global Reporting Initiative (GRI) Standards index 2020

Vodafone's ESG Addendum 2020 has been prepared in reference to the GRI Sustainability Standards 2016. The GRI Standards allow companies to report their material impacts for a range of economic, environmental and social issues.

Key

ARA Annual Report and AccountsSBR Sustainable Business Report 2019

Disclosure number	Disclosure title	Location			
GRI 102: GENERAL STANDARDS					
102-1	Name of the organization	Vodafone Group Plc			
102-2	Activities, brands, products, and services	See What we do and pages 6–7 of the ARA			
102-3	Location of headquarters	London (UK)			
102-4	Location of operations	See Where we are, page 6 of the ARA and Scope of reporting at page 28 of the ESG Addendum 2020			
102-5	Ownership and legal form	See <u>Corporate Governance</u>			
102-6	Markets served	See Where we are and What we do			
102-7	Scale of the organization	See <u>ARA</u> , <u>Where we are</u> and <u>What we do</u>			
102-8	Information on employees and other workers	See page 57 in the People chapter of the ARA			
102-9	Supply chain	See pages 48–49 in the Operating responsibly chapter of the <u>ARA</u>			
102-10	Significant changes to the organization and its supply chain	See page 25 of the ARA			
102-11	Precautionary Principle or approach	We do not formally apply the Precautionary Principle to decision making across all of our activities; however, it has influenced our thinking in the way we assess and manage environmental, safety, supply chain, operational and other risks, as described throughout the ARA and this report.			
102-12	External initiatives	See page 51 of the ARA			
102-13	Membership of associations	See pages 48, 49, 53, 55 of the <u>ARA</u>			
102-14	Statement from senior decision-maker	See pages 4–5 of the <u>ARA</u>			
102-16	Values, principles, standards, and norms of behavior	See pages 40–50 of the ARA			
102-18	Governance structure	See page 74 of the <u>ARA</u> See <u>Corporate Governance</u>			
102-40	List of stakeholder groups	See Materiality at page 68 of the SBR See pages 82–83 of the ARA			
102-41	Collective bargaining agreements	We recognise the rights of employees to join trade unions. In Europe, we also consult with our employees through the Vodafone European Employee Consultative Council, which meets twice a year and gives employee representatives an opportunity to raise any concerns with our executive management team.			
102-42	Identifying and selecting stakeholders	See pages 12–13 and 82–83 of the ARA			
102-43	Approach to stakeholder engagement	See pages 12–13 and 82–83 of the ARA			

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Disclosure number	Disclosure title	Location				
GRI 102: GENERAL S	GRI 102: GENERAL STANDARDS					
102-44	Key topics and concerns raised	See pages 12–13 and 82–83 of the ARA				
102-45	Entities included in the consolidated financial statements	See <u>ARA</u>				
102-46	Defining report content and topic Boundaries	See Scope of reporting at page 28 of the ESG Addendum 2020				
102-47	List of material topics	See Materiality at page 68 of the <u>SBR</u>				
102-48	Restatements of information	See Scope of reporting at page 28 of the ESG Addendum 2020				
102-49	Changes in reporting	See Scope of reporting at page 28 of the ESG Addendum 2020				
102-50	Reporting period	We report on a fiscal year basis from 1 April to 31 March.				
102-51	Date of most recent report	Our last report was published in June 2019.				
102-52	Reporting cycle	We report on an annual basis.				
102-53	Contact point for questions regarding the report	See back cover of the ESG Addendum 2020				
102-54	Claims of reporting in accordance with the GRI Standards	See GRI Standards index 2020 page 13 of the ESG Addendum 2020 See page 51 of the ARA				
102-55	GRI content index	See this Report				
102-56	External assurance	See Independent Limited Assurance Report to Vodafone Group Plc, pages 9–10 of the ESG Addendum 2020				
GRI 201: ECONOMIC	PERFORMANCE 2016					
103-1	Explanation of the material topic and its Boundary	See Materiality at page 68 of the SBR and Scope of reporting at page 28 of the ESG Addendum 2020				
103-2	The management approach and its components	See Sustainable business governance at <u>page 4</u> of the <u>ESG Addendum 2020</u> See page 27 of the <u>ARA</u>				
103-3	Evaluation of the management approach	See Sustainable business governance at page 4 of the ESG Addendum 2020 See page 84 of the ARA				
201-1	Direct economic value generated and distributed	See page 27 of the ARA				
201-3	Defined benefit plan obligations and other retirement plans	See pages 112–113 of the ARA				
GRI 203: INDIRECT E	CONOMIC IMPACTS 2016					
103-1	Explanation of the material topic and its Boundary	See Materiality at page 68 of the SBR and Scope of reporting at page 28 of the ESG Addendum 2020				
103-2	The management approach and its components	See pages 51 and 53–54 of the ARA				
103-3	Evaluation of the management approach	See Independent Limited Assurance Report to Vodafone Group Plc, <u>pages 9–10</u> of the <u>ESG Addendum 2020</u> See page 84 of the <u>ARA</u>				
203-1	Infrastructure investments and services supported	See pages 10–11 of the ARA				
203-2	Significant indirect economic impacts	See pages 48, 53–54 and 91 of the ARA				

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GRI and UNGC Appendix Communication on Progress content index

Disclosure number	Disclosure title	Location				
GRI 205: ANTI-CORR	GRI 205: ANTI-CORRUPTION 2016					
103-1	Explanation of the material topic and its Boundary	See Materiality at page 68 of the SBR and Scope of reporting at page 28 of the ESG Addendum 2020				
103-2	The management approach and its components	See Anti-bribery and corruption, page 49 of the <u>ARA</u>				
103-3	Evaluation of the management approach	See <u>Code of Conduct</u> See pages 84–85 of the <u>ARA</u>				
205-1	Operations assessed for risks related to corruption	See Anti-bribery and corruption, page 49 of the <u>ARA</u> . Risk assessment is carried out in all local markets.				
GRI 302: ENERGY 20	16					
103-1	Explanation of the material topic and its Boundary	See Materiality at page 68 of the <u>SBR</u> and Scope of reporting at <u>page 28</u> of the <u>ESG Addendum 2020</u>				
103-2	The management approach and its components	See pages 46–47 of the <u>ARA</u>				
103-3	Evaluation of the management approach	See Independent Limited Assurance Report to Vodafone Group, pages 9–10 of the ESG Addendum 2020 See page 84 of the ARA				
302-1	Energy consumption within the organization	See ESG performance data in the ESG Addendum 2020				
302-4	Reduction of energy consumption	See ESG performance data in the ESG Addendum 2020				
GRI 305: EMISSIONS	2016					
103-1	Explanation of the material topic and its Boundary	See Materiality at page 68 of the <u>SBR</u> and Scope of reporting at <u>page 28</u> of the <u>ESG Addendum 2020</u>				
103-2	The management approach and its components	See pages 46–47 of the <u>ARA</u>				
103-3	Evaluation of the management approach	See Independent Limited Assurance Report to Vodafone Group, pages 9–10 of the ESG Addendum 2020 See page 84 of the ARA				
305-1	Direct (Scope 1) GHG emissions	See <u>ESG performance data in the ESG Addendum 2020</u> See pages 46–47 of the <u>ARA</u>				
305-2	Energy indirect (Scope 2) GHG emissions	See ESG performance data in the ESG Addendum 2020 See pages 46–47 of the ARA				
305-3	Other indirect (Scope 3) GHG emissions	See ESG performance data in the ESG Addendum 2020 See pages 46–47 of the ARA				
305-5	Reduction of GHG emissions	See ESG performance data in the ESG Addendum 2020 See pages 46–47 of the ARA				
GRI 308: SUPPLIER E	NVIRONMENTAL ASSESSMENT 2016					
103-1	Explanation of the material topic and its Boundary	See Materiality at page 68 of the SBR and Scope of reporting at page 28 of the ESG Addendum 2020				
103-2	The management approach and its components	See pages 48–49 of the <u>ARA</u>				
103-3	Evaluation of the management approach	See page 84 of the ARA				
308-1	New suppliers that were screened using environmental criteria	See pages 48–49 of the <u>ARA</u> When choosing a new supplier, or choosing to continue to work with one, we assess the supplier's compliance with our rules on health, safety and responsible behaviour, just as we assess commercial factors such as quality, cost and the supplier's ability to deliver on time.				
308-2	Negative environmental impacts in the supply chain and actions taken	See pages 48–49 of the <u>ARA</u> See <u>ESG performance data in the ESG Addendum 2020</u>				

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Disclosure number	Disclosure title	Location				
GRI 401: EMPLOYME	GRI 401: EMPLOYMENT 2016					
103-1	Explanation of the material topic and its Boundary	See Materiality at page 68 of the SBR and Scope of reporting at page 28 of the ESG Addendum 2020				
103-2	The management approach and its components	See pages 56–57 of the ARA				
103-3	Evaluation of the management approach	See pages 84 of the ARA				
401-1	New employee hires and employee turnover	See page 57 of the <u>ARA</u> See <u>ESG performance data in the ESG Addendum 2020</u>				
401-3	Parental leave	See pages 57–58 of the ARA				
GRI 403: OCCUPATIO	NAL HEALTH AND SAFETY 2016					
103-1	Explanation of the material topic and its Boundary	See Materiality at page 68 of the <u>SBR</u> and Scope of reporting at <u>page 28</u> of the <u>ESG Addendum 2020</u>				
103-2	The management approach and its components	Our approach to safety See page 81 of the ARA				
103-3	Evaluation of the management approach	See page 78 of the ARA				
403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	See ESG performance data in the ESG Addendum 2020				
GRI 404: TRAINING A	ND EDUCATION 2016					
103-1	Explanation of the material topic and its Boundary	See Materiality at page 68 of the <u>SBR</u> and Scope of reporting at <u>page 28</u> of the <u>ESG Addendum 2020</u>				
103-2	The management approach and its components	See pages 58–59 of the ARA				
103-3	Evaluation of the management approach	See page 78 of the ARA				
404-1	Average hours of training per year per employee	See ESG performance data in the ESG Addendum 2020				
404-3	Percentage of employees receiving regular performance and career development reviews	All employees receive regular development reviews.				
GRI 405: DIVERSITY	AND EQUAL OPPORTUNITY 2016					
103-1	Explanation of the material topic and its Boundary	See Materiality at page 68 of the <u>SBR</u> and Scope of reporting at <u>page 28</u> of the <u>ESG Addendum 2020</u>				
103-2	The management approach and its components	See pages 58–59 of the ARA				
103-3	Evaluation of the management approach	See page 78 of the ARA				
405-1	Diversity of governance bodies and employees	See ESG performance data in the ESG Addendum 2020				
GRI 412: HUMAN RIG	HTS ASSESSMENT 2016					
103-1	Explanation of the material topic and its Boundary	See Materiality at page 68 of the <u>SBR</u> and Scope of reporting at <u>page 28</u> of the <u>ESG Addendum 2020</u>				
103-2	The management approach and its components	See page 48 of the ARA				
103-3	Evaluation of the management approach	See page 78 of the ARA				
412-1	Operations that have been subject to human rights reviews or impact assessments	See page 48 of the ARA				
412-2	Employee training on human rights policies or procedures	See page 48 of the ARA				
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	See page 48 of the ARA				

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Disclosure number	Disclosure title	Location				
GRI 414: SUPPLIER S	GRI 414: SUPPLIER SOCIAL ASSESSMENT 2016					
103-1	Explanation of the material topic and its Boundary	See Materiality at page 68 of the SBR and Scope of reporting at page 28 of the ESG Addendum 2020				
103-2	The management approach and its components	See pages 48–49 of the ARA				
103-3	Evaluation of the management approach	See page 84 of the ARA				
414-1	New suppliers that were screened using social criteria	See pages 48–49 of the <u>ARA</u> When choosing a new supplier, or choosing to continue to work with one, we assess the supplier's compliance with our rules on health, safety and responsible behaviour, just as we assess commercial factors such as quality, cost and the supplier's ability to deliver on time.				
414-2	Negative social impacts in the supply chain and actions taken	See pages 48–49 of the <u>ARA</u> See <u>ESG performance data in the ESG Addendum 2020</u>				
GRI 418: CUSTOMER	PRIVACY 2016					
103-1	Explanation of the material topic and its Boundary	See Materiality at page 68 of the SBR and Scope of reporting at page 28 of the ESG Addendum 2020				
103-2	The management approach and its components	See page 48 of the ARA				
103-3	Evaluation of the management approach	See page 84 of the ARA				
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	See pages 48 and 64–65 of the ARA				

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United Nations Global Compact (UNGC) Communication on Progress

This Communication on Progress is structured using the UNGC Advanced level reporting criteria. It directs readers to the relevant parts of our 2020 Annual Report ('Annual Report'), as well as additional information and reports available on the Vodafone website.

Criterion	Description	Cross reference/direct answer					
IMPLEME	IMPLEMENTING THE TEN PRINCIPLES INTO STRATEGIES AND OPERATIONS						
	The COP describes mainstreaming into corporate functions and business units.	Vodafone purpose We believe that Vodafone has a significant role to play in contributing to the societies in which we operate. Last year, we articulated our purpose – with the ambition to improve one billion lives and halve our environmental impact by 2025, building on a decade of initiatives, efforts and products from our business. Our sustainable business strategy helps the delivery of our 2025 purpose targets across three pillars: Digital Society, Inclusion for All and Planet. We aspire to enable inclusive, resilient and environmentally sustainable digital societies in all countries we service, and we support the Sustainable Development Goals (SDGs) and 10 principles of the UN Global Compact ('10 principles'). In parallel, we remain dedicated to ensuring that Vodafone operates responsibly and ethically. This is an area which we believe is more important than ever, given the ongoing COVID-19 crisis and the role business plays in supporting society during this period of uncertainty and change. We are committed to doing our utmost to support society. As a result, we have announced a rapid, comprehensive and coordinated fivepoint plan to help the communities in which we operate. An overview and specific details of our sustainable business strategy and response to the COVID-19 crisis can be found in the 'Delivering on our purpose' section of our Annual Report, at pages 40–51. Several other sections of our Annual Report reflect the mainstreaming of the 10 principles.	These include: Our Chairman's statement, at pages 4–5 Our Chief Executive's review, at pages 14–15 Our purpose, at pages 16–19 Our people and culture, at pages 56–61 Risk management, at pages 62–71 Vodafone Code of Conduct Our Code of Conduct underpins everything we do. The Code of Conduct is mandatory and extends to everyone working for, or on behalf of, Vodafone, including employees, directors, contractors, subsidiaries, joint ventures and suppliers. We expect our suppliers and business partners to uphold the same standards and to act ethically, putting our principles into practice in everything they do. The Code of Conduct mainstreams the 10 principles within the business and covers all the topics included in the principles. Broader reporting relevant to the 10 principles Subject-specific reporting relating to the 10 principles includes the following: Principles 1–6 Human rights and labour The Vodafone Group Plc Human Rights Policy ('Human Rights Policy') is informed by the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, the International Covenant on Social, Economic and Cultural Rights, the United Nations Guiding Principles for Business and Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work and the UNGC Principles.	Our commitment to the protection of internationally proclaimed human rights and labour rights, and our approach on the governance to ensure that we are not complicit in human rights abuses, is cascaded throughout our organisation. Our commitments to human rights and labour rights can be found in our Human Rights Policy, in our Annual Report at pages 48–49, within the Code of Conduct, and the Vodafone Group Plc Modern Slavery Statement ('Modern Slavery Statement'). Principles 7–9 Environment Our approach to environmental challenges, including the initiatives we undertake to promote greater environmental responsibility and encourage the development and implementation of environmentally friendly technologies, are described in our Annual Report at pages 46–47 and on the Vodafone Website, Principle 10 Anti-Corruption Our policy on this issue is described in our Code of Conduct, which states that employees or others working on our behalf must never offer or accept any kind of bribe, and is summarised in our Annual Report at pages 49–50. Our Anti-Bribery Policy is consistent with the UK Bribery Act and the US Foreign Corrupt Practices Act, and any breaches can lead to dismissal or termination of contract.			

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Criterion	Description	Cross reference/direct answer		
2	The COP describes value chain implementation.	We expect our suppliers and business partners to uphold the standards within the Code of Conduct and to act ethically, putting our principles into practice in everything they do. Furthermore, every supplier that works for Vodafone is required to abide by our Code of Ethical Purchasing. The Code of Ethical Purchasing implements the 10 principles within our value chain by stipulating ethical, labour and environmental standards that we expect to be followed across our supply chain, including areas such as child labour, health and safety, working hours, discrimination and disciplinary processes. These commitments extend down through the supply chain so that a supplier with which we	have a direct contractual relationship (Tier 1 supplier) in turn is required to ensure compliance across its own direct supply chain (Tier 2 supplier from Vodafone's perspective) and beyond. Our Annual Report at pages 48—49 outlines the ways we monitor compliance with our Code of Ethical Purchasing, from ensuring our suppliers complete our ethical, labour and environmental risk questionnaire to detailed evaluations and on-site audits. Further details of how we implement our Code of Ethical Purchasing are described in our Human Rights Policy at page 6 and our Modern Slavery Statement.	
ROBUST H	UMAN RIGHTS MANAGEMEN	IT POLICIES AND PROCEDURES		
3	The COP describes robust commitments, strategies or policies in the area of human rights.	Vodafone Code of Conduct Vodafone's Code of Conduct underpins everything we do and is outlined above in Criterion 1. Specifically, with regards to human rights, the Code of Conduct states the following: We respect all internationally proclaimed human rights, including the International Bill of Human Rights and the principles concerning fundamental rights set out in the International Labour Organization's Declaration on Fundamental Principles and Rights at Work. We strive to ensure that we are not complicit in human rights abuses. We shall, in all contexts, seek ways to honour the principles of internationally recognised human rights, even when	faced with conflicting requirements. We are also committed to implementing the United Nations Guiding Principles on Business and Human Rights throughout our business operations. Human Rights Policy In 2019, we launched our Human Rights Policy, setting out the minimum requirements that every single person working for and with Vodafone must comply with to uphold the rights of our customers, colleagues, business partners and communities.	Existing policies relating to specific human rights topics were mapped and reviewed, and expert internal stakeholders were consulted to collate our group-wide commitments into one policy document. The Policy was reviewed and approved by our Group Executive Committee ('Group ExCo') and signed by our Group Chief Executive ('Group CEO').
4	The COP describes effective management systems to integrate the human rights principles.	Vodafone has an established Human Rights team that sits within our Sustainable Business function. Our Group External Affairs Director, who sits on the Group ExCo, is responsible for Vodafone's approach to human rights issues. The Human Rights team works in close collaboration with other teams in the business at both Group and local market level. To further strengthen our global governance on human rights issues, we have established a cross-functional Human Rights Advisory Group consisting of expert internal stakeholders accountable for the management of Vodafone's	material human rights impacts such as responsible sourcing, freedom of expression and the right to privacy. The Advisory Group's mission and mandate is to monitor compliance with the Human Rights Policy across the business in a centralised manner at Group level with performance against controls. Any subsequent corrective action plans will be formally documented, tested and tracked in our standard compliancemonitoring tool, in full alignment with standard enterprise risk management procedures.	

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Criterion	Description	Cross reference/direct answer		
5	The COP describes effective monitoring and evaluation mechanisms of human rights integration.	Human Rights Due Diligence As noted in the 'Controls and Governance' section at page 8 of our Human Rights Policy, our human rights due diligence approach is aligned with the United Nations Guiding Principles on Business and Human Rights. This includes policy controls, impact assessments, mitigation and monitoring, tracking our performance, employee training and stakeholder communication. We assess the actual and potential positive and adverse human rights impacts when: - developing new products/services/technologies or making substantial changes to existing offers; - entering new markets or in anticipation of changes in our existing operating environments; - considering new partnerships/acquisitions; and - engaging with our suppliers.	Further details on human rights governance can be found above in Criterion 4 and the Human Rights Policy. Responding to potential grievances We encourage everyone to report any human rights grievances as soon as possible. Our employees can do this through a confidential third-party hotline, <i>Speak Up</i> , accessible in their local language online or by telephone. <i>Speak Up</i> operates under a non-retaliatory policy, meaning that everyone who raises a concern in good faith is treated fairly, with no negative consequence for their employment with Vodafone. Our customers can report grievances through a dedicated complaints line and Privacy Query Form.	We believe that transparency is a key component to providing remedy. We continue to disclose information on our efforts to respect human rights and provide remedies, and remain active in the overall stakeholder dialogue. Speak Up is also made available to all of our suppliers and is communicated through our Code of Ethical Purchasing. For suppliers that decide to maintain their own grievance mechanisms, we require that they inform us of any grievances raised relating to work done on behalf of Vodafone directly. To learn more about Speak Up, see our Code of Conduct at pages 8–10, our Modern Slavery Statement, the 'Supplier Ethics' section on our website and our Annual Report at page 50.
ROBUST L.	ABOUR MANAGEMENT POLI The COP describes robust commitments, strategies or policies in the area of labour.	As stated on our website, we are committed to respecting the rights and freedoms of our employees and people working in our supply chain. We will not tolerate any forms of human rights abuse within our own operations or within our supply chain, and are committed to taking appropriate steps to ensure that everyone who works for Vodafone – in any capacity, anywhere in the world – benefits from a working environment in which their fundamental rights and freedoms are respected. Our Code of Conduct sets out what we expect from every single person working for and with Vodafone. It also underlines our responsibilities to our people, partners and shareholders. It includes, among other topics, our expectations on human rights, health and safety, and diversity and inclusion.	Our overall commitment to our people is outlined in the 'Our people and culture' section of the <u>Annual Report</u> , at pages 56–61, which discusses how we manage issues such as diversity and engagement. The 'Employee experience' section of the Annual Report outlines our approach to health and safety at pages 60–61. The 'Responsible supply chain' section at pages 48–49 explains how we manage labour issues in our supply chain. Our <u>Group Health</u> , <u>Safety and Wellbeing Policy</u> expands on the Code of Conduct, setting out our commitment to establish a robust and durable health, safety and wellbeing culture. This policy is accompanied by detailed standards setting out the specific steps that must be taken to manage our greatest health and wellbeing risks.	Our <u>Human Rights Policy</u> sets out the minimum requirements that every single person working for and with Vodafone must comply with to uphold the rights of our customers, colleagues, business partners and communities. Our <u>Code of Ethical Purchasing</u> sets out the standards we expect our suppliers to meet on health and safety, and labour rights (including child or forced labour).
7	The COP describes effective management systems to integrate the labour principles.	Our human rights governance, referenced above in Criterion 4, also covers labour principles. For additional information as to how we manage issues such as diversity or engagement, see the 'Our people and culture' section of the <u>Annual Report</u> at pages 56–61, the 'Employee experience' section of the Annual Report at pages 60–61 and the 'Responsible supply chain' section at pages 48–49.		

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Criterion	Description	Cross reference/direct answer		
8	The COP describes effective monitoring and evaluation mechanisms of labour principles integration.	Our human rights governance, referenced above in Criterion 4, also covers monitoring and evaluation mechanisms of labour issues. Our <i>Speak Up</i> programme, referenced above in Criterion 5, also applies to labour issues. Further information relevant to labour rights can also be found in our Modern Slavery Statement .		
ROBUST E	NVIRONMENTAL MANAGEM	ENT POLICIES AND PROCEDURES		
9	The COP describes robust commitments, strategies or policies in the area of environmental stewardship.	We believe that urgent and sustained action is required to address the climate emergency and that business success should not come at a cost to the environment. We have committed to halving our environmental impact by 2025. Our focus on energy efficiency, renewable electricity and eliminating network waste is helping us to mitigate the environmental impact of the growth of our business and our customers' increasing demand for data.	In addition, one of our most important contributions is through using our technologies and services to provide our customers with the means to achieve a reduction in their GHG emissions. Through our IoT services, we are helping our customers to manage energy more efficiently and reduce their emissions. We estimate that over 30% of the more than 103 million IoT connections we operate directly enable customers to reduce their emissions, and we expect these connections to increase over time.	Further information about our environmental commitments can be found in the 'Planet' section of our Annual Report at pages 40–51.
10	The COP describes effective management systems to integrate the environmental principles.	Our robust environmental management system focuses on helping the business achieve its targets for energy efficiency, renewable electricity and network waste. All of our local markets operate environmental management systems that encompass factors such as energy consumption, waste management and water usage. These systems are certified to the international standard ISO 14001 in the Czech Republic, Greece, Portugal, Romania, South Africa, Spain and the UK. We have a number of initiatives in place to reduce the energy used in our office buildings and administrative systems, and to help our employees reduce their own carbon impact. Several of our offices are LEED (Leadership in Energy and Environmental Design) certified and rated on the basis of their design, construction, operation and maintenance.	We implement resource efficiency and waste management programmes in all our local markets in order to minimise emissions from the end-of-life treatment of network waste, IT equipment and other office waste. Our Group policy on waste management prioritises the reuse or recycling of unwanted equipment, safely and responsibly, to help keep resources in use for as long as possible, extracting the maximum value from equipment while in use and then recovering and re-using materials before recycling them responsibly. More details can be found in the 'Planet' section of our Annual Report at pages 46–47.	

Vodafone Group Plc ESG Addendum 2020

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Criterion	Description	Cross reference/direct answer		
11	The COP describes effective monitoring and evaluation mechanisms for environmental stewardship.	Monitoring Planet Goals The 'Planet' section of our Annual Report at pages 46–47 outlines how we monitor and evaluate our Planet goals. Our key targets include: - reducing our GHG emissions by 50% by 2025; - purchasing 100% of our electricity from renewable sources by 2025; and - reusing, reselling or recycling 100% of our redundant network equipment by 2025. The Group External Affairs Director has ultimate and direct responsibility for our environmental sustainability strategy and performance. The Group External Affairs Director is a member of the Group ExCo, which reviews our environmental performance and receives formal periodic updates on our environmental sustainability strategy and progress.	The Group External Affairs Director also chairs Vodafone's Planet Steering Committee, which includes senior representatives from across Vodafone. The Steering Committee meets on a quarterly basis – or more often when required – to review performance as well as define and agree future actions and ambitions. Vodafone's Group Technology Officer has responsibility for energy use and overseeing the performance of the network, including energy efficiency improvements. The Group Technology Officer reports directly to the Group CEO and is also a member of the Group ExCo. Environmental management systems Our environmental management systems are designed to ensure compliance with relevant legislation in each local market as well as with European regulations, including:	 the EU's Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Directive; the Waste Electrical and Electronic Equipment Directive in EU countries; the EU's Registration, Evaluation, Authorisation and Restriction of Chemicals Directive; and the EU's Energy Efficiency Directive. Suspected environmental issues Suspected serious environmental issues can be reported via Speak Up, as outlined above in Criterion 5.
ROBUST A	NTI-CORRUPTION MANAGEI	MENT POLICIES AND PROCEDURES		
12	The COP describes robust commitments, strategies or policies in the area of anti-corruption.	Our policy on this issue is summarised in our <u>Code of Conduct</u> and states that employees or others working on our behalf must never offer or accept any kind of bribe. Our anti-bribery policy is consistent with the UK Bribery Act and the US Foreign Corrupt Practices Act. It provides guidance about what constitutes a bribe and prohibits giving or receiving any excessive or improper gifts and hospitality. Any policy breaches can lead to dismissal or termination of contract.	Further information on our approach to anti-corruption can be found in the 'Delivering on our purpose' section of our Annual Report at pages 49–50.	
13	The COP describes effective management systems to integrate the anti-corruption principle.	Our Group CEO and Group ExCo oversee our efforts to prevent bribery. They are supported by local market Chief Executives, who are responsible for ensuring that our antibribery programme is implemented effectively in their local markets. They in turn are supported by local specialists and by a dedicated Group team that is solely focused on antibribery policy and compliance. Vodafone's Risk and Compliance Committee assists the Group ExCo in fulfilling its accountabilities with regards to risk management and policy compliance. The key actions for the programme for the coming year are documented in the bribery risk line-of-sight report, which is regularly updated by our General Counsel.	As part of our anti-bribery programme, every Vodafone business must adhere to minimum global standards, which include: - ensuring there is a due diligence process for suppliers and business partners at the start of the business relationship; - completion of the global e-learning training by all employees, as well as tailored training for higher risk teams; and - using Vodafone's global online gift and hospitality registration platform, as well as ensuring there is a process for approving local sponsorships and charitable contributions.	We run a multi-channel, high-profile global communications programme, <i>Doing What's Right</i> , to engage with employees and raise awareness and understanding of our <u>Code of Conduct</u> . <i>Doing What's Right</i> also features e-learning training, which includes a specific anti-bribery module and uses gamification to enhance the learning experience. For further information on our effective management systems on anti-corruption see the 'Anti-bribery and corruption' section of our Annual Report at pages 49–50.

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Criterion	Description	Cross reference/direct answer		
14	The COP describes effective monitoring and evaluation mechanisms for the integration of anti-corruption.	Implementation of the anti-bribery policy is monitored regularly in all local markets as part of the annual Group Policy Compliance Review assurance process, which reviews key anti-bribery controls. On-the-ground reviews, on a rotating basis, enable assessing the implementation of the anti-bribery programme in more detail. This year, reviews were completed in Vodafone Egypt and Vodafone Business. The reviews demonstrated good implementation of the anti-bribery programme. Some areas for improvement relating to third-party risk management were identified and are being addressed.	Our <i>Speak Up</i> process, as outlined above in Criterion 5, also applies to anti-corruption. Employees are encouraged to use <i>Speak Up</i> to report a wide range of unlawful and unethical activities, including bribery, fraud, price-fixing and conflicts of interest. For further information on monitoring and evaluation mechanisms on anti-corruption see the 'Anti-bribery and corruption' section of our Annual Report at pages 49–50.	
TAKING AC	TION IN SUPPORT OF BROA	DER UN GOALS AND ISSUES		
15	The COP describes core business contributions to UN goals and issues.	COVID-19 Vodafone is committed to doing its utmost to support society during this period of uncertainty and change. As a provider of critical connectivity and communications services enabling our digital society, we have announced a five-point plan to help the communities in which we operate manage the health crisis, which includes: 1. maintaining the quality of service of networks; 2. providing capacity and services for critical government functions; 3. improving the dissemination of information to the public; 4. facilitating work from home and helping small and micro businesses within our supply chain; and 5. improving governments' insights into people's movements in affected areas.	Further information can be found in the 'COVID-19: Our rapid, comprehensive and coordinated response to support society' section of our Annual Report at pages 54–55 and at https://www.vodafone.com/covid19 . Our Contribution to the UN SDGs We firmly believe that Vodafone has a significant role to play in contributing to the societies in which we operate. Our purpose is to connect for a better future, with an ambition to improve one billion lives and halve our environmental impact by 2025. Our sustainable business strategy helps accelerate us towards these goals. Our purpose and sustainability strategy and responsible business practices are aligned to the UN SDGs and all of our 2025 targets contribute to the delivery of those goals.	Through the impact of our extensive global network, our wide range of products and services (such as our IoT and M-Pesa platforms) and the work of Vodafone Foundation, we believe we can increase the speed and scale of delivery across a wide number of the SDGs, for example, SDG 4 on Quality Education, SDG 5 on Gender Equality, SDG 8 on Decent Work and Economic Growth, SDG 9 on Industry, Innovation and Infrastructure and SDG 13 on Climate Action. For further information see the Vodafone Group Plc 'Our Contribution to the UN SDGs' report.

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Criterion	Description	C
16	The COP describes strategic social investments and philanthropy.	\(\text{V} \) \(\text{CC} \)
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Cross reference/direct answer

COVID-19

We are committed to doing our utmost to support society during this period of uncertainty and change. As a provider of critical connectivity and communications services enabling our digital society, we have announced a five-point plan to help the communities in which we operate in Europe, outlined above in Criterion 15. Teams throughout our markets have worked tirelessly to deliver our five-point plan and to support all the communities in which we operate. So far, the actions we have taken have totalled donations of goods and services of approximately €100 million, reaching 78 million customers.

Further information can be found in the 'COVID-19: Our rapid, comprehensive and coordinated response to support society' section of our Annual Report at pages 54–55 and at https://www.vodafone.com/covid19.

Delivering on our purpose

The 'Delivering on our purpose' section of our Annual Report at pages 41–45 outlines how our Digital Society and Inclusion for All programmes deliver social impact at scale. These programmes include, but are not limited to:

- Supporting financial inclusion

Approximately 1.7 billion people in the world still have no access to banking facilities, an issue that affects significantly more women than men. In 2007, together with our Kenyan associate, Safaricom, we developed the first mobile money transfer service, M-Pesa. This simple, secure, cheap and convenient solution is now offered to customers across seven markets in Africa: the Democratic Republic of Congo (DRC), Egypt, Ghana, Kenya, Lesotho, Mozambique and Tanzania. Further information can be found in the 'Digital Society' section of our Annual Report at page 43.

- Vodacom's Mum & Baby Service

In South Africa, Vodacom's Mum & Baby service is a freeto-use (no data charges) mobile health ('mHealth') service which gives customers maternal, neonatal and child health information. The information is shared through weekly stagebased SMS messages. Additional health-related content, such as articles, videos and tutorials, is available through a mobileoptimised website. The service has helped over 1.8 million parents and caregivers to take positive actions to improve their children's health since its launch in 2017.

Further information can be found in the 'Inclusion for All' section of our Annual Report at page 44 and at vodafone.com/mumandbaby.

- #ChangetheFace

On International Women's Day 2020, we furthered our commitment to gender diversity with the launch of #ChangeTheFace. This global initiative, created by Vodafone and supported by Nokia and Ericsson, aims to boost representation across the technology sector as employers pledge to make the sector more inclusive. There are already hundreds of thousands of unfilled vacancies for ICT professionals in Europe, and a declining number of women filling these roles. Research from the European Commission in 2018 also shows that women represent only 21.5% of all workers in digital jobs.

To help address this, we have expanded the services offered on our free Future Jobs Finder tool to empower more women. Future Jobs Finder is a free smartphone and web-based service designed to help young people find job opportunities in the digital economy and free digital skills training. Through the tool, psychometric tests identify individuals' aptitudes and interests, mapping these to the most appropriate digital job category, as well as job opportunities in their chosen location or within Vodafone. Our updated tool will help more women access technology careers, even if they have had no experience or qualifications in the sector.

At the same time, we have committed to work with global supplier diversity leader, WEConnect International, to boost diversity and inclusion in our supply chain and connect with more women-owned businesses worldwide.

Further information can be found in the 'Inclusion for All' section of our Annual Report at page 45, change-the-face.com, and futurejobsfinder.vodafone.com.

Vodafone Foundation

Globally, Vodafone Foundation supports projects that are focused on delivering public benefit through the application of technology across the areas of health, education and disaster relief.

The Vodafone Foundation is a UK-registered charity (1089625), funded principally through annual contributions from Vodafone Group. <u>Vodafone Foundation</u> sits at the centre of a network of 27 local social investment programmes, referred to as the local foundations. Vodafone Foundation has a funding partnership with these local foundations to provide public benefit by investing in programmes that support communities in Vodafone's operating countries. The total amount donated by Vodafone to Vodafone Foundation in 2020 was over €46 million.

The Vodafone Foundation page on our website outlines the various Vodafone Foundation programmes. These include, but are not limited to:

DreamLab

<u>DreamLab</u> is a specialist app, developed by Vodafone Foundation Australia as an easy way for anyone to support cancer research while their phone is on charge overnight. In April 2020, following the COVID-19 outbreak, a new Corona-Al project launched on the app, which uses the same technology to help in the fight against the coronavirus outbreak.

The free DreamLab app enables smartphone users to harness the collective processing power of their mobile phones to help speed up research into treatments for the novel coronavirus (COVID-19), as part of a partnership between Vodafone Foundation and scientists at Imperial College London.

M-Mama

Vodafone Foundation has partnered with USAID and private donors to create the *Mobilising Maternal Health* programme in Tanzania. The programme aims to strengthen Tanzania's health system by connecting communities to health facilities and their workers. The <u>M-Mama</u> platform uses mobile connectivity and M-Pesa mobile money payments to connect women in need of treatment with 'ambulance taxis' which can transport them to healthcare facilities.

- Instant Network Schools

Vodafone Foundation has pioneered the development of innovative digital teaching and remote learning technologies for deployment in some of the most vulnerable and disadvantaged communities in the world, including people living in refugee camps in sub-Saharan Africa. Its <u>Instant Network Schools</u> programme connects classrooms to the internet, providing remote and isolated communities with solar power, tablet computers and teacher-training resources, together with access to educational content.

Run in partnership with the United Nations High Commission for Refugees, the *Instant Network Schools* programme has given over 83,500 young refugee students access to a quality digital education.

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Appendix on

Criterion	Description	Cross reference/direct answer		
17	The COP describes advocacy and public policy engagement.	We engage in advocacy on many issues that are relevant to our purpose and sustainable business strategy – including but not limited to the following initiatives: - HeforShe We have embedded our commitment to diversity and gender balance into how we work at Vodafone. Our Group CEO continues the commitment to act as a corporate champion for the UN Women's global solidarity movement for gender equality, HeforShe. Further information can be found on the 'Working towards gender equality' section of our website and at https://www.heforshe.org/en/vodafone. - RE100 Led by The Climate Group, in partnership with CDP, RE100 brings together the world's most influential companies committed to 100% renewable electricity with the aim of scaling up demand for – and delivery of – renewable power. In 2018, we joined RE100 today with a commitment to purchase 100% of the electricity we use from renewable sources by 2025.	Further information can be found in the 'Increasing renewable energy' section of the <u>Vodafone Group Plc Sustainable Business Report 2019</u> at page 31 and at http://there100.org/ . — Global Network Initiative (GNI) In 2017, we joined the GNI as a Board member. The GNI is a multi-stakeholder forum focused on promoting and advancing freedom of expression and the right to privacy worldwide. The GNI brings together information and communications technology companies, civil society groups (including human rights and media freedom groups), academics and investors with a shared commitment to promote and advance freedom of expression and privacy worldwide. Further information can be found in the 'Human Rights' section of our Annual Report at page 48 and at https://globalnetworkinitiative.org/ .	Public policy engagement Our relationship with governments and regulators is important to ensure policies are developed in the interests of our customers and the industry, while also enabling them to better understand our impact on the community and the environment. This included engagement on data protection and privacy, and on security and supply chain resilience. For further information see the 'Stakeholder engagement' section of our Annual Report at pages 12–13.
18	The COP describes partnerships and collective action.	We believe partnership is the best way to make progress against our sustainable business strategy and targets. Several examples of our partnerships are listed above in Criterion 16. Further information can be found in the 'Delivering on our purpose' section of our Annual Report at pages 40–51, on the <u>Vodafone Foundation</u> website, and on the ' <u>Our purpose</u> ' section of our website.		
CORPORA	TE SUSTAINABILITY GOVERN	IANCE AND LEADERSHIP		
19	The COP describes CEO commitment and leadership.	In the Annual Report, at pages 4–5 and 14–15, our Chairman and Group CEO confirm their commitment to sustainability and responsible business practices.		
20	The COP describes Board adoption and oversight.	The Group ExCo – chaired by the Group CEO – has overall accountability to the Vodafone Group Plc Board for Vodafone's sustainable business performance. The Group Director of SDGs, Sustainable Business & Foundations defines and leads Vodafone's sustainable business strategy worldwide and is responsible for the activities of the Group Sustainable Business team. The Group Director of SDGs, Sustainable Business & Foundations reports to the Group External Affairs Director who is a member of the Group ExCo.	The Group ExCo regularly reviews the progress of the sustainable business strategy. All key external publications are reviewed by the Vodafone Group Disclosure Committee. The Committee is responsible for ensuring the accuracy and timeliness of Group disclosures, and approves, on behalf of the Group CEO, the controls and procedures related to the release of financial and non-financial information. For further information on governance see page 4.	

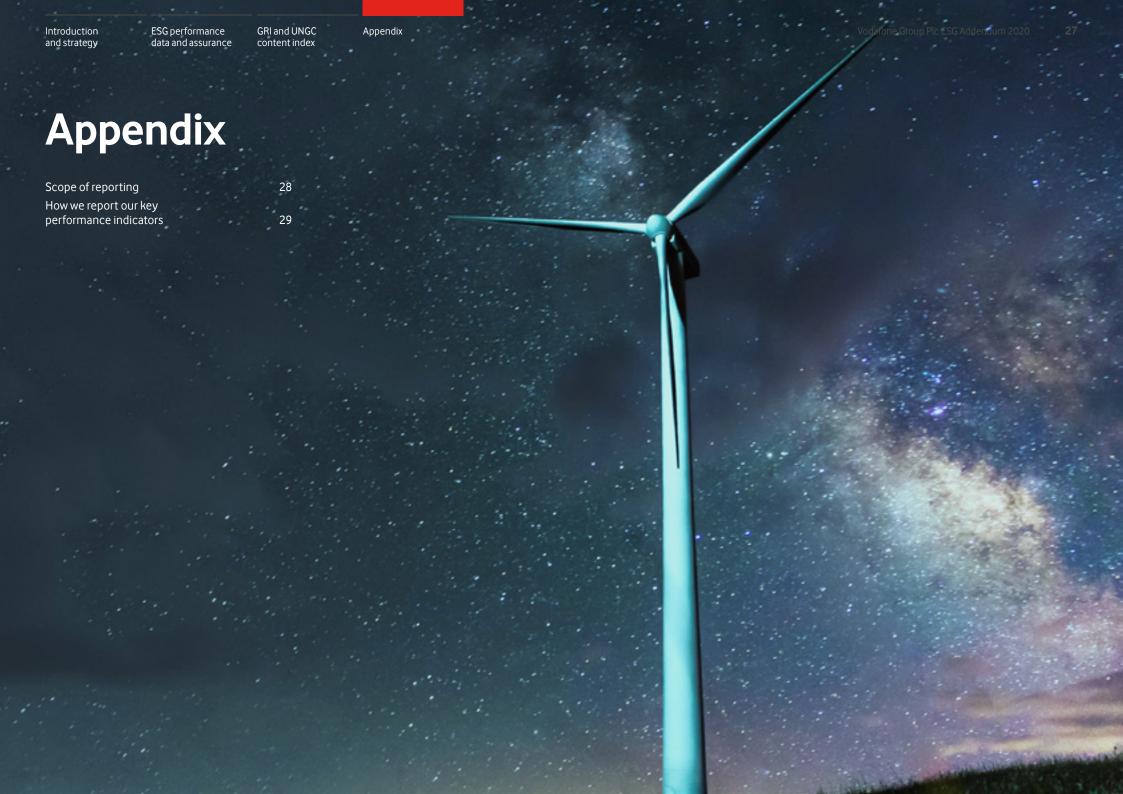
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Criterion	Description	Cross reference/direct answer
21	The COP describes stakeholder engagement.	Engaging regularly with our stakeholders is fundamental to the way we do business and ensures we operate in a balanced and responsible way in the short and longer term. We are committed to maintaining good communications and building positive relationships with all our stakeholders, as we see this as essential to building a sustainable business.
		The 'Stakeholder engagement' section of our Annual Report at pages 12–13 summarises our interactions with key stakeholders during the year. The Materiality section of the Sustainable Business Report 2019 at page 68 also outlines how stakeholder engagement has informed our sustainability strategy.



Scope of reporting

Performance data included in the scope of this Report:

- our operating companies in 21 countries where we had operational control as of 31 March 2020: Albania, Czech Republic, Egypt, Germany, Ghana, Greece, Hungary, Ireland, Italy, Malta, Portugal, Romania, Spain, Turkey, the UK, Vodacom in South Africa and Vodacom Group's subsidiaries in the DRC, Lesotho, Mozambique and Tanzania; and
- operations under Vodafone Global Enterprise and Vodafone Group Services.

Performance data excluded from the scope of this Report:

- joint ventures where Vodafone does not have operational control: VodafoneZiggo in the Netherlands, Vodafone Hutchinson Australia, Vodafone Idea and Indus Towers in India and our associate Safaricom in Kenya;
- Partner Market networks in which Vodafone neither has any equity interests nor holds an operating licence, including those Partner Markets that operate under the Vodafone brand;

- countries in which we are required to hold an operating licence in order to provide local customer support to multinational enterprise customers but where we neither own nor operate any licensed telecommunications network infrastructure; and
- retail stores that are Vodafone-branded by way of franchise and exclusive dealer arrangements but are not owned or operated by Vodafone.

Exceptions:

 our M-Pesa customer numbers and our 20 million women in Africa and Turkey target, which both include our associate Safaricom in Kenva.

Setting revised baselines after acquisitions, disposals and changes in operational control

The inclusion or exclusion of data from business units that have been acquired or sold, or where there is change in operational control (for example, through a merger), is determined by the date that the transaction in question is formally concluded with all approvals received.

Our policy on environmental data reporting is to include performance data from newly acquired businesses at the end of their first full year of new ownership. In terms of setting a revised baseline to reflect acquisitions, disposals or a change of control, our policy is that:

- acquisitions are built into the baseline using either actual or estimated data at the end of their first full year as a controlled subsidiary;
- disposals are removed from the baseline in the year of disposal (e.g. Vodafone New Zealand); and
- any identified errors >1% of the Group total are re-baselined wherever possible.

How we report our key performance indicators

This section of the Report outlines the basis of preparation of the key environmental performance indicators (KPIs).

Overview

We report energy and GHG emissions data for the following indicators:

- energy consumption by fuel source (in GWh);
- energy consumption by type (in GWh);
- renewable electricity consumption (as a percentage of total grid electricity);
- Scope 1 GHG emissions (in carbon dioxide equivalent (CO₂e));
- Scope 2 GHG emissions (in CO₂e) using both the location and market-based methods of calculation:
- Scope 3 GHG emissions (in CO₂e);
- total GHG emissions Scope 1 and 2 (in CO₂e); and
- total GHG emissions per unit of mobile data (in tonnes CO₂e/petabyte data).

Standards and guidance

Our methodology for the reporting of GHG emissions has been developed using the following guidance and standards:

- GHG Protocol standards and guidance, including the <u>Corporate Standard</u>, <u>Scope 2</u> Guidance and <u>Scope 3 Calculation Guidance</u>;
- CDP guidance including the 2019 <u>Climate</u> <u>Change Responders Pack</u> and the <u>Technical</u> <u>Note on Accounting of Scope 2 Emissions</u>; and
- the Climate Disclosure Standards Board Climate Change Reporting Framework.

Data gathering process and methods

We use an electronic data collection process to gather our data. In the majority of the countries where we operate, energy usage data is based on invoices from our energy suppliers. In some countries, those bills are based on the supplier's estimated readings.

Where data does not match our reporting period exactly – for example, where we only have 11 months of data – we forecast this information by extrapolation. For sites where energy invoices are unavailable, we estimate this information based on typical site consumption.

Increasingly, we measure our energy consumption through smart metering, a technology that uses mobile communications to collect real-time consumption data from energy meters.

Renewable electricity definition

Our figures for renewable electricity include all renewable electricity from third-party renewable suppliers which is traceable to Vodafone through a signed contract or provision of surrendered renewable energy certificates (RECs). The figures exclude any renewables for which RECs have been passed on and retired by a third party.

Scope 1

These are emissions within our direct control and include those from:

- diesel, petrol and other fuel used by cars and commercial vehicles owned by Vodafone or leased for six months or more:
- natural gas and other heating fuels used for space heating and hot water in our premises;
- diesel and petrol used for generators in off-grid areas, or where back-up capacity is required; and
- fugitive releases of refrigerants or fire suppressants used for air-conditioning or fire control systems in network buildings and offices.

Conversion factors from the UK government's

Department for Business, Energy and Industrial

Strategy have been used to calculate GHG
emissions from other fuel sources such as diesel,
petrol, natural gas and fuel oil as well as those
from vehicles. A conversion efficiency of 30% has
been used for diesel generators.

Scope 2

These are emissions from electricity (and heat/steam) purchased to power our networks, technology centres, offices and retail stores.

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We report two different Scope 2 emission values: one using a 'location-based' method and one using a 'market-based' method. The location-based method involves using an average emissions factor that relates to the grid on which energy consumption occurs. This usually relates to a country-level electricity emissions factor. The market-based method applies if the company has operations in any markets where energy certificates or supplier-specific information are available. The method involves using an emissions factor that is specific to the electricity purchased. We have reported Scope 2 figures using both the location-based and market-based methodologies.

Appendix

The following external factors have been used to calculate our market-based emissions.

Local market	Source	Conversion factor (kg CO ₂ e/kWh)
Albania	International Energy Agency (IEA)	
Czech Republic	Supplier factor and residual mix	Zero and 0.607
DRC	IEA	
Egypt	IEA	
Germany	Supplier factors	Various
Ghana	IEA	
Greece	IEA and residual mix	Various and 0.661
Hungary	Supplier factor and residual mix	0.369 and 0.345
Ireland	Supplier factors and residual mix	Zero and 0.634
Italy	Supplier factor and residual mix	Zero, 0.308 and 0.483
Lesotho	IEA	
Malta	Supplier factor and residual mix	0.443 and 0.655
Mozambique	IEA	
Portugal	Supplier factor and residual mix	0.258 and 0.307
Romania	Supplier factors	Various
South Africa	Supplier factor	1.04
Spain	Supplier factor and residual mix	0.200 and 0.448
Tanzania	IEA and supplier factor	0.268
Turkey	IEA	
UK	Supplier factors and residual mix	Zero, 0.157 and 0.380

Location-based emissions

Emissions are calculated using a kWh to CO₂e conversion factor provided by the IEA for the calendar year 2017, which was the latest dataset available at the time of publication.

Market-based emissions

Emissions are calculated using a kWh to CO₂e conversion factor based on one of the following sources (in order of priority):

- supplier conversion factors specific to our contract; these include some markets where supplies are 100% renewable, and where this is this case, we have sought evidence of singularity of supply;
- residual mix figures for 2018 where the conversion factor reflects the removal of certificates, contracts and supplier-specific factors claimed by other organisations; and
- location-based conversion factors as described above.

Scope 3

With the Carbon Trust, we have conducted an indepth analysis of our Scope 3 emissions. These are indirect emissions that we do not directly control but that we may be able to influence. They include emissions from our suppliers in providing us with goods and services; emissions from our joint ventures where do we not have full operational control: and emissions associated with the use of our products and services by our customers.

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The GHG Protocol Scope 3 Standard defines 15 categories of emissions as detailed in the table below. We have undertaken a qualitative assessment of the extent to which we can influence and reduce emissions in the most material categories. Further details of the methodology and results for each relevant category are also shown.

The estimation of Scope 3 emissions is a very approximate process. The values given in the table are not precise and are not intended to be read as absolute figures. Rather, they provide an indication of where the most significant emissions in our value chain arise and help us to target our action.

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GHG Protocol category	What does this mean for Vodafone?	Emissions (million tCO ₂ e)	Methodology for assessment	Ability to influence
Purchased goods and services; capital goods and services	Emissions from the extraction, production and transportation of goods and services purchased by Vodafone (includes capitalised goods and services).	3.7	Calculated using an environmentally extended economic input-output approach — this uses macro-economic modelling to determine the GDP value of different sectors of the economy, and to associate that with the GHG emissions incurred by those sectors. At its simplest, the total GHG emissions of the sector are divided by the total GDP value generated by the sector to produce an emission factor of x kgCO₂e/€ value. By multiplying these emission factors by the amount we spend on goods and services in each sector, we can obtain a rough estimate of our emissions for purchased goods and services.	High for some suppliers, more limited for others
Fuel and energy-related activities	Emissions from the extraction, production and transportation of fuels and energy purchased by Vodafone and not already included in Scopes 1 and 2. It includes emissions from electricity transmission and distribution.	0.7		
Upstream transportation and distribution	Not calculated as this category is not material.			
Waste generated in operations	Disposal and treatment of waste generated by our activities.	0.0007	Calculated by applying emission factors from DEFRA to data for waste generated by Vodafone ready for treatment and disposal.	High
Business travel	Transportation of employees for business-related activities.	O.06 Calculated by applying emissions factors from DEFRA to distances travelled for business by different modes (air, rail and personal car).		High
Employee commuting	Not calculated as this category is not material.	1	1	I.
Upstream leased assets	Operation of assets leased by Vodafone, including third- party network sites. This includes the relevant sites leased from tower companies in Greece (Victus), Tanzania, Ghana and the UK (CITL).			Moderate
Downstream transportation and distribution	Not calculated as this category is not material.			
Processing of sold products	Not relevant to Vodafone as we do not produce products for	further processing.		
Use of sold products	Emissions from the use of goods and services sold by Vodafone, principally from the energy used by network equipment, such as routers, and the energy required to charge mobile devices.	2.1	Calculated by multiplying the number of products sold by the energy usage for that product and electricity emission factors on a country basis. The total is the sum of all values.	Low
End-of-life treatment of sold products	Not calculated as this category is not material.			
Downstream leased assets	Not relevant to Vodafone as we do not have equipment or as	sets that we own and le	ase to third parties.	
Downstream leased assets	Not relevant to Vodafone as we do not have equipment or assets that we own and lease to third parties.			
Franchises	Not calculated as this category is not material.	·	·	
Investments	Operation of investments not included in Scope 1 or 2 – our joint ventures in Australia, Kenya, India and the Netherlands.	5.3	For joint ventures in Australia, Kenya, India and the Netherlands, Scope 1 and 2 emissions are based on actuals and Scope 3 emissions are extrapolated from Vodafone's emissions. A percentage of emissions are reported based on our equity share.	High

GHG savings for customers enabled by our products and services methodology

Our IoT products and services help our customers to reduce electricity, gas and the consumption of other fuels through applications such as smart meters, road navigation systems, fleet management and mobile health. In each of these applications, our IoT services are providing connectivity, enabling our customers to reduce their GHG emissions.

To quantify the GHG savings for our customers enabled by our products and services, we have calculated – in conjunction with the Carbon Trust – the total quantity of emissions that we have helped our customers to avoid. The concept of the enabling effect of information and communications technology was introduced in the SMART 2020 report, and the methodology has since been developed by the Global e-Sustainability Initiative (GeSI) and others. The GeSI Mobile Carbon Impact Report has been used as guidance for many of our calculations, according to the Carbon Trust methodology.

The starting point for the calculation is a list of our products and services that help customers avoid using energy or fuel. The full list is provided in the following table. For each product or service, a GHG-saving mechanism has been identified and quantified based on an external study, an internal Vodafone study or documented expert assumptions. For example, we know that smart electricity meters can typically reduce a domestic customer's electricity usage by 3% per year – so the GHG abatement from one of our IoT smart meter

connections is 3% of annual GHG emissions from a domestic home.

For each product and service, a unit of sale has been identified – for example, the number of smart electricity meter connections that we have sold. This unit of measurement is then multiplied by the GHG abatement savings for each type of application to provide the total saving for that application. The value for each product and service category is then added together to give the total GHG emissions abated by our technology.

It should be noted that a number of suppliers will contribute to providing an IoT application that enables a customer to avoid or reduce GHG emissions. We have not attempted to apportion emissions savings between ourselves and other suppliers in the value chain. We are careful in our reporting not to claim the avoided emissions as our own. Instead, we are clear that we are one of a number of parties who have helped our customers reduce their GHG emissions. Further details of products and services, the mechanism for abating emissions and the abatement factors used are provided in the table overleaf.

Reporting the ratio of the GHG emissions we help our customers reduce for every tonne of GHG we generate from our own operations

We report the quantity of GHG emissions that we are enabling our customers to avoid – as calculated by the methodology laid out above – as a ratio against the quantity of our total Scope 1 and 2 GHG emissions.



IoT application	Description	GHG abatement mechanism	GHG abatement factor
Smart metering (domestic)	IoT-enabled meters, which regularly record utility consumption (gas, electricity or water) and communicate the information back to the energy or utility company to allow remote reporting.	Smart meters are seen as an important tool to reduce domestic utility consumption and manage utility networks more efficiently. Many studies have demonstrated that the installation of smart meters and associated initiatives have resulted in energy consumption reductions.	Average electricity and gas usage reduction assumed is 3% and 2% respectively per annum ¹ .
Smart metering (commercial)	As per above but for commercial properties, which often have multiple smart meters to isolate different areas of consumption.	Smart meters in commercial property provide visibility to building managers as to where and when an organisation is consuming energy or water. Smart meters have been shown to lead to energy savings, as consumption can be optimised remotely.	Average electricity and gas usage reduction assumed is 16.8% per annum ² .
Smart logistics and fleet management (bus)	Connected telematics system that consist of an in-vehicle unit (IVU) connected to a central server. This feeds back real-time information on the GPS location of the vehicle, and may include other performance metrics such as fuel consumption and driver performance.	Connected buses can communicate with traffic light systems to prioritise bus routes, improving fuel efficiency. GPS location services can also be used to inform passengers of bus arrival times. Both features can help to increase bus patronage and improve emissions per passenger.	Fuel saving assumed is 6%. This is applied to average annual emissions for a bus.
Smart logistics and fleet management (cars)	Connected telematics system that consist of an IVU connected to a central server. Within a car fleet this is primarily used for satellite navigation and feedback on driver behaviour. Information may also be used for usage-based insurance.	Fleet management systems may be used for optimised routing and avoiding congested areas, which directly reduces fuel consumption. Telematics systems can offer real-time feedback to drivers on their driving performance and behaviour. This technology is an enabler; the efficiency gains can only be realised if the driver acts in response to the feedback.	Fuel saving assumed is 6%. This is applied to average annual emissions for a car ³ .
Smart logistics and fleet management (light and heavy goods vehicles (LGVs/ HGVs))	As per above but for LGVs and HGVs. Commercial vehicle applications include optimised delivery and dispatch routing, tracking of fuel consumption and monitoring of driver performance.	Optimised delivery and dispatch routing for goods vehicles ensures that unnecessary journeys are minimised, resulting in improved fuel efficiency. Telematics systems can offer real-time feedback to drivers on their driving performance and behaviour. This technology is an enabler; the efficiency gains can only be realised if the driver acts in response to the feedback.	Fuel saving assumed is between 2% and 10%, dependant on classification and application. This is applied to average annual emissions for an LGV or HGV.
Smart logistics and fleet management (taxis)	Connected telematics system that consists of an IVU connected to a central server. This is usually connected to passenger mobile applications to locate and summon nearby taxis. Multiple users may be connected to pool journeys.	Carbon savings are achieved by taxis having fewer miles travelled without a customer, based on optimised central control and dispatch of the taxis.	Fuel saving assumed is 5%. This is applied to average annual emissions for a taxi.
Street lighting	loT-enabled street lighting allows variable levels of lighting, depending upon the time of day and extent to which people are nearby.	The carbon saving is achieved by avoiding the use of street lighting when it is not necessary. Lower levels of lighting may also be used in less busy areas.	Reduction in energy consumption of street lights assumed is 20% ⁴ .
Electric vehicle (EV) charging	IoT-enabled EV charging points interact with EVs or driver mobile apps to direct drivers to the most appropriate charging point, giving drivers the confidence to carry out more journeys in EVs.	The use of an EV over a traditional fuel vehicle has significant carbon savings. It is assumed that each EV journey provided by the charging point replaces a traditional fuel journey.	Annual distance driven was calculated from the charge provided by a charging point. The saving is the difference in emissions for that distance between an average petrol vehicle and an EV ⁵ .
Healthcare	Connected devices allow chronic or high-risk patients to be monitored within their own home. This prevents excess journeys to and from the hospital by both patients and healthcare professionals, and frees up hospital beds.	The emissions associated with one hospital stay are avoided by allowing the patient to remain at home. There are also the avoided emissions from not having to make the car journey to and from the hospital.	Assumed 42% reduction in hospital admissions ⁶ .

¹ Energy Demand Report, Ofgem

² Average figure used from a selection of case studies varying from 7.5% to 25%; see BBP Better Metering Toolkit and ASB Bank and Vodafone M2M smart metering

³ Various published and unpublished studies indicate savings from 5–15%, dependent on level of intervention. Examples of some published sources: A guide to Telematics, Energy Saving Trust; Telematics Explained FIAG; and Mix Telematics Furl Savings

⁴ Telensa city data and smart lighting

⁵ Transport for London electric charging vehicle factsheet, 2014

⁶ Telehealth interventions reduce hospitalisation by 55% and reduce A&E admissions by 29%. An average figure of 42% was used.

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