Second-Party Opinion

Vodafone Group Plc Sustainable and Sustainability-Linked Finance Framework

SUSTAINALYTICS
a Morningstar company
SECOND-PARTY OPINION

Evaluation Summary

Evaluation Date September 07, 2021
Issuer/Borrower Location London, United Kingdom

The UoPs and SPTs contribute to the following SDGs:

Use of Proceeds Instruments

Sustainability Bond Guidelines 2021, Green Bond Principles 2021, and Social Bond Principles 2021

Sustainalytics is of the opinion that the Vodafone Sustainable and Sustainability-Linked Finance Framework is credible, impactful and aligns with the four core components of the Sustainability Bond Guidelines 2021, Green Bond Principles 2021, Social Bond Principles 2021, Green Loan Principles 2021 and Social Loan Principles 2021 (the "Use of Proceeds Principles"). The eligible categories for the use of proceeds – Energy Efficiency, On-site Renewable Energy, Green Buildings, Circular Economy, Access to Essential Services, Socio-economic Advancement and Empowerment, and Employment Generation – are aligned with those recognized by the Use of Proceeds Principles and will lead to positive environmental and social impacts.

Sustainability-Linked Instruments

Sustainability-Linked Bond Principles 2020, Sustainability-Linked Loan Principles 2021

Sustainalytics is of the opinion that the Vodafone Sustainable and Sustainability linked Finance Framework aligns with the Sustainability-Linked Bond Principles 2020 and Sustainability-Linked Loan Principles 2021 (the "Sustainability-Linked Principles"). Overview of KPIs and SPTs:

KPI	SPT	Strength of the KPI	Ambitiousness of SPT
Percentage reduction of carbon dioxide equivalent (tCO_2e)	To reduce absolute scope 1 and 2 carbon emissions by 95% by 2030 against a 2020 baseline, and to reduce absolute scope 3 emissions by 50% by 2030 against a 2020 baseline	Very strong	Highly ambitious
Avoided customer greenhouse gas emissions expressed in tonnes of CO_2 equivalent	To help customers reduce their carbon emissions by a cumulative total of 350 million tonnes globally between 2020 and 2030	Strong	Ambitious
Percentage of women in management and senior leadership roles	To have 40% of women in management and senior leadership roles by 2030	Strong	Ambitious
Millions of customers connected to mobile money services	To connect over 68.2 million people and their families to mobile money services by 2024	Strong	Ambitious

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Scope of Work and Limitations

Sustainalytics' Second-Party Opinion reflects Sustainalytics' independent[1] opinion on the alignment of the Vodafone Group Plc ("Vodafone", the "Issuer" or the "Company") Sustainable and Sustainability-Linked Finance Framework with current market standards. As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework's alignment with the Sustainability Bond Guidelines 2021, Green Bond Principles 2021, Social Bond Principles 2021, Sustainability-Linked Bond Principles 2020, Sustainability-Linked Loan Principles 2021, Green Loan Principles 2021 and Social Loan Principles 2021[2, 3] (the "Principles");
- The credibility and anticipated positive impacts of the use of proceeds and SPTs; and
- The Issuer's sustainability strategy, performance and sustainability risk management.

As part of this engagement, Sustainalytics held conversations with various members of Vodafone's management team to understand the sustainability impact of their business processes and the core components of the Framework. Vodafone representatives have confirmed that:

(1) They understand it is the sole responsibility of Vodafone to ensure that the information provided is complete, accurate and up to date;

(2) They have provided Sustainalytics with all relevant information; and

(3) Any provided material information has been duly disclosed in a timely manner.

Sustainalytics also reviewed relevant public documents and non-public information. This document contains Sustainalytics' opinion of the Framework and should be read in conjunction with that Framework. Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and Vodafone.

Sustainalytics' Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market standards. The Second-Party Opinion is valid for issuances aligned with the respective Framework for which the Second-Party Opinion was written up to 24 months[4] or until one of the following occurs: (1) A material change to the external benchmarks[5] against which targets were set; (2) A material corporate action (such as material M&A or change in business activity) which has a bearing on the achievement of the SLBs and/or SLLs or the materiality of the KPI.

For use of proceeds instruments, the Second-Party Opinion:

- addresses the anticipated impacts of eligible projects expected to be financed with bond proceeds but does not measure the actual impact. The measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner;
- opines on the potential allocation of proceeds but does not guarantee the realized allocation of the bond proceeds towards eligible activities;
- reflects Sustainalytics' opinion based on its internal taxonomy, version 1.9.2, which is informed by market practice and Sustainalytics' expertise as an ESG research provider.

For sustainability-linked instruments, the Second-Party Opinion:

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[1] When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics' hallmarks is integrity, another is transparency.
[2] The bond Principles, Guidelines and Handbooks are administered by the International Capital Market Association and are available at: https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/
[3] The Principles are administered by the Loan Market Association, Asia Pacific Loan Market Association and Loan Syndications and Trading Association and are available at: https://www.lsta.org/content/?_industry_sector=guidelines-memos-primary-market
[4] The validity period is intended to apply to SustainabilityLinked financing instruments; for avoidance of doubt, the SPO shall remain valid for all bonds and loans issued within 24 months so long as the financing remains outstanding.
[5] Benchmarks refers to science-based benchmarks.

- addresses the anticipated SPTs of KPIs but does not measure the KPIs' performance. The measurement and reporting of the KPIs is the responsibility of the Issuer.

No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument, either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that Vodafone has made available to Sustainalytics for the purpose of this Second-Party Opinion.

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Introduction

Vodafone is a UK-based global telecommunications company with extensive operations in Europe and Africa.

Vodafone is the largest mobile and fixed network operator in Europe and a global provider of IoT connectivity, operating mobile and fixed networks in 21 countries and partnering with mobile networks in another 49. As of 31 March 2021, Vodafone had more than 300 million mobile customers, more than 28 million fixed broadband customers, more than 22 million TV customers and connected 123 million IoT devices. Additionally, Vodafone operates the M-PESA technology platform in Africa, which provides over 48 million people with access to mobile payments and financial services.

Vodafone has developed the Vodafone Sustainable and Sustainability-Linked Finance Framework (the "Framework") under which it may issue use of proceeds (green, social or sustainability) bonds and loans, and sustainability-linked bonds and loans. Vodafone engaged Sustainalytics to review the Framework's alignment with the Principles. The Framework has been published in a separate document[6], dated September 2021.

Under use of proceeds instruments, the proceeds will finance or refinance, in whole or in part, existing or future projects that deliver positive environmental impact and advance the Group's sustainability strategy. The Framework defines eligibility criteria in four green and three social areas:

Eligible Green Projects

1. Energy Efficiency
2. On-site Renewable Energy
3. Green Buildings
4. Circular Economy

Eligible Social Projects

1. Access to Essential Services
2. Socio-economic Advancement and Empowerment
3. Employment Generation

Under sustainability-linked instruments, the financial characteristics are tied to the achievement of one or more SPTs.

The KPIs and SPTs used by Vodafone are defined in Tables 1 and 2 below.

Table 1: KPI Definitions

KPI	Definition
Percentage reduction of carbon dioxide equivalent (tCO_2e)	This KPI is defined as the Scope 1, 2 and 3 carbon emissions (tCO_2e) calculated in accordance with the GHG Protocol Standard, CDP guidance (2019 Climate Change Responders pack and the Technical Note on Accounting Scope 2 Emissions) and the Climate Disclosure Standards Board Climate Change Reporting Framework. Indirect emissions (Scope 3) made up roughly 83% of all emissions in the baseline year (FY2020), while direct emissions (Scope 1 and 2) accounted for 17% of all emissions in the same year.
Avoided customer greenhouse gas emissions avoided expressed in tonnes of CO_2 equivalent	This KPI is measured as the total quantity of emissions that customers avoid through using Vodafone's products and services. This total is calculated by first developing a list of products and services that help customers avoid emissions, then estimating the GHG savings for each product based on an external study, an internal Vodafone study or documented expert assumptions. These estimates are then multiplied by the number of units of that product with active connections at the end of the reporting year to determine the GHG savings for each product. These results are then aggregated across product categories to arrive at the total GHG savings for a reporting year.

6 The Vodafone Sustainable and Sustainability-Linked Finance Framework is available on Vodafone's website at: https://investors.vodafone.com/debt-investors/sustainable-financing

Percentage of women in management and senior leadership roles	This KPI is the headcount of the number of women in management and senior leadership roles divided by the total headcount of all management and senior leadership roles. Such roles account for 7% of all Vodafone employees as of 2021.
Millions of customers connected to mobile money services	This KPI measures the number of customers connected to the M-PESA platform (or equivalent) as of the end of each financial year.

Table 2: SPTs and Past Performance

KPI	FY2019	FY2020	FY2021	SPT 2024	SPT 2030
Percentage reduction of carbon dioxide equivalent (million tCO_2e)	(A) Scope 1&2 – 2.14 (B) Scope 3 – 10.7	(Baseline) (A) Scope 1&2 – 1.95 (B) Scope 3 – 9.5	(A) Scope 1&2 – 1.37 (B) Scope 3 – 9.4	-	(A) Reduce Scope 1&2 by 95% (B) Reduce Scope 3 by 50%
Avoided customer GHG emissions saved (annual million tCO_2e)	5.9	6.9	7.1 (Baseline)	-	350
Percentage of women in management and senior leadership roles	31%	31%	32%	-	40%
Number of customers connected to mobile money services (millions)	37.1	41.5	48.3	68.2	-

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the Alignment of the Framework with Relevant Market Standards

Alignment with Use of Proceeds Principles

Sustainalytics is of the opinion that the Vodafone Sustainable and Sustainability-Linked Finance Framework is credible, impactful and aligns with the Sustainability Bond Guidelines 2021, Green Bond Principles 2021, Social Bond Principles 2021, Green Loan Principles 2021 and Social Loan Principles 2021 (the "Use of Proceeds Principles"). For detailed information, please refer to Appendix 1: Sustainability Bond/Sustainability Bond Programme External Review Form. Sustainalytics highlights the following elements of the Framework:

Use of Proceeds

Overall Assessment of Use of Proceeds

Use of Proceeds	Activity	Classification	Sustainalytics' Assessment
Energy Efficiency	Network Hardware Energy Optimization and Storage Network Software	Green	• The activities in this area are anticipated to generate energy savings and increase the efficiency of Vodafone's network. The activities include hardware upgrades, network modernization, software and AI-driven optimization, and the deployment of technologies such as batteries and data centre infrastructure. • Sustainalytics recognizes the wide variety of interventions eligible under this category and notes positively that Vodafone's reporting KPIs include information on energy savings achieved.
	Research and Development	Green	• R&D in improved energy efficiency is recognized as a key part of improved environmental performance over the long term. Further, Sustainalytics recognizes Vodafone's positive track record of deploying new technologies. Nevertheless, it is more challenging to quantify the outcomes of R&D expenditures.
	Internet of Things (IoT)	Green	• Telecommunications technology, and IoT specifically, is expected to play an important role in driving energy efficiency through a range of industrial and societal applications. Vodafone reports that it enabled the avoidance of 7.1 MT CO_2e in 2021, representing more than five times the emissions associated with operating Vodafone's network.[7] • Sustainalytics recognizes that IoT technologies as described in Vodafone's Framework carry two risks or limitations in terms of impact: ○ IoT technologies have a broad impact and can drive energy efficiency gains in a variety of industries, including the fossil fuel industry. Sustainalytics notes that Vodafone excludes the development of products and solutions specifically intended to support the mining and fossil fuel industries, while

[7] Vodafone, "Sustainability Performance" https://www.vodafone.com/about-vodafone/reporting-centre/sustainability-reporting#sustainability-performance

			recognizing that some potential applications may still be exposed to the use of fossil fuels. Sustainalytics understands that the Issuer cannot control the use and application of the IoT enabling technologies once sold. Sustainalytics further recognizes that Vodafone's Sustainable Finance Committee intends to perform additional reviews of risks associated with specific implementations, which may potentially be excluded. ○ The expansion of IoT networks and increasing data flow resulting from IoT solutions may result in additional energy demands on telecommunications networks. However, studies have indicated that networks can lead to greater avoided emissions than their own direct emissions.[8] Based on these studies, there is evidence that telecommunications technologies are already resulting in net energy savings and carbon reductions. Further, Sustainalytics recognizes that the most recent IoT technologies have significantly lower energy consumption per data unit and that Vodafone continues to decrease the carbon intensity of the energy used to operate its network. • As part of its IoT activities, Vodafone may invest in mobile private networks (MPN), multi access edge computing (MEC), and associated analytics platforms. MPN and MEC technology are broadly intended to support the implementation of IoT and other advanced network functionality by moving cloud processing closer to the device or deploying specific IoT implementations in various sectors. Sustainalytics recognizes that these technologies further enable widespread uptake of IoT and next-generation wireless technologies and, therefore, support the achievement of the environmental benefits described above, while noting that, as with any investments focused on R&D or emerging technologies, that the specific benefits likely to be achieved may be difficult to quantify.
On-site Renewable Energy	On-site solar and wind energy	Green	• Investments in wind and solar are aligned with market practice.
Green Buildings	Energy-efficient buildings	Green	• Financing buildings that are within the top 15% most energy-efficient in their jurisdiction, as determined by credible measures such as EPCs and building codes, is aligned with market practice.
	Certified green buildings		• The Framework defines credible green building certifications (LEED and BREEAM) and minimum certification levels (Gold and Excellent), which Sustainalytics considers to be impactful and aligned with market practice.
	Building renovations		• The 30% energy improvement threshold defined by the Framework for eligible renovations is aligned with market practice.
Circular Economy	Investments in a platform to extend the life of equipment and electronics	Green	• The Issuer has confirmed that investments in this category relate primarily to developing and maintaining a platform that supports the resale and reuse of industrial IT equipment and electronics. • Sustainalytics recognizes the promotion of extended product lifecycles and wastes avoidance to be aligned with market

[8] The ratio of network carbon emissions to direct carbon emissions abatement from mobile technologies has been estimated at 1:5 in Europe and North America based on data from GeSI,[8] while Vodafone's own ratio of operational GHG emissions versus customer GHG emissions avoided as a result of applying IoT technology stood at 1:2.9 in 2019, see Vodafone Sustainable Business Report 2019; https://www.vodafone.com/content/dam/vodcom/sustainability/pdfs/sustainablebusiness2019.pdf

			practice, noting that such activities are viewed favourably by the waste hierarchy.
Access to essential services	Expansion of fixed networks Deployment of backbone networks Expansion of wireless networks	Social	• Sustainalytics considers the expansion of telecom services to underserved populations to have positive social impacts and to be aligned with market practice. Expansion may take the form of wireless or fixed networks, as well as high-capacity backbones to support such services. • Underserved areas may be those without any access to services, with unreliable services, or a lack of choice, which may lead to poor or expensive services. Sustainalytics recognizes all these cases as situations in which investments in improved access may lead to positive social outcomes. • Sustainalytics highlights that the Framework defines specific metrics which will be used to determine underserved areas, including quantitative thresholds and government definitions, providing credibility to the targeting.
Socio-economic Advancement and Empowerment	Financial and economic inclusion through mobile money transfer services	Social	• Investments in this category relate primarily to the M-PESA platform, which provides mobile money services to 48 million customers, primarily in sub-Saharan Africa, focusing on those who lack access to conventional banking services. • Sustainalytics recognizes access to financial services as an area with positive social impact, and therefore views these investments as aligned with market expectation. • As with all consumer financial services, Sustainalytics highlights the importance of robust customer protections, including avoidance of predatory fees and data protection. See Section 2 for further discussion of Vodafone's risk management approaches.
	Financial and economic inclusion through access to mobile technology for smallholder farmers		• Smallholder farmers in developing markets often face specific barriers to accessing telecommunications, financial, and other technological services. Sustainalytics notes that investments in this category can support addressing these gaps. By implementing the technological platform "Connected Farmer", Vodafone aims to provide access to a variety of digital services that aim to bridge this divide. • Based on the intent to provide access to technology to a defined target population, Sustainalytics considers this to be aligned with market practice.
	Supporting services for financial and economic inclusion		• Sustainalytics views the deployment of technological platforms which provide increased access to health and education services for populations in need to be aligned with market practice, noting that Vodafone provides these services free of cost, ensuring broad accessibility. • Some investments in this area, such as the provision of network capacity to support emergency response or access to remote education, are specifically made in response to the COVID-19 pandemic. • The Issuer has confirmed that it considers the actual cost to provide the network capacity or platform development in its cost accounting related to these expenditures and is not considering forgone revenue.
Employment Generation	Supporting SMEs	Social	• Vodafone intends to expand and improve its V-Hub initiative within the area, which aims to provide support to small businesses that cannot effectively digitize their operations. This service is provided free of charge. • While the Framework defines as a target population all SMEs, the primary group anticipated to access the service comprises entities that currently lack resources or technological supports and therefore face barriers to full economic participation. Further, in response to the effects of the COVID-19 pandemic, digitization is increasingly essential for the economic success of businesses.

			• Sustainalytics recognizes the potential positive impacts of these activities. • Sustainalytics notes that the initiative does not explicitly exclude the provision of services to businesses that may operate in sectors with high environmental or social impacts, but that Vodafone's overall Business Principles apply minimum environmental and social standards.[9]
	Supporting employment		• Within this area, Vodafone is including the cost of developing and maintaining a variety of programmes and online resources which are accessible free of charge to populations in need, including educational and other resources. The Framework defines as intended target populations individuals underrepresented in technology or with limited learning and employment opportunities. • The Framework specifically includes the Future Jobs Finder Platform, which aims to support individuals from non-technology fields in identifying transferable skills to enable their career advancement and employment. • Sustainalytics recognizes the potential positive impact of such programmes,[10] while noting the importance of periodic review to ensure that these services are providing social benefit to the intended target populations.

Project Evaluation and Selection

- Vodafone's Sustainable Finance Committee will be responsible for the selection and approval of the eligible projects. The Committee will be comprised of members from Vodafone's Investor Relations, Treasury, Sustainable Business and Energy Performance department and external subject matter experts.
- Vodafone manages environmental and social risks through its Business Principles, which apply minimum environmental and social requirements and all relevant regulations across all its activities, including those financed under the Framework. Sustainalytics considers these risk management systems to be adequate.
- Based on the clear allocation of responsibilities and risk management processes, Sustainalytics considers this process to be in line with market practice.

Management of Proceeds

- Vodafone's Treasury Department will use its Treasury Management System to track allocations towards eligible projects.
- Vodafone has communicated that it intends to fully allocate proceeds within a year of their respective issuance.
- Vodafone has defined a look-back period of three years for CAPEX and OPEX for refinancing.
- Pending allocation, the proceeds may be held in cash or other short-term liquid instruments.
- Based on the processes and timelines for allocation and the temporary use of proceeds, Sustainalytics considers this process to be in line with market practice.

[9] Refer to https://www.vodafone.com/about-vodafone/reporting-centre/sustainability-reporting.
[10] For example, more than 600,000 individuals have made use of the Future Jobs Finder since its launch.

Reporting

- Vodafone intends to provide aggregated reporting of all its sustainability financing within a year of the first issuance and annually thereafter until full allocation. The reports will cover both allocation and impact reporting.
- Allocation reporting will include the total investments in the eligible projects, the share of financing to refinancing and the balance of unallocated proceeds.
- Impact reporting may include social indicators, such as the number of new mobile users, homes passed or additional sites in underserved areas, estimated increase in the beneficiaries in the target population, number of SMEs supported, as well as green indicators, such as the direct and indirect abatement in GHG emissions, energy saved, square meters of green buildings and the amount of waste avoided.
- Based on the commitment to allocation and impact reporting, Sustainalytics considers this process to be in line with market practice.

Alignment with Sustainability-Linked Principles

Sustainalytics is of the opinion that the Framework aligns with the Sustainability-Linked Bond Principles 2020 and Sustainability-Linked Loan Principles 2021 (the "Sustainability-Linked Principles"). For detailed information, please refer to Appendix 2: Sustainability-Linked Bond External Review Form. Sustainalytics highlights the following elements of Vodafone's Sustainable and Sustainability-Linked Finance Framework

Selection of Key Performance Indicators (KPIs)

Relevance and Materiality of KPIs

In its assessment of materiality and relevance, Sustainalytics considers: i) whether an indicator speaks to a material impact of the issuer or borrower's business on the environment or social issues, and ii) to what portion of impact the KPI is applicable.

KPI 1 - Percentage reduction of carbon dioxide equivalent (tCO_2e)

Sustainalytics considers KPI 1 to be material and relevant based on the following:

i. Although the telecom industry's direct energy consumption is less intensive than other industries, such as utilities or extractives, it still represents a significant share of global carbon emissions or approximately 1.4% of emissions worldwide.[11] By comparison, the aviation industry generates 2% of all global carbon emissions. The largest single energy demand for traditional telecom service providers is the electricity needed to run network base stations, with telephone exchanges, core networks, and data centres making up significant loads and representing on average 20-40% operational expenditures.[12] In this area, the International Telecommunication Union (ITU) highlighted that the ICT sector needs to achieve a 45% GHG emissions reduction between 2020 and 2030 to meet the Paris Agreement's climate goals. The shift to renewable and low-carbon energy sources is expected to abate most of the industry's GHG emissions reduction over the same timeframe.

[11] The Energy and Carbon Footprint of the Global ICT and E&M Sectors, (2018), at: https://www.ericsson.com/en/reports-and-papers/research-papers/the-future-carbon-footprint-of-the-ict-and-em-sectors
[12] IEA, "Data Centres and Data Transmission Networks", (2020), at: https://www.iea.org/reports/data-centres-and-data-transmission-networks

ii. Sustainalytics' Industry Report on Telecommunication Services[13] estimates that the rapid expansion of international telecommunications infrastructure, including deployment of 5G technology[14] and growing customer demand, is expected to increase the industry's energy requirements substantially in the following years. Some studies show that if this growing trend continues, the ICT sector could account for 14% of the total global footprint by 2040, equivalent to about half of the entire transportation sector worldwide.[15] This trend was further accelerated by the COVID-19 pandemic, driving increasing use of digital technology worldwide. In this context, a new Yale-led study[16] estimates that internet use increased by up to 40% worldwide following the issuance of stay-at-home orders in various countries from January through March 2020. According to the study, this spike in online activity triggered a demand for up to 42.6 million megawatt-hours of additional electricity to support data transmission and power data centres.

iii. Sustainalytics' ESG Risk Rating methodology identifies "Carbon - Own Operations"[17] as a material ESG issue (MEI) for Vodafone. Additionally, Sustainalytics considers this KPI to be measuring all direct GHG emissions related to the energy use associated with Vodafone's primary operations, primarily driven by network base station sites and technology centres.

iv. The Sustainability Accounting Standards Board (SASB)[18] identifies energy procurement and efficiency as relevant topics for the telecommunication services industry to track and disclose, based on the substantial amounts of energy associated with its infrastructure and operations. If not managed sustainably by telecom companies, this energy use may consequently contribute significantly to GHG emissions.[19]

In terms of applicability, Sustainalytics notes that KPI 1 covers the Company's total emissions (Scope 1, 2 and 3). Indirect emissions (Scope 3) made up roughly 83% of all emissions in the baseline year (FY2020), while direct emissions (Scope 1 and 2) accounted for 17% of all emissions in the same year.[20] Sustainalytics positively notes the addition of Scope 3 emissions even though more than 50% are associated with the supply chain and use of sold products, of which Vodafone has little or no direct control. In this context, Vodafone has communicated to Sustainalytics that through its supply chain policies, Company suppliers shall, where requested by Vodafone, identify, monitor and minimize GHG emissions and energy consumption from their own operations. In addition, Vodafone's supplier performance management programme covers environmental factors, such as GHG performance. Sustainalytics views positively Vodafone's efforts to influence emissions and environmental performance beyond its direct control.

KPI 2 – Avoided customer greenhouse gas emissions expressed in tonnes of CO_2 equivalent

Sustainalytics considers KPI 2 to be material and relevant based on Vodafone's robust sustainability commitments focused on climate change. In addition, a report published by the GSMA[21], The Enablement Effect, produced in collaboration with the Carbon Trust, found that the use of mobile technologies and ICT solutions such as machine-to-machine (M2M) and the internet of things (IoT) enabled a global reduction in GHG emissions of approximately 2,135 million tonnes of CO_2 in 2018. These emissions savings were almost ten times greater than the global carbon footprint of the mobile industry itself for the same period. Other studies cited in the report have

[13] Sustainalytics's Industry report, Telecommunication Services, (2020).
[14] Vodafone currently provides 5G services commercially in 12 countries and will continue to expand that offering. At the same time, its 4G networks are being upgraded with technology that is bringing some of the benefits of 5G sooner, (July 2021), at: https://www.vodafone.com/about-vodafone/what-we-do/technology/5g
[15] Assessing ICT global emissions footprint: Trends to 2040 & recommendations, Journal of Cleaner Production, (2018), at: https://doi.org/10.1016/j.jclepro.2017.12.239
[16] The overlooked environmental footprint of increasing Internet use, Resources, Conservation and Recycling, (2021): at: https://doi.org/10.1016/j.resconrec.2020.105389.
[17] The Sustainalytics's Carbon – Own Operations MEI refers to a company's management of risks related to its own operational energy use and GHG emissions (Scope 1 and 2). It also includes parts of Scope 3 emissions, such as transport and logistics. It does not include emissions in the supply chain or during the use phase nor end-of-life cycle of a product.
[18] SASB was founded in 2011 as a not-for-profit, independent organization, that establishes and maintains industry-specific standards to assist companies in disclosing financially material, decision-useful sustainability information to investors.
[19] SASB, Telecommunication Services Industry Standard, 2018, at: https://www.sasb.org/standards/download/
[20] Vodafone ESG Addendum 2021, at: https://www.vodafone.com/about-vodafone/reporting-centre/sustainability-reporting
[21] The Enablement Effect: The impact of mobile communications technologies on carbon emission reductions, (2019), at:https://www.gsma.com/betterfuture/wp-content/uploads/2019/12/GSMA_Enablement_Effect.pdf

concluded that mobile technologies have a 5:1 enablement ratio compared to the industry's footprint. The potential of enabling carbon emissions reductions is particularly significant to key energy-intensive sectors, including buildings, transportation, manufacturing and the energy sectors.[22] Most of the emissions that mobile technologies avoided resulted from significant reductions in energy and fuel consumption. For example, savings in buildings are a result of technologies that improve energy efficiencies, such as building management systems and smart meters. In the transport sector, the use of telematics can improve route optimization and vehicle fuel efficiency. Some of the greatest future potential savings exist in other areas, such as agriculture.

Overall, Sustainalytics considers that the mobile industry can play a crucial role in addressing climate change's challenges through smart connected technologies and energy-efficient solutions across multiple sectors.

KPI 3 - Percentage of women in management and senior leadership roles

Sustainalytics considers KPI 3 to be material and relevant in the context of the gender gap in leadership and management roles in the tech industry. Women account for less than 25% of executives in the tech industry globally and only 12% of executives in the telecom industry. A 2015 report by GSMA shows that women make up just four out of the 100 most powerful people in the telecom industry. In addition, KPI 3 falls under human capital, which is assessed as an MEI by Sustainalytics' ESG Risk Ratings. Management and senior leadership roles account for 7% of all Vodafone employees as of end of FY2021, therefore Sustainalytics considers that increasing this percentage would generate impacts across all operations of the company, and assesses this KPI to be highly applicable in scope.

KPI 4 - Millions of customers connected to mobile money services

Sustainalytics considers KPI 4 to be material and relevant for the telecom industry. Globally, an estimated two million individuals and 200 million small businesses in emerging economies lack access to savings and credit.[23] Mobile financial services can support people by providing a safeguard against economic shocks, promoting risk-sharing, reducing transaction costs and increasing privacy and control over money.[24] Mobile financial services have grown rapidly over the last few years, reaching 1.2 billion mobile money accounts globally in 2020, with 562 million accounts in Africa alone.[25] Vodafone intends to count the number of customers on the M-PESA platform as a measure of KPI 4. M-PESA was established by Vodafone's associate Safaricom in 2007 and Vodafone has been actively involved in its development and expansion. Sustainalytics notes that despite Vodafone's associates Vodacom and Safaricom fully acquiring the M-PESA platform in 2020, Vodafone continues to support the platform through investments in the form of loans and overdrafts, as well as launching support services that enable the platform to expand its functionalities. Vodafone has communicated that M-PESA is live in seven countries as of FY2021, covering 48.3 million active customers. Based on this context, Sustainalytics assesses KPI 4 to have high scope and applicability for impact from Vodafone's operations.

KPI Characteristics

In its assessment of the KPI characteristics, Sustainalytics considers: i) whether a clear and consistent methodology is used, ii) whether the issuer or borrower follows an externally recognized definition, iii) whether the KPIs are a direct measure of the performance of the issuer or borrower on the material environmental or social issue, and iv) if applicable, whether the methodology can be benchmarked to an external contextual benchmark.[26]

KPI 1 - Percentage reduction of carbon dioxide equivalent (tCO_2e)

Sustainalytics considers Vodafone's definition and methodology to calculate KPI 1 to be clear and consistent, highlighting the transparency on the calculation and reporting of GHG emissions directly and indirectly linked to

[22] SMART 2020 Enabling the low-carbon economy in the information age, at: https://gesi.org/research/smart-2020-enabling-the-low-carbon-economy-in-the-information-age
[23] McKinsey & Co, "Mobile money in emerging markets: The business case for financial inclusion", (2018), at: https://www.mckinsey.com/~/media/mckinsey/industries/financial%20services/our%20insights/mobile%20money%20in%20emerging%20markets%20the%20business%20case%20for%20financial%20inclusion/mobile-money-in-emerging-markets.pdf
[24] Hamdan, J. (2019). "The impact of mobile money in developing countries". DIW Roundup: Politik im Fokus, at: https://www.econstor.eu/bitstream/10419/202431/1/1671571738.pdf
[25] GSMA, "State of the Industry Report on Mobile Money 2021", at: https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2021/03/GSMA_State-of-the-Industry-Report-on-Mobile-Money-2021_Full-report.pdf
[26] External contextual benchmarks provide guidance on the alignment with ecological system boundaries. This criterion is not applied to social KPIs or impact areas for which such contextual benchmarks are not available.

its operational performance. In addition, Vodafone calculates its GHG emissions in accordance with the GHG Protocol standards, including the Corporate Standard, Scope 2 Guidance and Scope 3 Calculation Guidance, which are commonly used in the industry. This consequently facilitates benchmarking against external carbon trajectories as well as peer performance. Vodafone follows the CDP Climate Change 2019 Reporting[27] and the CDSB Climate Change Reporting Framework (CCRF)[28] .

KPI 2 – Avoided customer greenhouse gas emissions expressed in tonnes of CO_2 equivalent

Sustainalytics considers Vodafone's definition and methodology for calculating the performance of KPI 2 to be clear and consistent, aligning with the Carbon Trust and the Global e-Sustainability Initiative (GeSI)[29] guidelines to quantify carbon reductions enabled by mobile products and services. While Sustainalytics acknowledges the potential for mobile technologies and increased connectivity to play an enabling role in facilitating carbon emissions reductions, some areas of the avoided emissions remain particularly challenging to calculate. Nonetheless, Sustainalytics considers that it is worthwhile to attempt to estimate such reductions, and the methodology[30] Vodafone proposes to use holds promise as a credible attempt to do so.

KPI 3 - Percentage of women in management and senior leadership roles

Sustainalytics considers Vodafone's definition and methodology to calculate performance of KPI 3 to be clear and consistent based on the ease of calculation and replicability, and considers KPI 3 to be directly linked to the performance of Vodafone regarding the material impact. This is because the KPI measures the number of women in management and senior leadership roles as a proportion of all management and senior leadership roles. In addition, the KPI follows a similar methodology as the one suggested by the Global Reporting Initiative for calculating management team diversity. Sustainalytics notes that while there are no external benchmarks for assessing performance against the KPI, it is benchmarkable and enables easy comparison across various industry players.

KPI 4 - Millions of customers connected to mobile money services

KPI 4 measures the number of customers connected to the M-PESA platform. Sustainalytics assesses this KPI to be clear and consistent based on the ease of calculation and replicability. Sustainalytics considers the calculation of the number of beneficiaries to be a direct measure of the performance of this KPI, which focuses on improved access to services. The KPI does not have any comparable external definitions or benchmarks specific to the Company's context; however, impact reporting based on the number of beneficiaries served is common across sustainable and impact financing.

Overall Assessment

KPI 1 - Percentage reduction of carbon dioxide equivalent (tCO_2e)

Sustainalytics considers KPI 1 to be very strong overall given that: (i) it measures performance on a relevant and material ESG issue for the Company, (ii) it directly measures its operational carbon performance – Scope 1 and 2, (iii) it covers the indirect emissions related to its operations (Scope 3), (iv) the calculation methodology is aligned with GHG Protocol Corporate Standard, and therefore (iv) it supports benchmarking against external emission reduction trajectories.

KPI 2 – Avoided customer greenhouse gas emissions expressed in tonnes of CO_2 equivalent

Sustainalytics considers KPI 2 to be strong overall given that: (ii) it covers significant indirect emissions related to its operations – Scope 3 (Category 11: use of sold products), and (ii) the calculation methodology is aligned

[27] The CDP is an international non-profit organization based in the UK, Germany and the US that helps companies and cities disclose their environmental impact, at: https://guidance.cdp.net/en/guidance?cid=8&ctype=theme&idtype=ThemeID&incchild=1&microsite=0&otype=Guidance&tags=TAG-585,TAG-605,TAG-599

[28] The CDSB CCRF is a voluntary reporting framework designed to elicit climate change-related information to investors in mainstream financial reports, at: https://www.cdsb.net/what-we-do/reporting-frameworks/environmental-information-natural-capital

[29] The GeSI Mobile Carbon Impact Report, at: https://www.carbontrust.com/resources/mobile-carbon-impact

[30] The methodology closely follows the approach outlined in the "Avoided Emissions Framework", under the Mission Innovation's Net-Zero Compatible Innovations Initiative, at: https://www.misolutionframework.net/

with the Carbon Trust and the Global e-Sustainability Initiative (GeSI), and (iii) it represents a positive step in quantifying a difficult to calculate but important share of Vodafone's environmental impact.

KPI 3 - Percentage of women in management and senior leadership roles

Sustainalytics considers KPI 3 to be strong given that: (i) it measures performance on relevant and material issues for the Company, (ii) it is a direct measure of the performance of the Company, and (iii) follows a clear and consistent methodology that is similar to the one suggested by the Global Reporting Initiative for calculating management team diversity. Sustainalytics notes that while there are no applicable externally recognized benchmarks for this KPI, it is benchmarkable and enables easy comparison across various industry players.

KPI 4 - Millions of customers connected to mobile money services

Sustainalytics considers KPI 4 to be strong given that: (i) it measures performance on relevant and material issues for the Company, (ii) it is a direct measure of the Company's performance in improving financial inclusion, and (iii) it follows a clear, consistent and externally verifiable methodology. Sustainalytics notes that while there are no applicable externally recognized benchmarks for this KPI, impact reporting based on the number of beneficiaries served is commonly used in sustainable and impact financing.

KPI 1 - Percentage reduction of carbon dioxide equivalent (tCO_2e)	Not Aligned	Adequate	Strong	Very strong
KPI 2 – Avoided customer greenhouse gas emissions expressed in tonnes of CO_2 equivalent	Not Aligned	Adequate	Strong	Very Strong
KPI 3 - Percentage of women in management and senior leadership roles	Not Aligned	Adequate	Strong	Very strong
KPI 4 - Millions of customers connected to mobile money services	Not Aligned	Adequate	Strong	Very strong

2 Calibration of Sustainability Performance Targets (SPTs)

Alignment with Vodafone's Sustainability Strategy

Vodafone has set the following SPTs for its KPIs:

- SPT 1: to reduce absolute Scope 1 and 2 carbon emissions by 95% by 2030 against a 2020 baseline, and to reduce absolute Scope 3 emissions by 50% by 2030 against a 2020 baseline;
- SPT 2: to help business customers reduce their carbon emissions by a cumulative total of 350 million tonnes globally between 2020 and 2030;
- SPT 3: Vodafone aims to have 40% women in management and senior leadership roles by 2030;
- SPT 4: to connect over 68.2 million people and their families to mobile money services by FY2024.

Overall, Sustainalytics considers the SPTs to be aligned with Vodafone's sustainability strategy[31], based on the following:

- Vodafone has undertaken a high-level TCFD aligned climate change risk and opportunity analysis, being recognized by CDP with a climate change 'A' score in 2020 – the highest score in line with CDP scoring methodology. These actions demonstrate that climate change risks and mitigation are embedded in Vodafone's long-term sustainability strategy[32], focusing on increasing the energy efficiency of its network and services and purchasing electricity from renewable sources. Vodafone has also carried out advanced financial scenario modelling for the potential impact of these risks in some of its key markets.[33]

[31] Please refer to Section 2 for a more robust analysis of the credibility of Vodafone's sustainability strategy.
[32] Vodafone, energy and climate change, Vodafone's Sustainable Business Report 2019, at: https://www.vodafone.com/about-vodafone/reporting-centre/sustainability-reporting
[33] This process is outlined in more detail in the Risk Management section of the Vodafone Group Plc Task Force on Climate-related Financial Disclosures ('TCFD') Report 2021", at: https://investors.vodafone.com/sites/vodafone-ir/files/2021-05/vodafone-tcfd-report-2021.pdf

Furthermore, Vodafone has committed to reducing its total global greenhouse gas emissions to net zero by 2040 and confirmed that its 2030 carbon reduction targets are validated by the Science Based Targets initiative (SBTi) in line with reductions required to keep warming to 1.5°C.

- Women's empowerment is a key part of Vodafone's strategy, identified as a "transformation area" to drive long-term change by Vodafone in its 2019 Sustainability Report[34]. In 2019, it launched a new HR policy to support employees who are victims of domestic abuse.[35] In the same year, Vodafone UK published its first Gender Pay Gap Report and identified areas of improvement with regard to gender pay parity.[36]
- Vodafone identifies mobile financial services as a key component of the "Inclusion for All" pillar in its sustainability strategy[37]. As a part of this pillar, Vodafone aims to facilitate financial inclusion and support people in emerging markets to access vital financial services through mobile technology.[38] M-PESA was founded in 2007 in Kenya by Vodafone's local partner Safaricom, with Vodafone's support, having reached 48 million customers in seven countries over the past 14 years, with 15 billion transactions in 2020 alone.[39]

Strategy to Achieve the SPTs

SPT 1 - to reduce absolute Scope 1 and 2 carbon emissions by 95% by 2030 against a 2020 baseline, and to reduce absolute Scope 3 emissions by 50% by 2030 against a 2020 baseline

Vodafone intends to achieve SPT 1 through the following strategy:

- **Switching to renewable power supply**: In 2019, Vodafone committed to purchasing all electricity from renewable sources. In July 2021, Vodafone's European networks became 100% powered by renewable energy and by 2025 the Company expects to achieve the same globally. To reach its goal, the Company will look to sign power-purchase agreements in different renewable energy markets across the globe. Beyond this, Vodafone aims to develop on-site renewable systems across its technology centres and base station sites, and purchase renewable energy certificates. Vodafone has also joined RE100 (2018), a collaborative initiative led by The Climate Group in partnership with CDP, which brings together major businesses committed to switching to 100% renewable power.
- **Enhance energy efficiencies**: Vodafone's network of base station sites and technology data and switching centres account for roughly 94% of its total global energy consumption.[40] In 2017, Vodafone started a specific programme to prioritize energy efficiency within the business's technology strategy and to invest in energy projects. The overall energy efficiency of technology centres is often assessed in terms of their power usage effectiveness (PUE), an industry-standard metric that compares the amount of electricity used to operate computer equipment with the amount used for all other functions. In 2019, Vodafone's centres reached an average PUE of 1.60[41]. Overall, the Company's initiatives to improve efficiencies across these network operations, particularly in power supply and cooling, are focused on three key areas: (i) sourcing and implementing more efficient network equipment; (ii) reducing energy demand by installing lower-energy power and cooling technologies; and (iii) cutting energy use by decommissioning and upgrading legacy equipment.
- **Smart buildings**: Vodafone has a number of initiatives in place to reduce energy use in its office buildings and administrative systems. In this context, some offices are LEED certified and rated on the basis of their design, construction, operation and maintenance. The following Vodafone buildings have been awarded certification under the Commercial Interiors category: (i) Spain headquarters, Germany headquarters,

[34] Vodafone, "Sustainability reporting", at: https://www.vodafone.com/about-vodafone/reporting-centre/sustainability-reporting
[35] Vodafone, "Gender Equality", at: https://careers.vodafone.com/content/Gender-Equality/?locale=en_GB
[36] Vodafone, " UK Gender Pay Gap", at: https://www.vodafone.com/about-vodafone/who-we-are/people-and-culture/uk-gender-pay-gap
[37] Vodafone, "Sustainability reporting", at: https://www.vodafone.com/about-vodafone/reporting-centre/sustainability-reporting
[38] Vodafone, "Vodafone Group Plc Annual Report 2021", at: https://investors.vodafone.com/sites/vodafone-ir/files/2021-05/vodafone-annual-report-2021.pdf
[39] Vodafone, "M-PESA", at: https://www.vodafone.com/about-vodafone/what-we-do/consumer-products-and-services/m-pesa
[40] Vodafone ESG Addendum 2021, at: https://www.vodafone.com/about-vodafone/reporting-centre/sustainability-reporting
[41] According to the Uptime Institute, the typical data centre has an average PUE of 2.5. This means that for every 2.5 watts in at the utility meter, only one watt is delivered out to the IT load. Uptime estimates most facilities could achieve 1.6 PUE using the most efficient equipment and best practices, at: https://journal.uptimeinstitute.com/is-pue-actually-going-up/

Turkey headquarters (office building and call centre) – Platinum; (ii) Czech Republic headquarters, Italy (Padua) – Gold; and (iii) Italy (Milan) – Silver.

- **Energy management system certifications:** Vodafone has obtained ISO 50001 certification, a management framework to reduce energy consumption, costs and GHG emissions in facilities in some of the markets where it operates.[42] These include Albania, Germany, Greece, Ireland, Romania, Spain, Turkey and the UK.[43,44] These facilities represent roughly two-thirds of the group's energy consumption.

SPT 2 - to help business customers reduce their carbon emissions by a cumulative total of 350 million tonnes globally between 2020 and 2030

Vodafone intends to achieve SPT 2 through providing the following IoT mobile services:

- **Smart agriculture**: IoT technologies in the agriculture industry, which help lower impact on natural resources, generate fewer emissions from fertilizers, support biodiversity restoration, regenerative agriculture, better animal welfare and reduced land use. Examples from these technologies include: (i) connected flour mills, (ii) connected vineyards, (iii) connected cattle feed, and (iv) connected livestock.[45] [46]

- **Smart energy meters**: Using smart energy meters which enable businesses, municipal authorities and households to monitor, manage and reduce their energy use. Globally, Vodafone has more than 15 million smart meter connections using its IoT technology, saving an estimated 1.8 million tCO_2e.[47] [48]

- **Smart cities**: Using smart technologies which enable more energy-efficient delivery of services, better traffic flows, less congestion, less waste and improved air quality. Vodafone smart networks help to improve the efficiency of energy-intensive services, such as public transport, public road networks and street lighting. For example, in the city of Guadalajara, Spain, 13,500 LED lights were connected to a central management system, reducing street lighting energy consumption by 68%.

- **Smart logistics**: IoT technologies embedded in vehicles, which optimize route management, vehicle maintenance and driver behaviour, delivering cuts in fuel consumption of up to 30%, saving an estimated 4.4 million tCO_2e.

- **Smart manufacturing**: IoT technologies that provide efficient, cost-effective, and automated information gathering for entire manufacturing processes, which include asset tracking, remote monitoring, fleet management and environmental measurement.[49]

SPT 3 - Vodafone aims to have 40% women in management and senior leadership roles by 2030

Vodafone intends to achieve SPT 3 through the following measures: (i) Vodafone's leadership team is accountable for promoting gender diversity in their teams with embedded targets in their long-term incentive plans, (ii) graduate intake of women, with 53% of the graduate intake in 2020 being women, (iii) Reconnect programme for supporting people to return to employment after a career break, through which 470 women (from a total of 564 people) were rehired as of 2021, (iv) Code Like a Girl programme that has connected with over 3,000 girls since 2017, and which has continued as a digital classroom coding experience through the pandemic, and (v) global parental policies. As of the end of FY2021, Vodafone had 32% of women in leadership and senior management positions.

SPT 4 - to connect over 68.2 million people and their families to mobile money services by FY2024

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[42] Vodafone Sustainable Business Report 2019; at: https://www.vodafone.com/content/dam/vodcom/sustainability/pdfs/sustainablebusiness2019.pdf
[43] Vodafone ESG Addendum 2021, at: https://www.vodafone.com/about-vodafone/reporting-centre/sustainability-reporting
[44] https://www.nineoclock.ro/2021/06/07/vodafone-romania-received-iso-certification-for-efficient-energy-management/
[45] https://enterpriseiotinsights.com/20190522/channels/fundamentals/four-cases-of-vodafones-local-know-how-in-smart-farming
[46] https://www.vodafone.com/business/news-and-insights/company-news/four-examples-of-vodafone-technology-in-smart-farming
[47] Vodafone, "IoT smart meters and grids", at: https://www.vodafone.com/business/iot/end-to-end-solutions/smart-grid-and-metering
[48] Vodafone Sustainable Business Report 2019; at: https://www.vodafone.com/content/dam/vodcom/sustainability/pdfs/sustainablebusiness2019.pdf
[49] Vodafone, "IoT in Manufacturing", at: https://www.vodafone.com/business/industry/manufacturing

Vodafone intends to achieve SPT 4 by supporting the M-PESA platform through loans and integration of support services that will help the platform enhance its functionalities. Vodafone facilitated the disbursement of EUR 4 billion in loans and overdrafts for M-PESA across all its markets in 2020 and launched a lending marketplace in Tanzania and Mozambique to enable lenders to provide a variety of credit products with tailored pricing and terms for different market segments.

Ambitiousness, Baseline and Benchmarks

To determine the ambitiousness of the SPTs, Sustainalytics considers whether the SPTs go beyond business-as-usual trajectories, ii) how the SPTs compare to targets set by peers, and iii) how the SPTs compare with science.[50]

SPT 1 - to reduce absolute Scope 1 and 2 carbon emissions by 95% by 2030 against a 2020 baseline, and to reduce absolute Scope 3 emissions by 50% by 2030 against a 2020 baseline

Sustainalytics was able to use the following benchmarks to assess ambitiousness: past performance, peer performance and SBTi approved targets.[51] In terms of past performance, Vodafone achieved a 10.9% reduction in total GHG emissions between 2020 (baseline year) and 2019. To meet SPT 1, the Company will need to reduce its total emissions by 95% between 2020 and 2030, which translates to an implied annual average decrease of 9.5% during the SPT period. Although historical performance data is only provided from 2019 onwards, Sustainalytics considers the SPT as going beyond the business-as-usual trajectory. Vodafone's SPT is above its peers in the telecommunication services industry with respect to Scope 1 and 2 emissions reduction targets. Sustainalytics' analysis of Vodafone's peer group shows that 33 operator groups representing more than 30% of the mobile connections worldwide have committed to SBTs, reducing at least 45% of GHG emissions between 2020 and 2030 –25 of these groups have targets in line with a 1.5°C scenario. Sustainalytics also notes that Vodafone operates in markets which may have regulatory or technological hurdles to achieving high use of renewable energy, therefore achieving high targets may be more difficult for it than for its peers operating solely in jurisdictions which provide reliable access to renewable energy.

SPT 2 - to help business customers reduce their carbon emissions by a cumulative total of 350 million tonnes globally between 2020 and 2030

Sustainalytics was able to use past performance as the benchmark to assess ambitiousness. In terms of past performance, Vodafone estimated that the total GHG emissions avoided thanks to its IoT technologies and services in was 5.9 million tCO_2e in FY2019 and 6.9 million tCO_2e in FY2020. Although the application of the enabling effect of information and communications technology is relatively new, and broader historical performance isn't available, Sustainalytics recognizes that the absolute GHG emissions reduction target specified by this SPT goes beyond the business-as-usual trajectory.

SPT 3 - Vodafone aims to have 40% women in management and senior leadership roles by 2030

Sustainalytics also considers SPT3 to be slightly above peer performance. Although most of Vodafone's peers have similar shares of women in senior roles at present, none have set publicly available targets to increase that share. Sustainalytics also notes that Vodafone's target includes roles based in countries which may face different challenges related to gender representation in management than those in its headquarter region.

SPT 4 - to connect over 68.2 million people and their families to mobile money services by FY2024

SPT 4 is an absolute target and therefore does not have a baseline specified. Historical data shows that the number of people who were able to connect to the M-PESA platform has steadily increased over the years, from 37.1 million people in March 2019 to 48 million people as of March 2021.

Sustainalytics considers SPT 4 to be aligned with peer performance. Although Vodafone's peers providing mobile financial services in emerging markets have not set forward-looking targets to increase the number of people served, they report similar growth in the number of people connected to such services.

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[50] We refer here to contextual benchmarks that indicate the alignment of targets with ecosystem boundaries.
[51] Vodafone committed to reduce absolute Scope 1 and 2 GHG emissions by 95% by FY2030 from a FY2020 base year, and to reduce absolute Scope 3 GHG emissions by 50% within the same timeframe. Vodafone also committed to increase annual sourcing of renewable electricity from 26% in FY2020 to 100% by FY2025. The targets covering greenhouse gas emissions from company operations (Scopes 1 and 2) are consistent with reductions required to keep warming to 1.5°C. The renewable energy procurement target covering Scope 2 emissions is consistent with reductions required to keep warming to 1.5°C, at: https://sciencebasedtargets.org/companies-taking-action

Overall Assessment

Overall, Sustainalytics considers the SPTs to align with Vodafone's sustainability strategy.

Sustainalytics considers Vodafone's SPT 1 to be highly ambitious given that: (i) it is above its historical performance, (ii) it is above or aligned with its industry peers, and (iii) it presents an absolute GHG reduction aligned with a 1.5°C scenario.

Sustainalytics considers Vodafone's SPT 2 to be ambitious given that it presents a material improvement compared to past performance and represents a significant absolute amount of avoided emissions but cannot be assessed for alignment with market best practice or science-based benchmarks.

Sustainalytics considers SPT 3 to be ambitious given that it presents a material improvement compared to past and peer performance.

Sustainalytics considers Vodafone's SPT 4 to be ambitious given that it is above historical performance and aligned with peer performance.

SPT 1- to reduce absolute Scope 1 and 2 carbon emissions by 95% by 2030 against a 2020 baseline, and to reduce absolute Scope 3 emissions by 50% by 2030 against a 2020 baseline	Not Aligned	Moderately Ambitious	Ambitious	Highly Ambitious
SPT 2 - to help business customers reduce their carbon emissions by a cumulative total of 350 million tonnes globally between 2020 and 2030	Not Aligned	Moderately Ambitious	Ambitious	Highly Ambitious
SPT 3 - Vodafone aims to have 40% women in management and senior leadership roles by 2030	Not Aligned	Moderately Ambitious	Ambitious	Highly Ambitious
SPT 4 - to connect over 68.2 million people and their families to mobile money services by 2024	Not Aligned	Moderately Ambitious	Ambitious	Highly Ambitious

Bond and/or Loan Characteristics

Vodafone intends for the financial characteristics of the instruments issued under this Framework to be tied to the achievement of one SPT or multiple SPTs. If the SPT(s) have not been reached by the target observation date, Vodafone will pay a financial penalty in the form of an increase in the coupon margin or the payment of a premium by an amount that will be specified in the Sustainability-Linked Finance Instruments' documentation.

The financial penalty will be applicable if an independent auditor is not able to provide a verification assurance certificate regarding the performance level of each SPT or if the company does not publish its performance for the relevant SPT within the time specified in the bond documents.

Reporting

Vodafone commits to report on an annual basis on its performance on the KPIs on its website, which is aligned with the SLBP and SLLP. Vodafone intends to disclose the information: (i) annually, through its integrated annual report and/or ESG addendum with an assurance statement from a statutory auditor, (ii) following the target observation date, through a verification assurance certificate published on the Vodafone website confirming that the performance of the KPI meets the relevant SPT, and (iii) periodically through its website any information on the level of ambition of the SPTs.

Verification

Vodafone commits to having an external verifier provide limited assurance verification on KPI performance at the SPT deadline, which is aligned with the SLBP and SLLP on verification.

Section 2: Assessment of Vodafone's Sustainability Strategy

Credibility of Vodafone Sustainability Strategy

According to Sustainalytics' ESG Risk Ratings, Vodafone's overall management of material ESG issues (MEIs) is strong, ranking in the top 4% of best-performing companies within its sub-industry[52].

Vodafone's sustainability strategy helps deliver its targets across three purpose pillars: (i) ensuring everyone has access to the benefits of the digital society, (ii) reducing Vodafone's environmental impact and help society decarbonize, and (iii) connecting people and things and digitizing critical sectors. The strategy aims to define the Company's pathway towards sustainable development goals by accelerating connectivity and digitization by 2030 and is also aligned with the UK's climate ambition of reaching net-zero carbon emissions by 2050.[53] On 11 May 2021, Vodafone established an ESG committee to provide oversight to its ESG programme and monitor progress against key performance indicators and external ESG index results.[54]

Within its "Planet" pillar, Vodafone focuses on reducing operational carbon emissions to net-zero by 2030 and across the full value chain by 2040. As part of reducing carbon emissions, Vodafone has set a target of purchasing 100% of electricity from renewable sources in Europe by July 2021 and globally by 2025. In addition to its GHG emissions targets described in section 1, Vodafone aims to achieve net-zero emissions in terms of Scope 1 and 2 GHG emissions and reduce scope 3 GHG emissions from joint ventures, all supply chain purchases, use of products and sold business by 50% from 2020 levels by 2030 and reduce Scope 3 emissions by 100% by 2040. Between 2020 and 2030, Vodafone also plans to enable business customers to reduce carbon emissions by a cumulative 350 million tonnes. Vodafone has also set an approved science-based target in line with the 1.5°C scenario and emission reduction pathway developed for the ICT sector. Based on Sustainalytics' ESG Risk Rating, Vodafone is performing above industry average in areas such as GHG reduction programmes, renewable energy programmes, green procurement policy, and eco-design of its products.[55]

Within its "Inclusion for All" pillar, Vodafone focuses on finding new ways of making fixed and mobile networks available in rural locations and providing relevant products to address societal challenges in areas such as education, gender equality, financial inclusion and poverty. Vodafone, through its Connected Education hub, provided digital learning solutions to over 800,000 students across 10 countries and, through its ConnectU job portal, enabling 3.1 million users to access seven different job search websites. Based on Sustainalytics' ESG Risk Rating, Vodafone also performs well in terms of discrimination policy, diversity programmes, human rights policy and health & safety management system among its peers.[56]

Through its "Digital Society" pillar, Vodafone aims to build a robust digital infrastructure to help small businesses, digitalize agriculture, create smarter cities and revolutionize healthcare. In 2021, Vodafone launched V-Hub to help small businesses digitalize their businesses with guidance from subject matter experts. By March 2021, over one million businesses were using V-Hub across four large European markets, with a goal of reaching over three million customers by April 2022. Vodafone's M-FarmWeb is a cloud-based tool for farmers to help them increase farm yield without damaging the environment and is used by 6,800 farms across Africa, the US, Australia and New Zealand. Vodafone Telemedicine Programme provides an end-to-end telemedicine care system to support patient management, monitoring and critical care, significantly reducing hospital visits and enabling more time for doctors to deliver high-quality treatments to their patients.[57]

Sustainalytics considers Vodafone to have a strong sustainability strategy and considers that the SLBs, SLLs, green bonds, green loans, social bonds and social loans will further support Vodafone's sustainability strategy.

Vodafone's Environmental and Social Risk Management

Overall, Sustainalytics notes that the ESG risk management of Vodafone is considered strong.[58] Sustainalytics also recognizes that Vodafone's defined targets are impactful and the projects financed under the Framework are anticipated to deliver positive

[52] This assessment has been derived from Sustainalytics' ESG Risk Ratings framework, accessed on July 29, 2021, comparing Vodafone with other 222 peers (8 out of 223) in the global telecommunication services industry.
[53] Global Citizen, "10 Great Things That Happened at the Climate Ambition Summit Held by the UK and France", at: https://www.globalcitizen.org/en/content/top-announcement-climate-ambition-summit-uk-france/
[54] Vodafone, "Vodafone Group Plc Annual Report 2021", at: https://investors.vodafone.com/sites/vodafone-ir/files/2021-05/vodafone-annual-report-2021.pdf
[55] This assessment has been derived from Sustainalytics ESG Risk Ratings framework, accessed on July 29, 2021.
[56] Vodafone, "Vodafone Group Plc Annual Report 2021", at: https://investors.vodafone.com/sites/vodafone-ir/files/2021-05/vodafone-annual-report-2021.pdf
[57] *Ibid.*
[58] This assessment has been derived from Sustainalytics' ESG Risk Ratings framework, accessed on July 29, 2021.

environmental or social impact. However, Sustainalytics also acknowledges that achieving the SPTs and investing in eligible projects bears environmental and social risks related to challenges in the supply chain for raw materials critical to the telecommunications industry, in addition to waste management, GHG emissions from own operations and value chain, occupational health and safety, user data privacy, security and censorship.

In the following section, Sustainalytics comments on Vodafone's ability to mitigate such potential risks.

- Vodafone reports that environmental management systems (EMS) are in place for all its markets. These systems are certified ISO 14001 in Albania, Czech Republic, Egypt, Greece, Ireland, Italy (only headquarters in Milan), Portugal, Romania, South Africa, Spain and the UK to demonstrate best practices for minimizing the environmental impacts of operations.[59]
- Vodafone's approach to employee health and safety is governed by its global safety framework, which includes monitoring and assessing risks, setting targets, reviewing progress and reporting performance. Its health and safety management system is based on OHSAS 18001 or ISO 45001 and is designed to meet internally recognized best practices and minimum local requirements. In 2021, Vodafone introduced an updated health and safety module as part of its mandatory training "Doing What's Right" with focus areas that include occupational road risk, falls from height, working with electricity and fibre operations.[60]
- Vodafone has established an approach to data privacy, security and censorship outlined by a series of policies. Specifically, the company discloses commitments on customer privacy, respecting the digital rights of children, freedom of expression and network censorship. Vodafone's privacy management policy is based on the European Union General Data Protection Regulation, which outlines a common approach to protecting individual rights to privacy and freedom of expression. The company is also a member of the Global Network Initiative, which promotes the same goal.[61] Vodafone's global privacy programme is overseen its the Group General Counsel and Company Secretary. The Group Privacy Officer who reports to the Group General Counsel is responsible for managing and overseeing the programme.[62]
- Vodafone has adopted a due diligence framework to mitigate risks associated with the sourcing of conflict minerals and metals commonly used to manufacture electronics equipment.[63] This includes the implementation of a conflict mineral management system, risk identification and assessment process, a strategy design and implementation plan to address the risks identified during the assessments, third-party audits of smelters and refiners and annual reporting. The company has a separate process to mitigate risks related to slavery and human trafficking in its supply chain, which is outlined in the group's Slavery and Human Trafficking Statement.[64]
- Vodafone adheres to the Task Force on Climate Related Disclosures' recommendations for managing risks due to climate change and GHG emissions. A defined risk management process helps identify, measure and manage climate-related risks. Climate change was added to Vodafone's risk watchlist in 2019 and then moved to the emerging risk list in 2020. Relevant Scope 3 emissions are a key area of focus given Vodafone aims to become net-zero across the full value chain by 2040. [65]
- Since 2013, Vodafone's Waste Policy has prioritized reuse, recycling and responsible disposal of all network waste. Vodafone has also set a target to reuse, resell and recycle 100% of its network waste by 2025, with 99% of the network waste currently recovered and recycled.[66]
- According to Sustainalytics' controversy research, Vodafone has no major controversies related to its operations or its supply chain impact on the environment or society.

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[59] Vodafone, "Vodafone Group Plc Annual Report 2021", at: https://investors.vodafone.com/sites/vodafone-ir/files/2021-05/vodafone-annual-report-2021.pdf
[60] *Ibid.*
[61] The Global Network Initiative, "The GNI Principles", at: https://globalnetworkinitiative.org/gni-principles/
[62] Vodafone, "Vodafone Group Plc Annual Report 2021", at: https://investors.vodafone.com/sites/vodafone-ir/files/2021-05/vodafone-annual-report-2021.pdf
[63] Vodafone, "Conflict Minerals Report", at: https://www.vodafone.com/about-vodafone/reporting-centre/sustainability-reporting#conflict-minerals-report
[64] Vodafone, "Slavery and Human Trafficking Statement 2020/21" at: https://www.vodafone.com/about-vodafone/reporting-centre/sustainability-reporting#slavery-and-human-trafficking-statement
[65] Vodafone, "Vodafone Group Plc Task Force on Climate-related Financial Disclosures ('TCFD') Report 2021", at: https://investors.vodafone.com/sites/vodafone-ir/files/2021-05/vodafone-tcfd-report-2021.pdf
[66] Vodafone, "Vodafone Group Plc Annual Report 2021", at: https://investors.vodafone.com/sites/vodafone-ir/files/2021-05/vodafone-annual-report-2021.pdf

Overall, Sustainalytics considers that Vodafone has strong management programmes and policies to mitigate environmental and social risks that could arise from its operations.

Section 3: Impact of the UoPs and SPTs Selected

Importance of Energy Efficiency for Meeting Global Climate Goals

According to the International Energy Association (IEA), electricity demand rebounded sharply after a deep decrease during the lockdowns in the COVID-19 pandemic across various economies, recovering as they were lifted.[67] As per IEA's Sustainable Development Scenario, energy efficiency can deliver more than 40% of the reduction in energy-related greenhouse gas emissions over the next 20 years.[68]

The telecommunication sector accounts roughly for 2-3% of global energy consumption. Energy consumption constitutes between 20% to 40% of the network operating expenditure of a company in the telecommunication sector.[69] In terms of energy consumption in mobile networks, transferring data consumes only approximately 15%, while the remaining 85% is wasted because of heat loss in power amplifiers, equipment kept idling when there is no data transmission, and inefficiency in systems, such as rectifiers, cooling systems and battery units. Potential saving opportunities in the telecommunication sector lie in deploying artificial intelligence and the IoT, structural and architectural transformations, and cheaper and more sustainable energy sourcing.[70]

Vodafone's efforts to promote energy efficiency in its mobile network through improved hardware, energy-saving software and funding R&D activities related to energy efficiency are expected to positively impact countries where these upgrades in infrastructure and support software are implemented. Vodafone has implemented an energy data management system using data feeds from their electricity suppliers and smart meters installed at 62,000 sites across 12 markets in Europe to bring down energy consumption and costs.[71] Given the potential increase in energy demand from networks resulting from increasing data flows in the coming years, these investments are viewed as particularly impactful. Many of the countries in which Vodafone operates have ratified the Paris Agreement on Climate Change and have submitted their Nationally Determined Contributions.[72] Given the projected growth in emissions from the telecommunications industry, Vodafone's efforts to reduce network energy consumption may contribute to future GHG emissions savings in a number of countries.

Based on this, Sustainalytics views Vodafone's projects in the area of energy efficiency as impactful. Vodafone's IoT technologies have broad applications with the potential to increase energy efficiency in the transportation of people and freight, the distribution of energy and the optimization of energy use in buildings and cities, among others.[73]

Access to Digital Infrastructure for Socio-economic Development

Access to the internet has grown from 4% to 40% of the world's population from 1997 to 2017, with emerging and developing economies increasingly using digital infrastructure to access e-commerce, banking and health services.[74] According to the World Economic Forum, each additional 10% of internet penetration can lead to a 1.2% increase in per capita GDP growth in emerging economies. However, the gap in use and access to digital infrastructure and services between individuals, households, businesses or geographical areas remains wide for emerging economies.[75] According to the Food and Agriculture Organization, the "digital

[67] IEA, "Electricity Market Report – December 2020", at: https://iea.blob.core.windows.net/assets/a695ae98-cec1-43ce-9cab-c37bb0143a05/Electricity_Market_Report_December_2020.pdf
[68] IEA, "Energy Efficiency", at: https://www.iea.org/topics/energy-efficiency
[69] GSMA, "Energy Efficiency: An Overview", at: https://www.gsma.com/futurenetworks/wiki/energy-efficiency-2/
[70] Mckinsey, "The case for committing to greener networks", at: https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-case-for-committing-to-greener-telecom-networks
[71] Vodafone, "Vodafone Group Plc Annual Report 2021", at: https://investors.vodafone.com/sites/vodafone-ir/files/2021-05/vodafone-annual-report-2021.pdf
[72] UNFCCC, "Nationally Determined Contributions", at: https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs/nationally-determined-contributions-ndcs
[73] Vodafone, "Internet of Things", at: https://www.vodafone.com/business/iot#tab-1508866409966-wg-1508866409405
[74] OECD, "GOING DIGITAL: MAKING THE TRANSFORMATION WORK FOR GROWTH AND WELL-BEING", at: https://www.oecd.org/mcm/documents/C-MIN-2017-4%20EN.pdf
[75] G20 Insights, "Digital infrastructure: Overcoming Digital Divide in Emerging Economies", at: https://www.g20-insights.org/policy_briefs/digital-infrastructure-overcoming-digital-divide-emerging-economies/

agricultural revolution" will be the latest shift within the agriculture sector, which could help ensure agriculture meets the needs of the global population into the future.[76]

Vodafone's effort towards the expansion of next-generation access fixed networks and access mobile networks, the establishment of a high-capacity backbone for networks in underserved areas has the potential to generate livelihood and enable businesses to flourish in those areas. The provision of fast and reliable connectivity may help in the socio-economic growth of rural economies by creating new job opportunities, improving agricultural productivity and enhancing local public services.

Alignment with and contribution to SDGs

The UN's Sustainable Development Goals (SDGs) were set in September 2015 and form an agenda for achieving sustainable development by the year 2030. The Vodafone Sustainable and Sustainability-Linked Finance Framework advance the following SDG goals and targets:

UOPs and KPIs categories	SDG	SDG Target
Energy Efficiency	7. Affordable and Clean Energy	7.3 By 2030, double the global rate of improvement in energy efficiency
On-site Renewable Energy	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Green Buildings	11. Sustainable Cities and Communities	11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries
Circular Economy	12. Responsible Consumption and Production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
Access to essential services	9. Industry, Innovation and Infrastructure	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all 9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020
Socioeconomic advancement and empowerment	8. Decent work and economic growth 10. Reduced Inequalities	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services 10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status
Employment generation	4.Quality Education	4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
KPI 1 - Percentage reduction of carbon dioxide equivalent (tCO_2e)	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix

[76] FAO, "DIGITAL TECHNOLOGIES IN AGRICULTURE AND RURAL AREAS: BRIEFING PAPER", at: http://www.fao.org/3/ca4887en/ca4887en.pdf

		7.3 By 2030, double the global rate of improvement in energy efficiency
KPI 2 – Avoided customer greenhouse gas emissions expressed in tonnes of CO_2 equivalent	7. Affordable and Clean Energy	7.3 By 2030, double the global rate of improvement in energy efficiency
KPI 3 - Percentage of women in management and senior leadership roles	5. Gender Equality	5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
KPI 4 - Millions of customers connected to mobile money services	1.No Poverty 10. Reduced Inequalities	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance 10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

Conclusion

Vodafone has developed the Vodafone Sustainable and Sustainability-Linked Finance Framework, under which it intends to issue use of proceeds (green, social or sustainability) bonds and loans, and sustainability-linked bonds and loans.

Under the green, social, sustainability bonds and loans, use of proceeds may finance projects related to Energy Efficiency, On-site Renewable Energy, Green Buildings, Circular Economy, Access to Essential Services, Socio-economic Advancement and Empowerment, and Employment Generation. Sustainalytics considers that the projects funded by the use of proceeds bonds and loans are expected to provide positive environmental and social impact. The Vodafone Sustainable Finance Framework outlines a process by which proceeds will be tracked, allocated and managed, and makes commitments for reporting on the allocation and impact of the use of proceeds.

Under the sustainability-linked instruments, Vodafone intends to tie the financial characteristics of the bonds and loans to the achievements of one or more of the following SPTs:

(1) SPT 1: to reduce absolute Scope 1 and 2 carbon emissions by 95% by 2030 against a 2020 baseline, and to reduce absolute Scope 3 emissions by 50% by 2030 against a 2020 baseline;

(2) SPT 2: to help business customers reduce their carbon emissions by a cumulative total of 350 million tonnes globally between 2020 and 2030;

(3) SPT 3: Vodafone aims to have 40% women in management and senior leadership roles by 2030;

(4) SPT 4: to connect over 68.2 million people and their families to mobile money services by 2024.

Sustainalytics considers KPI 1 - Percentage reduction of carbon dioxide equivalent (tCO_2e) to be very strong; KPI 2 – Avoided customer greenhouse gas emissions expressed in tonnes of CO_2 equivalent to be strong; KPI 3 - Percentage of women in management and senior leadership roles to be strong; and KPI 4 - Millions of customers connected to mobile money services to be strong. Sustainalytics considers SPT 1 to be highly ambitious, and SPT 2, SPT 3, and SPT 4 to be ambitious. Sustainalytics considers reporting and verification commitments to be aligned with market expectations.

Furthermore, Sustainalytics believes that the Vodafone Sustainable Finance Framework is aligned with the overall sustainability strategy of the company and that Vodafone has strong ESG risk management.

Based on the above, Sustainalytics is confident that Vodafone is well-positioned to issue green, social and sustainability use of proceeds bonds and loans, and sustainability-linked bonds and loans and that Vodafone Sustainable Finance Framework in alignment with the Sustainability Bond Guidelines 2021, Green Bond Principles 2021, Social Bond Principles 2021, Green Loan Principles 2021, Social Loan Principles 2021, Sustainability-Linked Bond Principles 2020, and Sustainability-Linked Loan Principles 2021.

Appendix 1 Sustainability Bond / Sustainability Bond Programme - External Review Form

Section 1. Basic Information

Issuer name:	Vodafone Group Plc.
Sustainability Bond ISIN or Issuer Sustainability Bond Framework Name, if applicable:	Sustainable and Sustainability Linked Finance Framework
Review provider's name:	Sustainalytics
Completion date of this form:	September 07, 2021
Publication date of review publication:	

Section 2. Review overview

SCOPE OF REVIEW

The following may be used or adapted, where appropriate, to summarise the scope of the review.

The review assessed the following elements and confirmed their alignment with the GBP and SBP:

☒	Use of Proceeds	☒	Process for Project Evaluation and Selection
☒	Management of Proceeds	☒	Reporting

ROLE(S) OF REVIEW PROVIDER

☒	Consultancy (incl. 2nd opinion)	☐	Certification
☐	Verification	☐	Rating
☐	Other *(please specify)*:		

Note: In case of multiple reviews / different providers, please provide separate forms for each review.

EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW *(if applicable)*

Please refer to Evaluation Summary above.

Section 3. Detailed review

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.

1. USE OF PROCEEDS

Overall comment on section *(if applicable)*:

Sustainalytics is of the opinion that the Vodafone Sustainable and Sustainability linked Finance Framework is credible and impactful and aligns with the four core components of the Sustainability Bond Guidelines 2021, Green Bond Principles 2021, and Social Bond Principles 2021, Green Loan Principles 2021 and Social Loan Principles 2021 (the "Use of Proceeds Principles"). The eligible categories for the use of proceeds Energy Efficiency, On-site Renewable Energy, Green Buildings, Circular Economy, Access to essential services, Socioeconomic advancement and empowerment and Employment Generation are aligned with those recognized by the Use of Proceeds Principles and will lead to positive environmental and social impacts.

Use of proceeds categories as per GBP:

☒	Renewable energy	☒	Energy efficiency
☐	Pollution prevention and control	☐	Environmentally sustainable management of living natural resources and land use
☐	Terrestrial and aquatic biodiversity conservation	☐	Clean transportation
☐	Sustainable water and wastewater management	☐	Climate change adaptation
☒	Eco-efficient and/or circular economy adapted products, production technologies and processes	☒	Green buildings
☐	Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBPs	☐	Other (please specify):

If applicable please specify the environmental taxonomy, if other than GBPs:

Use of proceeds categories as per SBP:

☒	Affordable basic infrastructure	☒	Access to essential services
☐	Affordable housing	☒	Employment generation (through SME financing and microfinance)
☐	Food security	☒	Socioeconomic advancement and empowerment

☐ Unknown at issuance but currently expected to conform with SBP categories, or other eligible areas not yet stated in SBP

☐ Other (please specify):

If applicable please specify the social taxonomy, if other than SBP:

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (if applicable):

- Vodafone's Sustainable Finance Committee will be responsible for the selection and approval of the eligible projects. The Committee will comprise of Treasury, Sustainable Business, Energy Performance and/or external subject matter experts.
- Vodafone manages environmental and social risks through its Business Principles that apply minimum environmental and social requirements and all relevant regulations across all its activities, including those financed under the Framework. Sustainalytics considers these risk management systems to be adequate.
- Based on the clear allocation of responsibilities and risk management processes, Sustainalytics considers this process to be in line with market practice.

Evaluation and selection

☒ Credentials on the issuer's social and green objectives

☒ Documented process to determine that projects fit within defined categories

☒ Defined and transparent criteria for projects eligible for Sustainability Bond proceeds

☒ Documented process to identify and manage potential ESG risks associated with the project

☒ Summary criteria for project evaluation and selection publicly available

☐ Other (please specify):

Information on Responsibilities and Accountability

☒ Evaluation / Selection criteria subject to external advice or verification

☐ In-house assessment

☐ Other (please specify):

3. MANAGEMENT OF PROCEEDS

Overall comment on section *(if applicable)*:

- Vodafone's Treasury Department will use its Treasury Management System to track allocations towards eligible projects.
- Vodafone has communicated that it intends to fully allocate within a year of each issuance.
- Vodafone has defined a lookback period of three years for CAPEX and OPEX for refinancing.
- Pending allocation, the proceeds may be held in cash, other short-term liquid instruments, used to pay existing indebtedness or other capital management activities.
- Based on the processes and timelines for allocation and the temporary use of proceeds, Sustainalytics considers this process to be in line with market practice.

Tracking of proceeds:

☒ Sustainability Bond proceeds segregated or tracked by the issuer in an appropriate manner

☒ Disclosure of intended types of temporary investment instruments for unallocated proceeds

☐ Other (please specify):

Additional disclosure:

☐ Allocations to future investments only

☒ Allocations to both existing and future investments

☐ Allocation to individual disbursements

☐ Allocation to a portfolio of disbursements

☐ Disclosure of portfolio balance of unallocated proceeds

☐ Other (please specify):

4. REPORTING

Overall comment on section (if applicable):

- Vodafone intends to provide aggregated reporting of all its Sustainability Financing within a year of issuance and annually thereafter until full allocation. The reporting will cover both allocation and impact reporting.
- Allocation reporting will include the total investments in the Eligible Project Portfolio, the share of financing to refinancing and the balance of unallocated proceeds.
- Impact reporting may include social indicators such as the number of beneficiaries, new mobile data users, startups supported, full employment created and green indicators such as the direct and indirect abatement in GHG emissions, energy saved, square footage of green buildings and the amount of waste avoided.
- Based on the commitment for allocation and impact reporting, Sustainalytics considers this process to be in line with market practice.

Use of proceeds reporting:

☐ Project-by-project

☒ On a project portfolio basis

☐ Linkage to individual bond(s)

☐ Other (please specify):

Information reported:

☒ Allocated amounts

☐ Sustainability Bond financed share of total investment

☐ Other (please specify): The amount or percentage of new and existing projects

Frequency:

☒ Annual ☐ Semi-annual

☐ Other (please specify):

Impact reporting:

☐ Project-by-project ☒ On a project portfolio basis

☐ Linkage to individual bond(s) ☐ Other (please specify):

Information reported (expected or ex-post):

☒ GHG Emissions / Savings ☒ Energy Savings

☐ Decrease in water use ☒ Number of beneficiaries

☐ Target populations ☐ Other ESG indicators (please specify): Sq.ft. of Green Buildings, Amount of waste avoided (tonnes), Number of new mobile data user per country and/or per underserved area, Number of start-ups supported, Estimated number of full time employments created

Frequency:

☒ Annual ☐ Semi-annual

☐ Other (please specify):

Means of Disclosure

☐ Information published in financial report ☐ Information published in sustainability report

☒ Information published in ad hoc documents ☐ Other (please specify):

☐ Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review):

Where appropriate, please specify name and date of publication in the useful links section.

USEFUL LINKS (e.g. to review provider methodology or credentials, to issuer's documentation, etc.)

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE

Type(s) of Review provided:

☐ Consultancy (incl. 2nd opinion)	☐ Certification
☒ Verification / Audit	☐ Rating
☐ Other *(please specify)*:	

Review provider(s): **Date of publication:**

ABOUT ROLE(S) OF REVIEW PROVIDERS AS DEFINED BY THE GBP AND THE SBP

i. Second-Party Opinion: An institution with sustainability expertise that is independent from the issuer may provide a Second-Party Opinion. The institution should be independent from the issuer's adviser for its Sustainability Bond framework, or appropriate procedures such as information barriers will have been implemented within the institution to ensure the independence of the Second-Party Opinion. It normally entails an assessment of the alignment with the Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy, and/or processes relating to sustainability and an evaluation of the environmental and social features of the type of Projects intended for the Use of Proceeds.

ii. Verification: An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or sustainability criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally or socially sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer's internal tracking method for use of proceeds, allocation of funds from Sustainability Bond proceeds, statement of environmental or social impact or alignment of reporting with the Principles may also be termed verification.

iii. Certification: An issuer can have its Sustainability Bond or associated Sustainability Bond framework or Use of Proceeds certified against a recognised external sustainability standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.

iv. Green, Social and Sustainability Bond Scoring/Rating: An issuer can have its Sustainability Bond, associated Sustainability Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialised research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental and/or social performance data, process relative to the Principles, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material sustainability risks.

Appendix 2: Sustainability-Linked Bonds - External Review Form

Section 1. Basic Information

Issuer name: Vodafone Group PLC

Sustainability-Linked Bond ISIN: not known at time of publication

Independent External Review provider's name for second party opinion pre-issuance (sections 2 & 3): Sustainalytics

Completion date of second party opinion pre-issuance: September 07, 2021

Independent External Review provider's name for post-issuance verification (section 4): not known at time of publication

Completion date of post issuance verification: not known at time of publication

At the launch of the bond, the structure is:

☒ a step-up structure ☐ a variable redemption structure

Section 2. Pre-Issuance Review

2-1 SCOPE OF REVIEW

The following may be used or adapted, where appropriate, to summarise the scope of the review.

The review:

☒ assessed all the following elements (complete review) ☐ only some of them (partial review):

- ☒ Selection of Key Performance Indicators (KPIs)
- ☒ Calibration of Sustainability Performance Targets (SPTs)
- ☒ Verification
- ☒ Bond characteristics (acknowledgment of)
- ☒ Reporting

☒ and confirmed their alignment with the SLBP.

2-2 ROLE(S) OF INDEPENDENT EXTERNAL REVIEW PROVIDER

☒ Second Party Opinion ☐ Certification

☐ Verification ☐ Scoring/Rating

Note: In case of multiple reviews / different providers, please provide separate forms for each review.

2-3 EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW *(if applicable)*

Section 3. Detailed pre-issuance review

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.

3-1 SELECTION OF KEY PERFORMANCE INDICATORS (KPIS)

Overall comment on the section *(if applicable)*: Sustainalytics considers KPI 1 to be very strong overall given that: (i) it measures performance on a relevant and material ESG issue for the Company, (ii) it directly measures its operational carbon performance – Scope 1 and 2, (iii) it covers the indirect emissions related to its operations (Scope 3), (iv) the calculation methodology is aligned with GHG Protocol Corporate Standard, and therefore (iv) it supports benchmarking against external emission reduction trajectories. Sustainalytics considers KPI 2 to be strong overall given that: (ii) it covers significant indirect emissions related to its operations – Scope 3 (Category 11: use of sold products), and (ii) the calculation methodology is aligned with industry practice, based on the work of the Carbon Trust and the Global e-Sustainability Initiative (GeSI), and (iii) it represents a positive step in quantifying a difficult to calculate but important share of Vodafone's environmental impact. Sustainalytics considers KPI 3 to be strong given that: (i) it measures performance on relevant and material issues for the Company, (ii) it is a direct measure of the performance of the Company, and (iii) follows a clear and consistent methodology that is similar to the one suggested by the Global Reporting Initiative for calculating management team diversity. Sustainalytics notes that while there are no applicable externally recognized benchmarks for this KPI, it is benchmarkable and enables easy comparison across various industry players. Sustainalytics considers KPI 4 to be strong given that: (i) it measures performance on relevant and material issues for the Company, (ii) it is a direct measure of the Company's performance in improving financial inclusion, and (iii) it follows a clear, consistent and externally verifiable methodology. Sustainalytics notes that while there are no applicable externally recognized benchmarks for this KPI, impact reporting based on the number of beneficiaries served is commonly used in sustainable and impact financing.

List of selected KPIs:

- KPI 1 - Percentage reduction of carbon dioxide equivalent (tCO_2e)
- KPI 2 - Avoided customer greenhouse gas emissions expressed in tonnes of CO_2 equivalent
- KPI 3 - Percentage of women in management and senior leadership roles (%)
- KPI 4 - Millions of customers connected to mobile money services

Definition, Scope, and parameters

☒ Clear definition of each selected KPIs

☒ Clear calculation methodology

☐ Other (please specify):

Relevance, robustness, and reliability of the selected KPIs

☒ Credentials that the selected KPIs are relevant, core and material to the issuer's sustainability and business strategy.

☒ Evidence that the KPIs are externally verifiable

☒ Credentials that the KPIs are measurable or quantifiable on a consistent methodological basis

☒ Evidence that the KPIs can be benchmarked

☐ Other (*please specify*):

3-2 CALIBRATION OF SUSTAINABILITY PERFORMANCE TARGETS (SPTs)

Overall comment on the section (*if applicable***):** Sustainalytics considers Vodafone's SPT 1 to be highly ambitious given that: (i) it is above its historical performance, (ii) it is above or aligned with its industry peers, and (iii) it presents an absolute GHG reduction aligned with a 1.5°C scenario. Sustainalytics considers Vodafone's SPT 2 to be ambitious given that it presents a material improvement compared to past performance and represents a significant absolute amount of avoided emissions but cannot be assessed for alignment with market best practice or science-based benchmarks. Sustainalytics considers SPT 3 to be ambitious given that it presents a material improvement compared to past and peer performance. Sustainalytics considers Vodafone's SPT 4 to be ambitious given that it is above historical performance and aligned with peer performance.

Rationale and level of ambition

- ☒ Evidence that the SPTs represent a material improvement
- ☒ Evidence that SPTs are consistent with the issuer's sustainability and business strategy
- ☒ Credentials on the relevance and reliability of selected benchmarks and baselines
- ☒ Credentials that the SPTs are determined on a predefined timeline
- ☐ Other (please specify):

Benchmarking approach

- ☒ Issuer own performance
- ☒ reference to the science
- ☒ Issuer's peers
- ☐ Other *(please specify):*

Additional disclosure

- ☐ potential recalculations or adjustments description
- ☒ identification of key factors that may affect the achievement of the SPTs
- ☒ issuer's strategy to achieve description
- ☐ Other (please specify):

3-3 BOND CHARACTERISTICS

Overall comment on the section (*if applicable***):** Vodafone intends for the financial characteristics of the instruments issued under this Framework to be tied to the achievement of one SPT or multiple SPTs. If the SPT(s) have not been reached by the target observation date, Vodafone will pay a financial penalty in the form of an increase in the coupon margin or the payment of a premium by an amount that will be specified in the Sustainability-Linked Finance Instruments' documentation.

Financial impact:

- ☒ variation of the coupon
- ☐ …
- ☒ Other (*please specify*):) a payment to a climate change research or climate change mitigation institute, or a non-governmental organization or the Vodafone Foundation

Structural characteristic:

☐ …

☐ …

☐ Other (*please specify*):

3-4 REPORTING

Overall comment on the section (*if applicable***):** Vodafone commits to report on an annual basis on its performance on the KPIs on its website, which is aligned with the SLBP and SLLP. Vodafone intends to disclose the information: (i) annually, through its integrated annual report and/or ESG addendum with an assurance statement from a statutory auditor, (ii) following the target observation date, through a verification assurance certificate published on the Vodafone website confirming that the performance of the KPI meets the relevant SPT, and (iii) periodically through its website any information on the level of ambition of the SPTs.

Information reported:

☒ performance of the selected KPIs

☐ level of ambition of the SPTs

☒ verification assurance report

☐ Other (*please specify*):

Frequency:

☒ Annual

☐ Other (please specify):

☐ Semi-annual

Means of Disclosure

☐ Information published in financial report

☐ Information published in ad hoc documents

☐ Reporting reviewed *(if yes, please specify which parts of the reporting are subject to external review)*:

☐ Information published in sustainability report

☐ Other (please specify):

Where appropriate, please specify name and date of publication in the "useful links" section.

Level of Assurance on Reporting

☒ limited assurance

☐ reasonable assurance

☐ Other *(please specify)*:

USEFUL LINKS (*e.g. to review provider methodology or credentials, to issuer's documentation, etc.*)

Section 4. Post-issuance verification

Overall comment on the section (*if applicable***):**

Information reported:

☐ limited assurance

☐ reasonable assurance

☐ Other (please specify):

Frequency:

☐ Annual

☐ Semi-annual

☐ Other (please specify):

Material change:

☐ Perimeter

☐ KPI methodology

☐ SPTs calibration

Disclaimer

About Sustainalytics, a Morningstar Company

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