

Second-Party Opinion

VodafoneZiggo Sustainable Finance Framework



Evaluation Summary

Use of Proceeds Instruments

Green Bond Principles 2021, Green Loan Principles 2021

Sustainalytics is of the opinion that the VodafoneZiggo Sustainable Finance Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2021 and Green Loan Principles 2021 (the “Use of Proceeds Principles”). The eligible categories for the use of proceeds – Renewable Energy; Energy Efficiency; Clean transportation; Circular economy adapted products, production technologies and processes and/or certified eco-efficient products; and Green Buildings – are aligned with those recognized by the Use of Proceeds Principles, and investments in these categories are anticipated to lead to positive environmental impacts.

Sustainability-Linked Instruments

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

Sustainalytics is of the opinion that the VodafoneZiggo Sustainable Finance Framework aligns with the Sustainability-Linked Bond Principles 2020 and Sustainability-Linked Loan Principles 2021 (the “Sustainability-Linked Principles”).

KPI	SPT	Strength of the KPI	Ambitiousness of SPT
Tonnes of carbon dioxide equivalent (tCO ₂ e)	<p>SPT a: to reduce absolute scope 1 and 2 GHG emissions by 50% against a 2018 baseline</p> <p>SPT b: to reduce absolute scope 3 GHG emissions by 50% against a 2018 baseline</p>	Very strong	Highly ambitious

Evaluation Date	December 17, 2021
Issuer/Borrower Location	Utrecht, Netherlands

The UoPs and SPTs contribute to the following SDGs:



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Scope of Work and Limitations

Sustainalytics' Second-Party Opinion reflects Sustainalytics' independent¹ opinion on the alignment of the VodafoneZiggo Sustainable Finance Framework with current market standards. As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework's alignment with the Green Bond Principles 2021, Green Loan Principles 2021, Sustainability-Linked Bond Principle 2020, and Sustainability-Linked Loan Principle 2021^{2,3} (the "Principles");
- The credibility and anticipated positive impacts of the use of proceeds and SPTs;
- The Company's sustainability strategy, performance and sustainability risk management; and

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

- (1) They understand it is the sole responsibility of VodafoneZiggo to ensure that the information provided is complete, accurate or 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 VodafoneZiggo.

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 or until one of the following occurs: (1) A material change to the external benchmarks⁴ 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.⁵

For use of proceeds instruments, Sustainalytics relied on its internal taxonomy, version 1.11.1, which is informed by market practice and Sustainalytics' expertise as an ESG research provider. 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 realised allocation of the bond proceeds towards eligible activities

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

- addresses the anticipated SPT of the KPI but does not measure the KPI's performance. The measurement and reporting of the KPI is the responsibility of the issuer or borrower.

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 loan Principles and Guidelines are administered by the Loan Market Association, Asia Pacific Loan Market Association and Loan Syndications & Trading Association and are available at: https://www.lsta.org/content/?_industry_sector=guidelines-memos-primary-market

⁴ Benchmarks refers to science-based benchmarks

⁵ Sustainalytics has provided an opinion based on the understanding that the financial characteristics of instruments issued under this Framework will be tied to the achievement of SPTs corresponding to each of the KPIs included in the Framework.

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 VodafoneZiggo has made available to Sustainalytics for the purpose of this Second-Party Opinion.

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Introduction

VodafoneZiggo Group B.V. and its subsidiaries (“VodafoneZiggo” or the “Company”) is a joint venture between the Liberty Global and Vodafone, headquartered in Utrecht, The Netherlands. The Company provides fixed, mobile and integrated communication and entertainment services to consumers and businesses. As of September 30, 2021, the company services 5 million mobile, nearly 4 million video, over 3 million fixed broadband internet and over 2 million fixed telephony subscribers.

VodafoneZiggo has developed the VodafoneZiggo Sustainable Finance Framework (the “Framework”) under which it intends to issue or borrow use of proceeds green bonds and loans and sustainability-linked bonds and loans. VodafoneZiggo engaged Sustainalytics to review the Framework, dated December 2021, and provide a Second-Party Opinion on the Framework’s alignment with the Green Bond Principles 2021, Green Loan Principles 2021, Sustainability-Linked Bond Principles 2020, and Sustainability-Linked Loan Principles 2021 (the “Principles”). The Framework has been published in a separate document, dated December 2021.⁶

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

1. Renewable Energy
2. Energy Efficiency
3. Clean Transportation
4. Circular economy adapted products, production technologies and processes and/or certified eco-efficient products
5. Green Buildings

Under sustainability-linked instruments, the financial characteristics are tied to the achievement of the SPT as specified in the final terms of the notes issued or the final loan agreement, as applicable.

The KPI and SPT used by VodafoneZiggo are defined in Tables 1 and 2 below.

Table 1: KPI Definition

KPI	Definition
Tonnes of carbon dioxide equivalent (tCO ₂ e)	The absolute scope 1, 2 and 3 GHG emissions to which the target is applicable, in tonnes of carbon dioxide equivalent. The KPI is calculated according to the guidelines of the Greenhouse gas protocol (GHG protocol) and the ISO 14064-1 standard. Indirect GHG emissions (scope 3) made up roughly 88% of all emissions in 2020.

Table 2: SPT and Past Performance

KPI	(Baseline) 2018	2019	2020	SPT 2025
Tonnes of carbon dioxide equivalent (tCO ₂ e)	(a) scope 1 and 2 - 12,810	(a) scope 1 and 2 - 13,130	(a) scope 1 and 2 - 10,724	SPT a: to reduce absolute scope 1 and 2 GHG emissions by 50% against a 2018 baseline
	(b) scope 3 - 115,698	(b) scope 3 - 92,249	(b) scope 3 - 75,376	SPT b: to reduce absolute scope 3 GHG emissions by 50% against a 2018 baseline

⁶ The VodafoneZiggo Sustainable Finance Framework is available on VodafoneZiggo’s website at: <https://www.vodafoneziggo.nl/en/samenleving/green-bond/>

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 VodafoneZiggo Sustainable Finance Framework is credible, impactful and aligns with the Green Bond Principles 2021 and Green Loan Principles 2021 (the "Use of Proceeds Principles"). For detailed information please refer to Appendix 1: Green Bond/ Green Bond Programme External Review Form. Sustainalytics highlights the following elements of VodafoneZiggo's Sustainable Finance Framework:



Use of Proceeds

Overall Assessment of Use of Proceeds

Use of Proceeds	Activity	Classification	Description and Sustainalytics' Assessment
Renewable Energy	Purchase of RECs	Green	<ul style="list-style-type: none"> - Investments in renewable energy certificates ("RECs") will be directly tied to wind power plants or investments in electricity. RECs contemplated are intended to procure power from European windfarms with the goal of increasing the share of renewable power in the Company's energy mix. - VodafoneZiggo has confirmed that RECs being purchased are without any specific expiry date and long term in nature. Based on the long-term and project-tied nature of the RECs, Sustainalytics views this certificate to be in line with market practice.
	Electricity generation from solar and wind projects	Green	<ul style="list-style-type: none"> - Aligned with market practice
Energy Efficiency	Internet of Things (IoT)	Green	<ul style="list-style-type: none"> - Telecommunications technology, and IoT specifically, is expected to play an important role in driving energy efficiency through a range of industrial and societal applications. - Sustainalytics recognizes that IoT technologies as described in VodafoneZiggo's Framework carry two risks or limitations in terms of impact: <ul style="list-style-type: none"> o 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 VodafoneZiggo excludes the development of products and solutions specifically intended to support the fossil fuel industry, while recognizing that some potential applications may still be exposed to the use of fossil fuels. Sustainalytics understands that the Company cannot control the use and application of the IoT enabling technologies once sold. Sustainalytics further recognizes that VodafoneZiggo's Sustainable Finance Committee intends to perform additional reviews of risks associated with specific implementations, which may potentially be excluded. o 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

			<p>emissions.⁷ 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 VodafoneZiggo continues to decrease the carbon intensity of the energy used to operate its network.</p> <ul style="list-style-type: none"> - As part of its IoT activities, VodafoneZiggo 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, the specific benefits likely to be achieved will be difficult to quantify.
	Improving energy efficiency of everyday operations	Green	<ul style="list-style-type: none"> - Operational energy efficiency improvements include energy saving software such as machine learning and artificial intelligence (AI) applications, self-organizing networks (SON) and radio access network (RAN) sharing. Sustainalytics views these activities to be in line with market practice, while noting the substantial variation in the magnitude of potential benefits, given the various use cases associated with these energy efficiency improvements. Refer to Section 3 for more information on the environmental impact of these technologies.
	Network transformation (both fixed and mobile networks) in order to improve energy efficiency	Green	<ul style="list-style-type: none"> - Under the sub-category of network transformation, VodafoneZiggo contemplates investments in programs related to upgrading Customer Premise Equipment (“CPE”) as well as network infrastructure related to broadband, video and telephony services. - Investments in CPE are guided by the Company’s roadmap to gradually upgrade legacy equipment and make it progressively more energy efficient. - Network infrastructure projects include on-site battery storage, fuel cells, and large-scale energy storage as well as in upgrading existing networks by acquiring technologies to enable deployment of 5G networks. <ul style="list-style-type: none"> o While the expansion of 5G technologies could lead to increased energy demands on the network, Sustainalytics believes that the energy efficiency gains achieved through such investments will result in a net energy reduction per unit of data transmitted. This will be achieved specifically by enabling energy efficiency of data transmission as well as operational efficiency across a range of industries and activities downstream of the network provider (please refer to Section 3 for further discussion on these impacts). - For its data centres investments, the Company intends to finance measures to improve the energy efficiency of facilities, targeting an annualized PUE of <1.5 by 2050. VodafoneZiggo may also finance facilities that comply with the “expected practices” of the European Code of Conduct on Data Centre Energy Efficiency along with ISO 50001 and that use refrigerants with a Global Warming Potential of no great than

⁷ GSMA, “The ratio of network carbon emissions to direct carbon emissions abatement from mobile technologies has been estimated at 1:10 in Europe and North America based on data from GeSI (2019)”, at: https://www.gsma.com/betterfuture/wp-content/uploads/2019/12/GSMA_Enablement_Effect.pdf

			<p>675.⁸ Sustainalytics views the PUE threshold to be aligned with market practice and notes that the remaining criteria are aligned with the requirements of the EU Taxonomy, while also recognizing that the referenced Code does not guarantee a specific level of environmental performance. Sustainalytics encourages the Company to ensure the achievement of the noted PUE levels at all facilities.</p> <ul style="list-style-type: none"> - In the context of modernizing its network, VodafoneZiggo intends to decommission or consolidate some of its fixed and mobile network sites. These efforts are expected to increase the efficiency of its fixed and mobile network sites, in line with its corporate target of reducing energy efficiency year-over-year. Sustainalytics encourages VodafoneZiggo to report on the quantitative impacts of these projects.
Clean Transportation	Electric bikes and vans	Green	<ul style="list-style-type: none"> - Sustainalytics views positively the provision of electric vans and bikes for technicians.
	Green lease policy for new electric vehicles		<ul style="list-style-type: none"> - The Company's will provide vehicle use subsidies to employees under its 'Green lease policy' which encourages the lease of only electric vehicles lease cars as of 2022. - VodafoneZiggo has confirmed that employees are responsible for selecting only electric vehicles as part of the Policy, and that conventional internal combustion engine vehicles are ineligible. Sustainalytics considers support for EVs to be aligned with market practice.
Circular economy adapted products, production technologies and processes and/or certified eco-efficient products	Recycling of packaging	Green	<ul style="list-style-type: none"> - The Company will invest in the recycling of product packaging, - Aligned with market practice
	E-Waste refurbishing and recycling	Green	<ul style="list-style-type: none"> - Projects in this category may include extending the lifecycle of products and increasing the reuse of materials, including mobile devices, and set-up boxes. Sustainalytics views these projects to be environmentally impactful while noting the importance of ensuring appropriate e-waste risk mitigation mechanisms are in place. Refer to Section 2 for more information.
	Plastic waste reduction in value chain	Green	<ul style="list-style-type: none"> - VodafoneZiggo has confirmed that only mechanical recycling of plastics will be undertaken, and Sustainalytics therefore views this to be aligned with market practice.
Green Buildings	Certified Green Buildings	Green	<ul style="list-style-type: none"> - Investments new office buildings that have an EPC label of "A+". Sustainalytics views this positively and notes that EPC label A+ corresponds to the top 15% of building stock in the Netherlands in terms of energy efficiency.
	Buildings with specified energy label	Green	<ul style="list-style-type: none"> - Investment towards refurbishment and renovation of office buildings which have made an improvement of at least two 'Energy Label' (Energy Performance Certificate or "EPC") steps up to a minimum EPC label of "C", representing a relative improvement of 20-30%. Sustainalytics considers this to be aligned with market practice.



Project Evaluation and Selection

- VodafoneZiggo has established a Sustainable Finance Committee (the "Committee"), comprised of representatives from the Company's Corporate Finance, Corporate Social Responsibility, Network, Human Resource, Business Control and Legal Team. The Committee will be responsible for evaluating and selecting projects in accordance with the eligibility criteria outlined in the Framework.

⁸ These criteria are drawn from the Technical Screening Criteria to the EU Taxonomy Delegated for the activity "Data processing, hosting and related activities" which require compliance with the "expected practices" of the Code or CEN-CENELEC document CLC TR50600-99-1 in addition to the threshold on refrigerant GWP.

- VodafoneZiggo manages environmental and social risks by assessing the projects against VodafoneZiggo's corporate and sustainability objectives as well as applicable national, European and international environmental and social standards and regulations. 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

- VodafoneZiggo Corporate Finance department will be responsible for managing allocation of proceeds to eligible projects through a Green Bond Register based on a portfolio approach.
- VodafoneZiggo intends to achieve full allocation for all Green Finance Instruments within 36 months of issuance.
- VodafoneZiggo has defined a three-year look-back period for CAPEX and OPEX for refinancing. Green assets will be eligible without any lookback period.
- Pending allocation, the proceeds will be managed in accordance with Vodafone's standard liquidity management practices.
- Based on the process and timeline for allocation and the temporary use of proceeds, Sustainalytics considers this process to be in line with market practice.



Reporting

- VodafoneZiggo intends to report on the allocation and impact of proceeds in a report on its website annually until full allocation. Allocation reporting will include, total amount allocated to eligible projects, the share of the net proceeds or an amount equal to the net proceeds used for financing vs refinancing, and the balance of unallocated proceeds.
- In addition, VodafoneZiggo is committed to reporting on relevant impact metrics such as renewable energy generation in MWh, installed renewable energy capacity in MW, tCO₂e saved/Terabyte or Revenue Generating Units (RGU) (for mobile or fixed network), energy used per Terabyte per annum in MWh, number of electric vehicles, amount of waste avoided in tonnes, estimated avoided/reduced carbon emissions in tCO₂e and square meter of green buildings, by certification type and level. The Company also intends to provide impact assessment methodologies, where relevant, to increase transparency.
- Based on commitment to both 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 VodafoneZiggo Sustainable Finance 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 VodafoneZiggo’s Sustainable 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’s/borrower’s business on environment or social issues, and ii) to what portion of impact the KPI is applicable.

- i. Sustainalytics considers the KPI material and relevant as it directly (scope 1 and 2) and indirectly (scope 3) measures VodafoneZiggo’s carbon footprint, including its office buildings, network infrastructure, vehicle fleet, stores and operating activity chain.
- ii. In February 2020, the information and communication technology (ICT) sector launched a joint climate action roadmap to net-zero by 2050, developed in collaboration with the International Telecommunication Union (ITU), the Global e-Sustainability Initiative (GeSI), the GSMA,⁹ and the SBTi. The initiative requires companies in the ICT sector to achieve at least 45% GHG emissions reductions between 2020 and 2030 to meet the Paris Agreement’s climate goals.¹⁰ The shift to renewable and low-carbon energy sources and greater energy efficiency are expected to abate most of the industry’s carbon footprint.¹¹
- iii. Sustainalytics’ ESG Risk Rating methodology identifies “Carbon - Own Operations”¹² as a material ESG issue (MEI) for the telecommunication services industry. Additionally, the Sustainability Accounting Standards Board (SASB)¹³ identifies the environmental footprint of operations as a relevant topic 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.¹⁴

In terms of applicability, the KPI covers the scope 1 and 2 GHG emissions applied to 100% of VodafoneZiggo’s operations. In 2020, scope 1 and 2 GHG emissions represented roughly 12% of the Company’s total emissions (scope 1, 2 and 3).¹⁵ The KPI also covers all relevant sources of scope 3 GHG emissions.¹⁶ Sustainalytics notes

⁹ The GSM Association (commonly referred to as ‘the GSMA’ or Global System for Mobile Communications, originally Groupe Spécial Mobile) is an industry organisation that represents the interests of mobile network operators worldwide.

¹⁰ ICT industry to reduce greenhouse gas emissions by 45 per cent by 2030, (2020), at: <https://www.itu.int/en/mediacentre/Pages/PR04-2020-ICT-industry-to-reduce-greenhouse-gas-emissions-by-45-percent-by-2030.aspx>

¹¹ ICT Industry Agrees Landmark Science-Based Pathway to Reach Net Zero Emissions, (2020), at <https://www.gsma.com/gsmEurope/news/sbti/>

¹² The Sustainalytics’s Carbon – Own Operations MEI refers primarily 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.

¹³ 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.

¹⁴ SASB, Telecommunication Services Industry Standard, 2018, at: <https://www.sasb.org/standards/download/>

¹⁵ VodafoneZiggo’s environmental impact report, at: <https://impactreport2020-en.vodafoneziggo.nl/impact-report/appendix/environmental-impact>

¹⁶ The scope 3 GHG emissions reported in the Framework reflect the emissions against which VodafoneZiggo’s Science Based Targets (SBTs) have been set, which excludes the indirect emissions related to phones sold by VodafoneZiggo given the limited influence over hardware manufacturers. However, VodafoneZiggo has historically included these in its annual reporting and will continue communicate on a broader definition of scope 3 GHG emissions to ensure transparency.

that the purchased goods and services (category 1 - the GHG Protocol) and the use of sold products (category 11 - the GHG Protocol) represented roughly 93% of the scope 3 GHG emissions in 2020. In addition, emissions from business travel, employee commuting, upstream leased assets, downstream transportation and distribution, and end-of-life treatment of sold products drive the remaining scope 3 GHG emissions. By covering all the sources mentioned above, VodafoneZiggo addresses all its direct and indirect emissions, some of which have little or no direct control. Sustainalytics views positively VodafoneZiggo’s efforts to influence emissions and environmental performance beyond its direct control.

KPI Characteristics

In its assessment of the KPI characteristics, Sustainalytics considers i) whether a clear and consistent methodology is used, ii) whether the issuer/borrower follows an externally recognized definition, iii) whether the KPIs are a direct measure of the performance of the issuer/borrower on a material environmental or social issue, and, if applicable, iv) whether the methodology can be benchmarked to an external, contextual benchmark.¹⁷

Sustainalytics considers VodafoneZiggo’s definition and methodology to calculate the KPI as clear and consistent with historical disclosure, highlighting the transparency in calculating and reporting its GHG inventory. In addition, VodafoneZiggo follows the GHG Protocol and the ISO 14064-1 standard, which are commonly used in the industry and therefore facilitate benchmarking against external carbon trajectories and peer performance.

Overall Assessment

Sustainalytics considers the KPI 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 resulting from the Company’s business activities, (iv) the calculation methodology is aligned with GHG Protocol, and therefore (v) it supports benchmarking against external emission reduction trajectories.

KPI - Tonnes of carbon dioxide equivalent (tCO₂e)	Not Aligned	Adequate	Strong	Very strong
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Calibration of Sustainability Performance Targets (SPTs)

Alignment with Issuer’s/Borrower’s Sustainability Strategy

VodafoneZiggo has set the following SPT for its KPI:

- SPT: (a) to reduce absolute Scope 1 and 2 by 50% by 2025 against a 2018 baseline, and (b) to reduce absolute Scope 3 emissions by 50% by 2025 against a 2018 baseline.

Sustainalytics considers the SPT to be aligned with VodafoneZiggo’s sustainability strategy. Please refer to Section 2 for an analysis of the credibility of VodafoneZiggo’s sustainability strategy.

Strategy to Achieve the SPTs

VodafoneZiggo intends to achieve the SPT through the following strategies:

- **Enhance energy efficiencies:** continuous improvement of operational activities by implementing energy-saving measures such as (i) installing energy-efficient equipment and smarter cooling systems and (ii) doing business in a more circular way to reduce waste flows. The Company is targeting an annualized Power Usage Effectiveness (PUE) of <1.5 for its data centers by 2025. In addition, VodafoneZiggo follows the European

¹⁷ 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.

Energy Efficiency Directive (EED), the Multiyear Agreement on Energy Efficiency (MEE),¹⁸ and the international standard for environmental management systems ISO 14001. The Company also implemented a functioning management system based on the international standard for energy management system ISO 50001.

- **Products end-use management:** enabling customers to make more environmentally friendly choices by buying back used phones and giving them a second life and refurbishing and recycling set up boxes.
- **To reduce the environmental impact of employees commuting and business trips:** facilitating hybrid working and limiting the use of lease cars to an absolute minimum by giving all employees – including the board – a Dutch Railways season ticket for unlimited travel. VodafoneZiggo has developed various initiatives to keep travel distances as short as possible and drastically reduce emissions per kilometre, including the launch of electric cargo bikes instead of cars or vans for installations. In addition, VodafoneZiggo is implementing technical support remotely to some of its activities and providing customer service remotely.

Ambitiousness, Baseline and Benchmarks

To determine the ambitiousness of the SPT, Sustainalytics considers whether the SPT go beyond a business as usual trajectory, ii) how the SPT compare to targets set by peers, iii) and how the SPT compare with science.¹⁹

VodafoneZiggo has selected 2018 as the baseline year for the SPTs. Sustainalytics recognizes that the market favours a more recent baseline setting but notes VodafoneZiggo's intention to ensure consistency with its company-wide CSR strategy 2025 ("People, Planet, Progress") and with the SBTi-validated targets.

VodafoneZiggo has disclosed that it is currently obtaining assurance on its 2018 scope 3 emissions data, and that as a result of this process the reported emissions in the baseline year may be adjusted. Considering that any changes are not anticipated to be substantial, relate only to scope 3 emissions, and that the target is expressed as a percent reduction, Sustainalytics is of the opinion that this approach does not impact the credibility or level of ambition of the targets, noting positively the intent to obtain external assurance on both the baseline and target performance.

In terms of past performance, Sustainalytics notes that between 2018 and 2020, VodafoneZiggo achieved a significant reduction of roughly 33% in total GHG emissions (annual average decreases of more than 16%). To meet the SPT, the Company will need to further reduce its total emissions by at least 25% between 2020 and 2025, which translates to an implied annual average decrease of roughly 5% – beyond the minimum linear annual absolute reduction rate of 4.2% per year required to limit warming to 1.5°C as per SBTi's models. Although the required reductions to achieve SPT 2025 as of 2020 are well below the reductions between 2018 and 2020, Sustainalytics considers the SPT in line with historical performance. VodafoneZiggo's SPT is slightly above or aligned with most of its peers in the telecommunication services industry for scope 1, 2 and 3 GHG emissions reduction targets. Sustainalytics' analysis of VodafoneZiggo's peer group shows 29 operator groups have SBTi-validated and 1.5°C-aligned near-term targets.²⁰

Overall Assessment

Sustainalytics considers the SPT to align with VodafoneZiggo's sustainability strategy and considers the SPT to be highly ambitious given that (i) it is aligned with its historical performance, (ii) it is above or aligned with its industry peers, and (iii) it is aligned with a 1.5°C scenario.

¹⁸ Long term Voluntary agreement between national government and large enterprises with energy consumption > 0.5 PJ per year which includes the EU-Emissions Trading System (ETS) companies.

¹⁹ We refer here to contextual benchmarks, that indicate the alignment of targets with ecosystem boundaries.

²⁰ VodafoneZiggo committed to reduce absolute scope 1 and 2 GHG emissions by 50% by 2025 from a 2018 base year, and to reduce absolute scope 3 GHG emissions by 50% within the same timeframe. VodafoneZiggo also committed to continue annually sourcing 100% of its electricity from renewable sources through and beyond 2025. The targets covering greenhouse gas emissions from company operations (scopes 1 and 2) are consistent with reductions required to keep global warming to 1.5°C. The renewable energy procurement commitment covering scope 2 emissions is consistent with reductions required to keep global warming to 1.5°C, at: <https://sciencebasedtargets.org/companies-taking-action>

<p>SPT: (a) to reduce absolute scope 1 and 2 GHG emissions by 50% by 2025 against a 2018 baseline, and (b) to reduce absolute scope 3 GHG emissions by 50% by 2025 against a 2018 baseline.</p>	<p>Not Aligned</p>	<p>Moderately Ambitious</p>	<p>Ambitious</p>	<p>Highly Ambitious</p>
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Bond and/or Loan Characteristics

VodafoneZiggo intends to tie the financial characteristics of the Sustainability-Linked Finance instruments issued under this Framework to the achievement of the SPT. The Framework contemplates two potential structures in relation to the financial characteristics: coupon rates and redemption premiums, or a combination thereof.

Relating to coupon rates, if the SPT (a and b) has not been reached by the target observation date(s), VodafoneZiggo 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 final instruments' documents. Relating to bond redemption, if the SPT has been achieved the Company may receive a discount to the early redemption premium should it elect to call its bond before the maturity date or if the SPT (a and b) has not been achieved by the Company such early redemption price will be increased. Sustainalytics notes that the Framework, therefore, includes both penalty and discount structures.

In all cases, the specific structure and the magnitude of the penalty and/or discount, as well as the selected KPI for the issuance or borrowing, will be disclosed in the issuance or borrowing documents.

Furthermore, the financial penalty will be triggered if (i) the performance level of the SPT cannot be calculated or observed, (ii) the Company does not publish the relevant SPT within the time limit specified in the final documents, and (iii) if an independent auditor is not able to provide the verification assurance certificate.

These disclosures are viewed to be in line with the SLBP, noting that (i) Sustainalytics does not comment on the magnitude of the financial penalty/benefits and (ii) that it is considered to be a market expectation that the bond redemption should not occur before the SPT observation date.



Reporting

VodafoneZiggo commits to report on an annual basis on its performance on the KPIs and expects to include the relevant figures in its annual Impact Reports available on its website, which is aligned with the SLBP and SLLP. VodafoneZiggo further commits to disclose relevant information that enables investors to monitor the level of ambition of the SPT.



Verification

VodafoneZiggo commits to having an external verifier provide at least a limited assurance on the published KPIs performance figures for each fiscal year and at the SPT deadlines, which is aligned with the SLBP and SLLP on verification.

Section 2: Assessment of VodafoneZiggo's Sustainability Strategy

Credibility of VodafoneZiggo's Sustainability Strategy

Sustainalytics is of the opinion that VodafoneZiggo demonstrates a strong commitment to integrating sustainability considerations within both its internal operations and through its offerings. In 2020, the Company created a CSR roadmap to 2025 entitled 'People, Planet, Progress',²¹ with the underlying goal of 'halving environmental impact by 2025' and creating 'a positive impact on Dutch society'. Some of the key environmental components identified by VodafoneZiggo as material to the Company include: (i) energy consumption and GHG emissions; (ii) circular economy (waste), and (iii) environmental impact of products and services.

As part of its 'People, Planet, Progress' strategy, VodafoneZiggo has established the following targets and objectives, all of which align with the investment areas specified in the Use of Proceeds section of the Framework and the KPIs specified in the Sustainability-linked section of the Framework:

- Achieving a 50% reduction of its scope 1, 2 and 3 emissions by 2025 from 2018 levels and a 2% energy efficiency improvement every year. The Company aims to achieve these by introducing new technologies to its sites to reduce total energy consumption and by identifying old equipment that can be replaced with energy efficient alternatives.
- Offering unlimited public transport cards for all employees: At present, all employees are eligible for unlimited public transport cards, and around 80% of employees are currently enrolled in the program.
- Refurbishing set-up boxes and modems and using eco-friendly packaging: the Company currently offers a financial incentive to customers for selling their old smart phones back, and the return rate of media boxes is over 80%.

In addition to the above, VodafoneZiggo has committed to the Science Based Target initiative (SBTi) by continuously driving initiatives that will help achieve the emissions reduction required to limit global warming to 1.5°C.²² VodafoneZiggo is committed to producing a 'Carbon Footprint'²³ report on an annual basis, where the Company analyzes its scope 1, 2 and 3 emissions across its main operational divisions, including network, buildings, retail, and travel. Based on the method of the Greenhouse Gas Protocol (GHG Protocol) and the ISO 14064-1 standard, the report compares the Company's year-over-year emissions performance. In 2020, VodafoneZiggo's scope 1, 2 and 3 emissions decreased by 33% compared to a 2018 baseline, due to energy efficiency improvements and an overall decrease in energy usage across all divisions.²⁴ The Company also strives to reduce its scope 3 GHG emissions by rolling out a company-wide travel policy that decreases business travel by personal cars while adopting new, energy efficient modes of transport for employee travel.

Sustainalytics is of the opinion that the Framework is aligned with the Company's overall sustainability strategy and will further support the Company's action on its key environmental and social priorities. Given that many of the positive outcomes of the Framework's energy efficiency investments may be reliant upon increased operational energy use to enable customer energy efficiency benefits, ongoing efforts by the Company to quantify estimated energy efficiency gains of the eligible activities outlined in the Framework, particularly as it relates to increased data usage, will be crucial in supporting the net-positive nature of its investments.

VodafoneZiggo's Environmental and Social Risk Management

Sustainalytics recognizes that VodafoneZiggo's defined targets are impactful and the projects financed under the Framework are anticipated to deliver positive environmental or social impact. However, Sustainalytics also acknowledges that achieving the SPT

²¹ VodafoneZiggo, 'VodafoneZiggo introduces new CSR strategy for 2025: People Planet Progress' (2020), at: <https://www.vodafoneziggo.nl/en/nieuws/vodafoneziggo-introduces-new-csr-strategy-2025-people-planet-progress/>

²² VodafoneZiggo, "Impact Report 2020", P. 99, at: https://impactreport2020-en.vodafoneziggo.nl/FbContent.ashx/pub_1000/downloads/v210507142013/ImpactReport2020_ENG.pdf

²³ VodafoneZiggo shared this document with Sustainalytics, and it was assessed on a confidential basis.

²⁴ VodafoneZiggo, "Impact Report 2020", P. 40, at: https://impactreport2020-en.vodafoneziggo.nl/FbContent.ashx/pub_1000/downloads/v210507142013/ImpactReport2020_ENG.pdf

and investing in eligible projects bears environmental and social risks related to product governance – e-waste, supply chain, and data privacy and security, and occupational health and safety.

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

- To mitigate its direct and indirect environmental impacts, VodafoneZiggo has developed its company-wide CSR strategy 2025 ("People. Planet, Progress"),²⁵ which is aligned with the ISO 14001 certificate. In addition, the Company has developed an E-Waste Policy,²⁶ which specifically addresses VodafoneZiggo's ability to manage e-waste from different parts of the Company's operations. As part of this Policy, VodafoneZiggo has developed specific requirements, including accountability for the ownership of e-waste management, a categorization of waste streams and appropriate treatment or disposal practices, and an approved contractor list for all suppliers dealing with hazardous and e-waste.²⁷
- VodafoneZiggo manages its supply chain risks through its Code of Sustainable and Ethical Purchasing Policy,²⁸ which sets out obligatory requirements to ensure social, environmental, and ethical compliance. This includes having a clear policy or procedure to avoid knowingly purchasing conflicting materials and implementing an environmental management system to the extent applicable to each supplier's business. As part of this process, suppliers are expected to identify and correct any activities that fall below the standards of the Code. From 2020, VodafoneZiggo manages its suppliers using the EcoVadis platform,²⁹ where suppliers are required to assess the social, environmental and ethical impact of their operations.
- VodafoneZiggo's approach to addressing risks concerning data privacy, security and surveillance is guided by its Code of Conduct.³⁰ The Code outlines the Company's commitment to respecting its users' privacy and personal data. This includes a requirement for its suppliers to take organizational and technical security measures to protect information and information carriers, and report data breaches immediately, where necessary. VodafoneZiggo's privacy policy complies with the rules laid down in the General Data Protection Regulation (GDPR).³¹ In addition to this, the Company adheres to several international guidelines and local laws and regulations related to cybersecurity and has received a certification for ISO 27001, the international standard for information security management systems. VodafoneZiggo has also set up a Privacy, Risk and Compliance department, a Cyber Defence Operations department and a Technical Security department, which are responsible for the overall safeguarding of the security of its customers and the Company's applications, data centres and ICT infrastructure. In 2020, the Company became a member of the COIN fraud covenant³², an alliance of stakeholders from the telecom sector to combat cyber combats faster by sharing information among various network providers.³³
- VodafoneZiggo addresses occupational health and safety risks for its employees and contractors which are carrying out eligible projects through its Health, Safety and Wellbeing ("HS&W") Standard.³⁴ The HS&W outlines a commitment to accurate reporting of accidents to ensure that incidents are reported, investigated, reviewed, and acted upon to prevent future occurrence and further harm. The Company is responsible for reviewing and verifying compliance with the HS&W Standard on an annual basis.

Sustainalytics' controversy research of VodafoneZiggo shows no evidence of major controversies related to its operations or its supply chain impact on the environment or society. Overall, Sustainalytics considers that VodafoneZiggo has strong management programmes and policies to mitigate environmental and social risks that could arise from its operations.

²⁵ VodafoneZiggo, Environment: <https://www.vodafoneziggo.nl/en/samenleving/environment/>

²⁶ VodafoneZiggo shared this document with Sustainalytics, and it was assessed on a confidential basis.

²⁷ Additional measures include copies of certificates, permits and/or licenses for all e-waste suppliers, evidence notes of treatment/disposal of e-waste, and evidence of clauses in contracts defining responsibility and provision made for take back of waste electronic equipment.

²⁸ VodafoneZiggo, Code of Sustainable and Ethical Purchasing:

https://www.vodafoneziggo.nl/media/documents/VodafoneZiggo_Code_of_Sustainable_and_Ethical_purchasing_Version_1.3_DEF.pdf

²⁹ EcoVadis: <https://ecovadis.com/>

³⁰ VodafoneZiggo, Code of Conduct: https://www.vodafoneziggo.nl/media/documents/VZ_Code_of_Conduct_ENG_v21.1.pdf

³¹ The GDPR is a legal framework that sets guidelines for the collection and processing of personal information from individuals who live in the European Union.

³² COIN Fraud Covenant, at: <https://coin.nl/en/services/fraudecovenant>

³³ VodafoneZiggo, "Impact Report 2020", P. 119, at: https://impactreport2020-en.vodafoneziggo.nl/FbContent.ashx/pub_1000/downloads/v210507142013/ImpactReport2020_ENG.pdf

³⁴ VodafoneZiggo shared this document with Sustainalytics, and it was assessed on a confidential basis.

Section 3: Impact of the UoPs and SPT Selected

Importance of energy-efficient network infrastructure

According to GSMA, the telecom sector accounts for 2-3% of total global energy demand and energy consumption constitutes between 20% to 40% of the network operating expenditure for companies in the telecommunication sector.³⁵ While transferring data through the current mobile networks consumes about 15% of energy, the remaining 85% is lost due to the heat loss in power amplifiers, the intermittent operations of the equipment, and inefficient network infrastructure which includes rectifiers, cooling systems and battery units. In the case of the fixed-line network, the plain old telephone service (POTS) and the broadband access network account for up to 50% of the total network energy consumption, making the narrow-band and broadband access nodes the focal points of energy efficiency within fixed line networks.³⁶

The European wireless network industry is bracing for the advent of the next-generation 5G services, which is expected to reach a market size of EUR 26.06 billion by 2025.³⁷ In its '5G for Europe Action Plan', the European Union has noted that "5G is seen as a game changer, enabling industrial transformations through wireless broadband services provided at gigabit speeds, the support of new types of applications connecting devices and objects (the Internet of Things), and versatility by way of software virtualization allowing innovative business models across multiple sectors."³⁸ In addition to the expected social and economic opportunities coming from the deployment of and enabling technology from 5G networks, there are also some potentially compelling environmental benefits. 5G networks have been modelled to use up to 90% less energy used per bit compared with 4G³⁹ and experts predict that even if initial versions of 5G networks consume similar amounts of energy compared to their predecessors, this will decline over time as both network optimization and energy efficient hardware is developed further.⁴⁰ Concepts such as Radio Access Network (RAN) sharing and Self-Organizing Networks (SON) are fast becoming a popular trend among 5G telecom operators to maximize cost savings and to leverage environmental benefits. RAN sharing allows operators to reduce network and operational cost by sharing existing infrastructure and equipment, to reduce energy consumption. Artificial Intelligence powered SON are capable of making near real-time decisions on parameters such as handover and spectrum usage, thereby allowing the network to operate in the most energy-efficient manner. In the Netherlands, the launch of 5G commercial services began in 2020, when the government raised EUR 1.23 billion from its first 5G bandwidth auction. Through its Connectivity Action Plan⁴¹ and Dutch Digital Strategy 2.0,⁴² the Dutch government has also underscored the need for "major investments by market parties" to facilitate timely introduction of 5G in the country.

The European Union, through its 2030 Climate and Energy Framework, has set several targets, including achieving a minimum of a 32.5% improvement in energy efficiency.⁴³ In line with this, the Netherlands set an absolute target of achieving a primary energy consumption of 1,950 petajoule (PJ) by 2030, a reduction of 873 PJ of energy consumption compared to 2018.^{44,45}

Based on this context, Sustainalytics is of the opinion that VodafoneZiggo's investment in the wireless network transformation to 5G, along with the investments in energy-efficient fixed-line network infrastructure, offers the potential for energy-efficiency savings. Sustainalytics encourages VodafoneZiggo to develop and deploy both infrastructure and hardware that will enhance the

³⁵ GSMA, "Energy Efficiency: An Overview", at: <https://www.gsma.com/futurenetworks/wiki/energy-efficiency-2/>

³⁶ Mckinsey, "The case for committing to greener networks", at: <https://www.mckinsey.com/industries/technology-media-andtelecommunications/our-insights/the-case-for-committing-to-greener-telecom-networks>

³⁷ Market Data forecast analysis, "Europe 5G Services Market Research – Segmentation By Vertical (Smart Cities, Connected Vehicles, Connected Factories, Smart Buildings, Smart Utilities, Connected Healthcare, and Broadband Services), Application (eMBB, MMTC and URLLC, and FWA), and Region - Forecast to 2025", at <https://www.marketdataforecast.com/market-reports/europe-5g-services-market>

³⁸ European Commission, 5G for Europe: An Action Plan, 2016, available at: https://ec.europa.eu/%20newsroom/dae/document.cfm?doc_id=17131

³⁹ DATA Makes Possible by Western Digital, "5G vs. 4G – A Side-by-Side Comparison", (2019), at: <https://datamakespossible.westerndigital.com/5g-vs4g-side-by-side-comparison/>

⁴⁰ IEEE Spectrum, The 5G Dilemma: More Base Stations, More Antennas—Less Energy?, 2018, at: <https://spectrum.ieee.org/energywise/telecom/wireless/will-increased-energy-consumption-be-the-achilles-heel-of-5g-networks>

⁴¹ Ministry of Economic Affairs and Climate Policy, Government of the Netherlands report, "Climate Action Plan", at <https://www.government.nl/binaries/government/documents/reports/2018/07/13/connectivity-action-plan/Connectivity+Action+Plan.pdf>

⁴² Government of the Netherlands report, "Dutch Digitisation Strategy 2.0" at <https://www.nederlanddigitaal.nl/binaries/nederlanddigitaal-documenten/publicaties/2019/11/13/english-version-of-the-dutch-digitalisation-strategy-2.0/Dutch+Digitisation+Strategy+2.0.pdf>

⁴³ EU website, "2030 climate & energy framework", at https://ec.europa.eu/clima/policies/strategies/2030_en

⁴⁴ EU report, "Draft Integrated National Energy and Climate Plan 2021-2030" at https://ec.europa.eu/energy/sites/ener/files/documents/netherlands_draftnecp_en.pdf.pdf

⁴⁵ International Energy Agency report, "The Netherlands 2020 - Energy Policy Review" at https://www.connaissancedesenergies.org/sites/default/files/pdf-actualites/The_Netherlands_2020_Energy_Policy_Review.pdf

social, economic and environmental benefits of these newer technologies. Overall, Sustainalytics expects VodafoneZiggo's investments to contribute to the Netherlands' national goals and to the transition towards a low-carbon economy.

Impact of using IoT to create energy-efficient network ecosystems

According to a report by the IDC, the Internet of Things (IoT) is expected to become a EUR 891 billion market by 2022.⁴⁶ The IoT is a system of interrelated devices that connects devices, software, or data, enabling advanced services that are only possible with the interactions among these devices and data. This interaction among devices and data further enables improvements in efficiency and reliability, enhancing overall energy efficiency for end users.⁴⁷ For instance, as indicated in the publication from the European Consumer Organization on smart metering, the accessibility of real-time energy consumption data for both the supply and demand of energy, energy suppliers and consumers can better manage and control their energy distribution and consumption. This can increase overall energy efficiency through enhanced optimization of energy distribution and consumption.⁴⁸ In 2016, the 3rd Generation Partnership Project (3GPP), a member-driven organization that develops technical specifications for cellular networks⁴⁹, introduced the enhanced machine-type communication (eMTC) and the Narrowband Internet of Things (NB-IoT), two complementary IoT technologies that are made for different IoT use cases.⁵⁰ Research on the performance of eMTC and NB-IoT for smart city applications shows that both technologies can offer eight years of battery life in a poor coverage scenario and the energy consumption for both technologies is a function of the coverage conditions and data length.⁵¹

Given the above, Sustainalytics is of the opinion that VodafoneZiggo's investments into the expansion of the IoT network can contribute to reduced energy consumption of telecommunications networks and further enable energy efficiency savings of industry applications.

Importance of clean transportation to reduce GHG emissions

In 2019, the transportation sector accounted for 24% of direct CO₂ emissions from fuel combustion globally.⁵² Even though electric vehicles make up a constantly growing share of total vehicles (over 1 million vehicles in 2015 and 2 million in 2016), fossil fuel-powered cars still dominate the landscape.⁵³ According to a report by the International Transport Forum (ITF), the volumes of the transportation sector will experience substantial growth across all its segments, including passenger and commercial cars, by 2050, resulting in potential CO₂ emissions increases of 60% by 2050. The report also highlights those measures proposed within the transportation sector by signatories to the Paris Agreement are insufficient for meeting their targets if growing emissions from passenger and freight mobility are not addressed.⁵⁴

Through its 2019 Climate Act, the Netherlands set a target to reduce 49% of the country's GHG emissions by 2030 (compared to 1990 levels) along with a 95% reduction target by 2050.⁵⁵ To achieve this target, the country aims to leverage upon developments within the transportation sector. The Dutch transportation sector reported the second-highest market share of Battery Electric Vehicles (as of Q1 2019), and the highest number of EV charging stations in Europe.⁵⁶ Even in public transport, the country reported

⁴⁶ CBI Ministry of Foreign Affairs article, "The European market potential for integrated internet of things and big data services" at <https://www.cbi.eu/market-information/outsourcing-itobpo/integrated-internet-things/market-potential>

⁴⁷ Internet of Things: Challenges and Opportunities (2014), Mukhopadhyay, S. C., & Suryadevara, N. K. To be retrieved from <https://researchers.mq.edu.au/en/publications/internet-of-things-challenges-and-opportunities>

⁴⁸ Empowering Consumers Through Smart Metering (2011), The European Consumer Organization: <https://www.beuc.eu/publications/2012-00369-01-e.pdf>

⁴⁹ Qualcomm report, "Understanding 3GPP – starting with the basics" at <https://www.qualcomm.com/news/onq/2017/08/02/understanding-3gpp-starting-basics>

⁵⁰ Qualcomm report, "LTE IoT is starting to connect the massive IoT today, thanks to eMTC and NB-IoT" at <https://www.qualcomm.com/news/onq/2017/06/15/lte-iot-starting-connect-massive-iot-today-thanks-emtc-and-nb-iot>

⁵¹ Research Gate website, "Evaluating the Performance of eMTC and NB-IoT for Smart City Applications" at https://www.researchgate.net/publication/326773325_Evaluating_the_Performance_of_eMTC_and_NB-IoT_for_Smart_City_Applications

⁵² IEA, Tracking Transport, (2019), at: <https://www.iea.org/reports/tracking-transport-2019>.

⁵³ Number of passenger cars and commercial vehicles in use worldwide from 2006 to 2015 in (1,000 units); <https://www.statista.com/statistics/281134/number-of-vehicles-in-use-worldwide/>; International Energy Agency, Global EV Outlook 2017; <https://www.iea.org/publications/freepublications/publication/GlobalEVOutlook2017.pdf>

⁵⁴ ITF Transport Outlook 2017, (2017), at: <https://www.itf-oecd.org/sites/default/files/docs/transport-co2-paris-climate-agreement-ndcs.pdf>

⁵⁵ Government of the Netherlands website, "Climate policy" at <https://www.government.nl/topics/climate-change/climate-policy#:~:text=To%20combat%20climate%20change%2C%20the,Act%20on%20May%2028%2C%202019>

⁵⁶ Autovista Group analysis, "Charging network density underpins BEV uptake", at <https://autovistagroup.com/news-and-insights/charging-network-density-underpins-bev-uptake>

operating trains through 100% wind energy.⁵⁷ The country also aims to sell only zero-emission passenger vehicles by 2030.⁵⁸ To enhance the uptake of electric vehicles, the Netherlands provides a 100% purchase tax exemption on the purchase of fully-electric vehicles and partial tax exemptions on hybrid vehicles until 2024. In 2020, the government also introduced a subsidy scheme on the purchase and lease of eligible electric cars until July 2025.⁵⁹ Given these incentives, it is estimated that about 400,000 electric passenger vehicles will enter the Dutch roads per year from 2030. The market stakeholders and the Dutch government also foresee a charging requirement of 1.8 million public, semi-public and private charge points for the year 2030.⁶⁰

Given this context, Sustainalytics favourably views VodafoneZiggo’s financing of electric vehicles and subsidized public transport cards for its employees that will result in reduced GHG emissions and, in turn, support the timely achievement of the Netherlands’ climate goals.

Alignment with/contribution to SDGs

The Sustainable Development Goals (SDGs) were set in September 2015 and form an agenda for achieving sustainable development by the year 2030. The VodafoneZiggo Sustainable Finance Framework advances the following SDG goals and targets:

Use of Proceeds Category/ KPI	SDG	SDG Target
Renewable Energy	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Energy Efficiency	7. Affordable and Clean Energy	7.3 By 2030, double the global rate of improvement in energy efficiency
	9. Industry, Innovation and Infrastructure	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
Clean Transportation	11. Sustainable Cities and Communities	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
Circular economy adapted products, production technologies and processes and/or certified eco-efficient products and processes and/or certified eco-efficient products	12. Responsible Consumption and Production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
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

⁵⁷ Guardian report, “Dutch electric trains become 100% powered by wind energy” at <https://www.theguardian.com/world/2017/jan/10/dutch-trains-100-percent-wind-powered-ns>

⁵⁸ European Metropolitan Transportation Authorities report, “Ambitions to achieve Zero Emission Mobility in Amsterdam region”, at <https://www.emta.com/spip.php?article1202&lang=fr#:~:text=In%202016%2C%20the%20Transport%20Authorities,must%20use%20100%25%20Renewable%20energy>.

⁵⁹ Wallbox report, “Everything You Need To Know About EV Incentives In The Netherlands” at https://wallbox.com/en_us/netherlands-ev-incentives

⁶⁰ Holland report, “Mission Zero Powered by Holland” at <https://www.rvo.nl/sites/default/files/2019/06/Mission%20Zero%20Powered%20by%20Holland.pdf>

KPI - Tonnes of carbon dioxide equivalent (tCO ₂ e)	7. Affordable and Clean Energy	7.3 By 2030, double the global rate of improvement in energy efficiency
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Conclusion

VodafoneZiggo has developed the VodafoneZiggo Sustainable Finance Framework under which it may issue or borrow use of proceeds (green) and sustainability-linked bonds and loans.

Under the green bonds and loans, use of proceeds may finance or refinance projects related to Renewable Energy; Energy Efficiency; Clean transportation; Circular economy adapted products, production technologies and processes and/or certified eco-efficient products; and Green Buildings. Sustainalytics considers that the projects funded by the use of proceeds bonds and loans are expected to provide positive environmental impact and advance the Company’s sustainability strategy. The VodafoneZiggo Sustainable Finance Framework outlines a process by which proceeds will be tracked, allocated, and managed, and commitments have been made for reporting on the allocation and impact of the use of proceeds.

Under the sustainability-linked instruments, VodafoneZiggo intends to tie the financial characteristics of the bonds and loans to the achievements of one or all of the following SPT:

- (1) SPT: (a) to reduce absolute scope 1 and 2 GHG emissions by 50% by 2025 against a 2018 baseline, and (b) to reduce absolute scope 3 GHG emissions by 50% by 2025 against a 2018 baseline.

Sustainalytics considers the KPI - Tonnes of carbon dioxide equivalent (tCO₂e) to be very strong. Sustainalytics considers the SPT to be highly ambitious. Sustainalytics considers reporting and verification commitments to be aligned with market expectations.

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

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

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

Section 1. Basic Information

Issuer name:	VodafoneZiggo
Green Bond ISIN or Issuer Green Bond Framework Name, if applicable:	VodafoneZiggo Sustainable Finance Framework
Review provider's name:	Sustainalytics
Completion date of this form:	December 17, 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:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Use of Proceeds | <input checked="" type="checkbox"/> Process for Project Evaluation and Selection |
| <input checked="" type="checkbox"/> Management of Proceeds | <input checked="" type="checkbox"/> Reporting |

ROLE(S) OF REVIEW PROVIDER

- | | |
|---|--|
| <input checked="" type="checkbox"/> Consultancy (incl. 2 nd opinion) | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification | <input type="checkbox"/> Rating |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

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 VodafoneZiggo Sustainable Finance Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2021, and, Green Loan Principles 2021 (the “Use of Proceeds Principles”). The eligible categories for the use of proceeds Renewable Energy; Energy Efficiency; Clean transportation; Circular economy adapted products, production technologies and processes and/or certified eco-efficient products; and Green Buildings are aligned with those recognized by the Use of Proceeds Principles and will lead to positive environmental impact and advance the Company’s sustainability strategy.

Use of proceeds categories as per GBP:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Renewable energy | <input checked="" type="checkbox"/> Energy efficiency |
| <input type="checkbox"/> Pollution prevention and control | <input type="checkbox"/> Environmentally sustainable management of living natural resources and land use |
| <input type="checkbox"/> Terrestrial and aquatic biodiversity conservation | <input checked="" type="checkbox"/> Clean transportation |
| <input type="checkbox"/> Sustainable water and wastewater management | <input type="checkbox"/> Climate change adaptation |
| <input checked="" type="checkbox"/> Circular economy adapted products, production technologies and processes and/or certified eco-efficient products | <input checked="" type="checkbox"/> Green buildings |
| <input type="checkbox"/> Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBP | <input type="checkbox"/> Other (<i>please specify</i>): |

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

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (*if applicable*):

- VodafoneZiggo has established a Sustainable Finance Committee (the “Committee”), comprised of representatives from the Company’s Corporate Finance, Corporate Social Responsibility, Network, Human Resource, Business Control and Legal Team. The Committee will be responsible for evaluating and selecting projects in accordance with the eligibility criteria outlined in the Framework.
- VodafoneZiggo manages environmental and social risks by assessing the projects against VodafoneZiggo’s corporate and sustainability objectives as well as applicable national, European and international environmental and social standards and regulations. 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

- | | |
|--|---|
| <input checked="" type="checkbox"/> Credentials on the Issuer’s environmental sustainability objectives | <input checked="" type="checkbox"/> Documented process to determine that projects fit within defined categories |
| <input checked="" type="checkbox"/> Defined and transparent criteria for projects eligible for Green Bond proceeds | <input checked="" type="checkbox"/> Documented process to identify and manage potential ESG risks associated with the project |
| <input checked="" type="checkbox"/> Summary criteria for project evaluation and selection publicly available | <input type="checkbox"/> Other (<i>please specify</i>): |

Information on Responsibilities and Accountability

- | | |
|--|--|
| <input checked="" type="checkbox"/> Evaluation / Selection criteria subject to external advice or verification | <input type="checkbox"/> In-house assessment |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

3. MANAGEMENT OF PROCEEDS

Overall comment on section (*if applicable*):

- VodafoneZiggo Corporate Finance department will be responsible for managing allocation of proceeds to eligible projects through a Green Bond Register based on a portfolio approach.
- VodafoneZiggo intends to achieve full allocation for all Green Finance Instruments within 36 months of issuance.
- VodafoneZiggo has defined a three-year look-back period for CAPEX and OPEX for refinancing. Green assets will be eligible without any lookback period.
- Pending allocation, the proceeds will be managed in accordance with VodafoneZiggo’s standard liquidity management practices.

Based on the process and timeline for allocation and the temporary use of proceeds, Sustainalytics considers this process to be in line with market practice.

Tracking of proceeds:

- | |
|---|
| <input checked="" type="checkbox"/> Green Bond proceeds segregated or tracked by the Issuer in an appropriate manner |
| <input checked="" type="checkbox"/> Disclosure of intended types of temporary investment instruments for unallocated proceeds |
| <input type="checkbox"/> Other (<i>please specify</i>): |

Additional disclosure:

- | | |
|---|---|
| <input type="checkbox"/> Allocations to future investments only | <input checked="" type="checkbox"/> Allocations to both existing and future investments |
| <input type="checkbox"/> Allocation to individual disbursements | <input type="checkbox"/> Allocation to a portfolio of disbursements |

- Disclosure of portfolio balance of unallocated proceeds
- Other (*please specify*):

4. REPORTING

Overall comment on section (if applicable):

- VodafoneZiggo intends to report on the allocation and impact of proceeds in a report on its website annually until full allocation. Allocation reporting will include, total amount allocated to eligible projects, the share of the net proceeds or an amount equal to the net proceeds used for financing vs refinancing, and the balance of unallocated proceeds.
- In addition, VodafoneZiggo is committed to reporting on relevant environmental impact metrics, where feasible. The Company also intends to provide impact assessment methodologies, where relevant, to increase transparency.
- Based on commitment to both 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
- Green Bond financed share of total investment
- Other (*please specify*):

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
- Other ESG indicators (*please specify*): tCO₂e avoided / Terabyte; tCO₂e avoided /RGU; square meter of green buildings, by certification type and level; Renewable energy generated MWh,

Number of electric vehicles,
amount of waste avoided in
tonnes

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 INDEPENDENT REVIEW PROVIDERS AS DEFINED BY THE GBP

- i. Second-Party Opinion: An institution with environmental expertise, that is independent from the Issuer may issue a Second-Party Opinion. The institution should be independent from the Issuer’s adviser for its Green 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 Green Bond Principles. In particular, it can include an assessment of the Issuer’s overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and an evaluation of the environmental 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 environmental criteria. Verification may focus on alignment with internal or external standards or claims made by the Issuer. Also, evaluation of the environmentally 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 Green Bond proceeds, statement of environmental impact or alignment of reporting with the GBP, may also be termed verification.

- iii. **Certification:** An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against a recognised external green 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 Bond Scoring/Rating:** An issuer can have its Green Bond, associated Green 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 performance data, the process relative to the GBP, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

Appendix 2: Sustainability-Linked Bonds - External Review Form

Section 1. Basic Information

Issuer name: VodafoneZiggo

Sustainability-Linked Bond ISIN:

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

Completion date of second party opinion pre-issuance: December 17, 2021

Independent External Review provider’s name for post-issuance verification (section 4):

Completion date of post issuance verification:

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:

- | | |
|---|---|
| <input checked="" type="checkbox"/> assessed all the following elements (complete review) | <input type="checkbox"/> only some of them (partial review): |
| <input type="checkbox"/> Selection of Key Performance Indicators (KPIs) | <input type="checkbox"/> Bond characteristics (acknowledgment of) |
| <input type="checkbox"/> Calibration of Sustainability Performance Targets (SPTs) | <input type="checkbox"/> Reporting |
| <input type="checkbox"/> Verification | |
| <input checked="" type="checkbox"/> and confirmed their alignment with the SLBP. | |

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

- | | |
|--|---|
| <input checked="" type="checkbox"/> Second Party Opinion | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification | <input type="checkbox"/> 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 the KPI 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 resulting from the Company’s business activities, (iv) the calculation methodology is aligned with GHG Protocol, and therefore (v) it supports benchmarking against external emission reduction trajectories.

List of selected KPIs:

Tonnes of carbon dioxide equivalent (tCO₂e) – scopes 1, 2, and 3

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 the SPT to align with VodafoneZiggo’s sustainability strategy and considers to be highly ambitious given that (i) it is aligned with its historical performance, (ii) it is above or aligned with its industry peers, and (iii) it is aligned with a 1.5°C scenario.

Rationale and level of ambition

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

Benchmarking approach

- | | |
|--|---|
| <input checked="" type="checkbox"/> Issuer own performance | <input checked="" type="checkbox"/> Issuer’s peers |
| <input checked="" type="checkbox"/> reference to the science | <input type="checkbox"/> Other (<i>please specify</i>): |

Additional disclosure

- | | |
|---|--|
| <input checked="" type="checkbox"/> potential recalculations or adjustments description | <input checked="" type="checkbox"/> issuer’s strategy to achieve description |
| <input checked="" type="checkbox"/> identification of key factors that may affect the achievement of the SPTs | <input type="checkbox"/> Other (<i>please specify</i>): |

3-3 BOND CHARACTERISTICS

Overall comment on the section (if applicable):

VodafoneZiggo intends to tie the financial characteristics of the Sustainability-Linked Finance instruments issued under this Framework to the achievement of the SPT. The Framework contemplates two potential structures in relation to the financial characteristics: coupon rates and redemption premiums, or a combination thereof. These disclosures are viewed to be in line with the SLBP, noting that (i) Sustainalytics does not comment on the magnitude of the financial penalty/benefits and (ii) that it is considered to be a market expectation that the bond redemption should not occur before the SPT observation date.

Financial impact:

- variation of the coupon
- ...
- Other (*please specify*):

Structural characteristic:

- ...
- ...
- Other (*please specify*): Variation of the optional redemption price

3-4 REPORTING

Overall comment on the section (if applicable):

VodafoneZiggo commits to report on an annual basis on its performance on the KPIs and expects to include the relevant figures in its annual Impact Report available on its website, which is aligned with the SLBP and SLLP.

Information reported:

- | | |
|--|---|
| <input checked="" type="checkbox"/> performance of the selected KPIs | <input checked="" type="checkbox"/> verification assurance report |
| <input type="checkbox"/> level of ambition of the SPTs | <input type="checkbox"/> Other (<i>please specify</i>): |

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): Impact report
- 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.

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

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For more information, visit www.sustainalytics.com

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