









2023 Report

Telefónica's Green Financing Instruments

Allocation and Impact Report



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1. Introduction



1.1 Who we are?

Telefónica offers digital solutions that connect people through the deployment of telecommunications networks that are environmentally and sustainably efficient.

Telefónica is a telecommunications company with over 1.2 million shareholders and is listed on the world's leading stock exchanges. The Company currently operates in 12 countries and employs over 103,000 people, serving more than 383 million accesses. At the end of 2022, revenues amounted to €39,993 billion.

In 2018, the Company published its first Sustainable Financing Framework, which has been subsequently updated in January 2021 and in July 2023, with the aim of continuously meeting best market practices and investor expectations. The framework is linked to Telefónica's business-relevant projects, which focus on enabling high-quality telecommunications infrastructure and services, and bridging the digital divide by deploying the most energy-efficient next-generation networks, which play an important enabling role for smart solutions, thus reducing the environmental impact across other sectors of the economy and society.

Telefónica is a pioneer in sustainable financing and stands out for the volume and diversification of its financial instruments. In 2019, it was the first company in the telco sector to issue a green bond for an amount of €1 billion. Also, in 2020 the company issued the first green hybrid amounted to €500 million and in 2021 it launched the sector's first sustainable hybrid, amounting to €1 billion.

The proceeds of these issuances are mainly used for financing and/or refinancing:



Energy efficiency associated with the transformation and modernisations of the telecommunications networks based on high-speed fixed and mobile technologies.



Inclusive connectivity through the deployment of mobile broadband in unconnected or underserved rural areas and support for job creation and entrepreneurship.

This report corresponds to the green hybrids issued by Telefónica in November 2022 and February 2023, and therefore only reports on the allocation and impact of the green eligible projects for Telefónica under its SDG Framework dated January 2021 and valid at the time of the issuances.



103,000+ employees





First telco to issue a green bond in 2019



Telefónica's Sustainable Financing is €18.8 bn



1.2 We are pioneers in sustainable financing

This allocation and impact report relates to the green hybrids' instruments issued in November 2022 (€750M) and February 2023 (€1,000M).

By the end of 2022, Telefónica Group's sustainable financing¹ activity exceeded 27% of the Company's total financing, positioning Telefónica as the market leader in the global telecommunications sector in terms of the volume of bonds and hybrid instruments issued.

Telefónica has recently set a new target for financing linked to sustainability to represent ~40% of total financing by 2026.

Telefónica's sustainable financing



Green financing instruments underpinned by this Allocation and Impact Report.





2. Telefónica ESG Strategy



2.1 Our sustainability pillars

Telefónica's strategy has its mission as its starting point and the <u>Responsible Business Principles</u> as a fundamental pillar to encourage the transition to a more digital, environmentally friendly and sustainable economy that is committed to all stakeholders.

The Company considers the impacts of its activities, as well as long-term targets and aspirations, both internally and externally.

The Responsible Business Principles are integrated into Telefónica's Strategic Plan and are supported by policies and standards that govern the way the Company acts: with integrity, commitment, and transparency. The targets are linked to the variable remuneration of all Telefónica employees, including members of the Executive Committee.

Main lines of our ESG strategy

Pilars

Priorities

SDGs



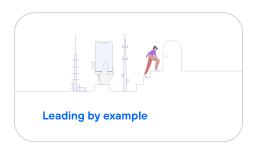
- Minimize our environment impact incuding achieveing net-zero emissions and zero waste
- Maximize our reach in providing products and services that decarborize the economy





- Reduce the digital divide with a special focus on connecting rural areas and digital skills
- Ensure an inclusive working environment to attract and retain the best talent, committed and diverse





- Embed ESG in every area of our business with the highest ethical standards according to our Responsible business principles
- Proactive engaging with suppliers to drive sustainability across our supply chain
- Ensure the security, privacy and confidentiality of customer data





2.2 Our Climate Action Plan

Addressing Climate Change fight with credible actions

Telefónica's Energy and Climate Change Strategy focuses on climate risk management to mitigate the impact and adapt to the adverse effects of global warming.

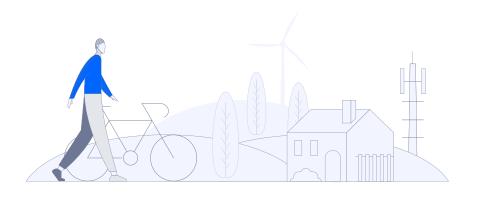
Telefónica's climate transition plan defines the organisation's overall business strategy that lays out a set of science-based targets and actions supporting its transition towards a low-carbon economy.

In 2022, following the release of SBTi Corporate Net-Zero standard, Telefónica reinforced its climate commitments by becoming the first telecommunications operator in the world to have its 2040 net zero emissions target validated by the initiative.

To guarantee compliance with its short-, medium- and long-term objectives, the Climate Action Plan has been integrated into Telefónica's governance model and includes the GHG emissions accounting, the implementation of specific actions with verifiable indicators and the definition of oversight and accountability responsibilities within the organisation.

The plan not only defines actions in Telefónica's operational model, but also in its business and financial strategy and in its commitment to customers, the supply chain and society as a whole.

The goal for Telefónica is to prosper in a world in which the average global temperature does not exceed 1.5°C above pre-industrial levels and in which the health of natural ecosystems is restored.





Net-zero emissions across our value chain by 2040

We increase the ambition of our goals



SBTi validation

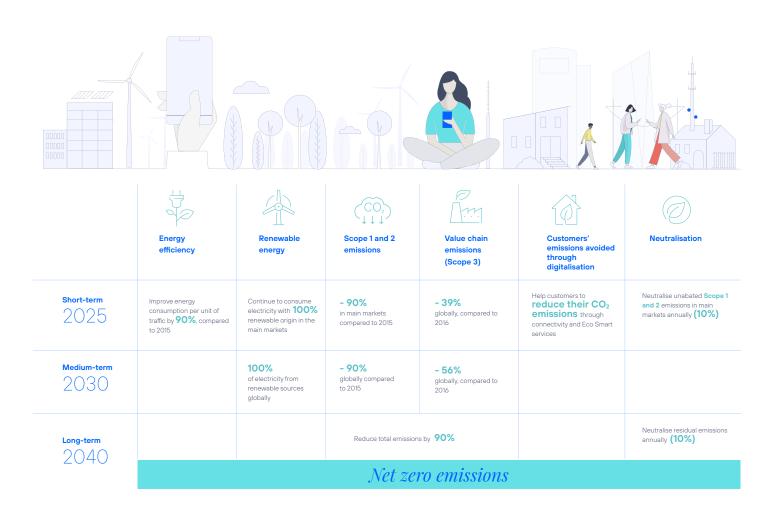
1.5°C





Telefónica's Energy and Climate Change Targets

On the road to Net Zero by 2040, Telefónica's decarbonisation plan includes short, medium, and long-term targets that have been validated by the SBTi (Science Based Targets Initiative).



These targets help Telefónica to leverage decarbonisation opportunities, to be more competitive and to offer its customers services based on a clean, efficient network. Achieving these targets has formed part of the variable remuneration of all Telefónica's employees since 2018.



2.3 Our commitment promoting an inclusive connectivity

Telefónica's commitment to society

Connectivity is an essential part of the transition process towards a digital society to achieve true social inclusion in all regions and at all levels.

Social and economic development in remote areas depends on access to mobile broadband and digital services. Telefónica is actively engaged in the deployment, and continuous improvement of its telecommunication networks in poorly (un)connected areas, especially in rural areas, due to their greater vulnerability in terms of digital inclusion.

Broadband networks have significant positive effects on various social and economic factors, such as fostering the creation of new businesses and increasing household income. Several studies have shown that these networks have a positive impact on GDP. Specifically, the International Telecommunication Union (ITU) found that a 1% increase in mobile broadband penetration rates generates an increase of 0.15% in GDP (thus, an increase of 10% in the mobile broadband penetration rate results in an average increase of 1.5% in GDP)².

Digital solutions have shown that they can contribute to positively transforming communities and productive and economic models. The deployment of broadband networks, together with measures to boost digitalisation, have a direct impact on the socio-economic development of entire regions and on the lives of many people who gain access to services and opportunities that were previously unavailable to them.

Telefónica is also committed to helping SMEs in their transformation process, extending its range of communication services with specific IT solutions adapted to their needs.

Digital inclusion and the opportunity to thrive by using digital resources are rooted in quality connectivity and the ability to develop the necessary skills to get the most out of using digital tools.

Telefónica's fosters digital entrepreneurship

Telefónica boosts digital talent and technological entrepreneurship in the countries where it operates with the aim of making local ecosystems prosper.

The Open Future, Wayra and Telefónica Venture Capitals programmes are Telefónica's main tools for thriving digital innovation as a driving force, helping to generate positive impact by funding new start-ups and potential new businesses. In particular, supporting entrepreneurship and startups helps to create new jobs, nurture talent, and contribute to the economic and social development of the regions concerned.



Connectivity is one of the drivers of social and economic development



Target: 90-97% mobile broadband coverage in rural areas of our main markets by 2024







3. Telefónica's Sustainable Financing Framework

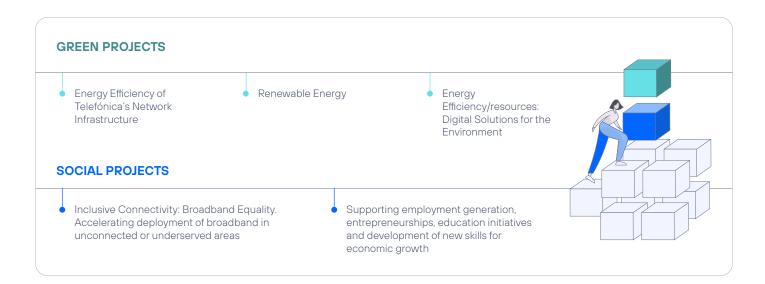


The Sustainable Financing Framework is a fundamental tool for supporting the transformation of our business through investment in projects with a positive environmental and social impact.

The instruments covered in this report were issued in accordance with the <u>Sustainable Financing Framework</u> in force at the time of issuance, January 2021, and positively endorsed by the Second Party Opinion of Sustainalytics³. The Framework was outlined with the 4 pillars of the Green Bond Principles 2018, Social Bond Principles 2020, and Sustainability Bonds Guidelines 2018: 1) use of proceeds; 2) process for project evaluation and selection, 3) management of proceeds and 4) reporting.

Use of proceeds

Telefónica may issue green, social, and sustainable financing instruments, the proceeds of which must be used to finance, in whole or in part, new or existing projects within the eligible categories defined in the Framework.



The eligible categories above help to contribute to the Sustainable Development Goals, and specifically to SDG 9 (industry, innovation and infrastructure), SDG 8 (decent work and economic growth), SDG 7 (affordable and clean energy) and SDG 13 (climate action).



Project selection and evaluation

- The SDG Bond Committee oversees the allocation of proceeds to the project categories defined in the framework.
- The Committee is made up of senior management representatives from the following areas: finance, management control, sustainability, and other technical areas as required.



Management of proceeds

- Proceeds of each issuance are deposited in the general funding accounts and earmarked for allocation using the SDG Bond Register.
- Funds are managed according to Telefónica's' internal liquidity policy until the allocation.



Reporting

- Allocation and impact report on an annual basis and until the proceeds are fully allocated.
- An independent third-party will ensure that eligible projects and reporting metrics are consistent with the Framework.





4. Summary of Telefónica's hybrids covered by the report



Issuer	Telefónica Europe B.V.
Guarantor	Telefónica S.A.
Guarantor rating	Baa3/BBB-/BBB (Moody's/ S&P/Fitch)

Date of issuance	November 2022 23/11/2022	February 2023 02/02/2023
Type of debt	Direct, unsecured and subordinated obligations, senior only to share capital, pari passu with outstanding hybrids	Direct, unsecured and subordinated obligations, senior only to share capital, pari passu with outstanding hybrids
Nominal amount (EUR)	750,000,000	1,000,000,000
Maturity date	Perpetual NC8 (First Call Date 7 June 2031)	Perpetual NC7.25 (First Call Date 3 February 2030)
Coupon	7.125%	6.135%
Admission to securities trading	The Irish Stock Exchange plc regulated market	The Irish Stock Exchange plc regulated market
ISIN code	XS2462605671	XS2582389156

Use of proceeds

Eligible green investment related to the transformation and modernisation of telecommunications networks based on high-speed mobile networks, including supporting infrastructures and software to improve the energy efficiency of the networks.





5. Project allocation and impacts



The total funds allocated for these issuances amounted to 1,751 million euros.

The proceeds of these issuances have been earmarked for the financing of the transformation and modernization of the mobile network to improve energy efficiency.

The investments reported correspond to the years 2021 and 2022 in both, Germany and Brazil.

M€ (kWh) % YoY PB % YoY (kWh/PB) % YoY (kWh) (t CO₂)	2021 290 836,401,221 -3.8% 3,340 32% 250,446 -27.0% 309,677,567 41,881	2022 486 863,228,675 3.2% 4,700 41% 183,662 -26.7% 313,890,181 13,654
(kWh) % YoY PB % YoY (kWh/PB) % YoY (kWh) (t CO ₂)	836,401,221 -3.8% 3,340 32% 250,446 -27.0% 309,677,567 41,881	863,228,675 3.2% 4,700 41% 183,662 -26.7% 313,890,181 13,654
% YoY PB % YoY (kWh/PB) % YoY (kWh) (t CO ₂)	-3.8% 3,340 32% 250,446 -27.0% 309,677,567 41,881	3.2% 4,700 41% 183,662 -26.7% 313,890,181 13,654
PB % YoY (kWh/PB) % YoY (kWh) (t CO ₂)	3,340 32% 250,446 -27.0% 309,677,567 41,881	4,700 41% 183,662 -26.7% 313,890,181 13,654
% YoY (kWh/PB) % YoY (kWh) (t CO ₂)	32% 250,446 -27.0% 309,677,567 41,881	41% 183,662 -26.7% 313,890,181 13,654
(kWh/PB) % YoY (kWh) (t CO ₂)	250,446 -27.0% 309,677,567 41,881	183,662 -26.7% 313,890,181 13,654
% YoY (kWh) (t CO ₂)	-27.0% 309,677,567 41,881	-26.7% 313,890,181 13,654
(kWh)	309,677,567 41,881	313,890,181
(t CO ₂)	41,881	13,654
M€	FOF	
M€	FOF	
	505	470
(kWh)	666,676,271	702,532,408
% YoY	3.3%	5.4%
РВ	2,356	3,491
% YoY	56.1%	48.1%
(kWh/PB)	282,943	201,266
% YoY	-33.8%	-28.9%
(kWh)	340,713,448	285,098,298
(+ CC)	124,701	119,741
((kWh/PB) % YoY	(kWh/PB) 282,943 % YoY -33.8% (kWh) 340,713,448



5.1 Green projects financed

Telefónica's network transformation: Enabling high speed networks connectivity

Transforming the telecommunications networks

How telecommunication networks are deployed, and how sustainability criteria are integrated since its design is essential in shaping the roll-out of the telecommunications networks of the future.

Telefónica's network is aimed at achieving a more efficient and sustainable network that will also enable a wide range of digital services with a positive impact on society. In this context, the fixed network is also essential as the backbone of the telecommunications system for data transmission, enabling other technologies, such as mobile technologies, to maximise their potential for performance.

How the networks are operated is also important to make the equipment perform at its highest level of energy efficiency, as well as accelerating the switch-off of legacy networks and its sustainability impacts.

A high-speed mobile network based in optimizing energy efficiency and interoperability

The deployment of the latest advanced mobile technologies is expected to bring an unprecedented, disruptive, technological change to many different sectors of the economy and society over the next decade. The transformation and modernisation of the mobile networks is key to enabling high-speed connectivity with the ability to support new services with more demanding requirements over time.

In this context, Telefónica is deploying the necessary infrastructure to guarantee the required network capacity and coverage. Investments in new and multi-technology equipment also allow Telefónica to continuously reduce energy consumption per data traffic and to run multiple technologies with a minimum amount of hardware units, thus increasing the energy efficiency.

Although 4G and 5G traffic demand are expected to grow steadily and may lead eventually lead to an overall increase in energy demand, the efficiencies achieved are expected to result in a net reduction in energy consumption per unit of data transmitted. This will be achieved by enabling energy efficient transmission as well as operational efficiencies in industries and activities downstream of the financed network.

As an example, energy efficiency related 5G network deployment increases significantly due to its higher spectrum capacity. Furthermore, in 2020, Telefónica carried out a case study based on energy consumption measurements at its 5G sites deployed in Germany and Brazil. The study showed that the technology was up to 90% more efficient in terms of energy consumption per traffic unit⁴ and has much more capacity, so it will be able to provide increased services with a lower energy consumption.

Telefónica specific actions and enhancements boosting the energy efficiency of mobile networks.



Mobile site modernisation
 by decommissioning legacy
 technologies and replacement
 with more efficient multi band and multi-technology
 equipment.



 Activation of powersaving features, such as: switching off bands/carriers, downgrading MIMO, and shutdown electronics.



Implementation of AI/ML platform on top of power saving features (PSFs) to continuously monitor and manage the network capacity and shut down useless resources on air.

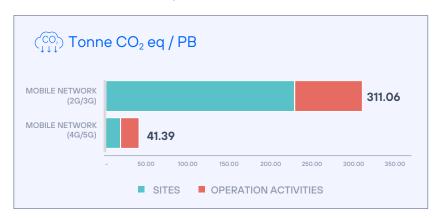




What are the benefits offered by the mobile network transformation?

- A. Greater simplification and environmental efficiency in the operation of the business:
- Energy efficiency: 4G/5G technologies have a lower environmental impact compared to 2G/3G. Mainly related to a more efficient and lower energy consumption during the transport and processing of data in the network system⁵.

Mobile network environmental impact:



In addition, Telefónica's efforts to increase energy consumption from renewable sources impact positively since without renewable energy, the results would have been significantly higher.

- **Shutdown of legacy technologies:** Telefónica has completed the 3G switch-off in Germany by 2021 and is already making progress in other geographies such as Spain.
- Circular economy: The recycling of equipment and the materials such as metals, rareearth elements, etc. allow for its reuse and an extended span life.
- **Space saving:** The virtualization and compactness of mobile equipment allows for more free space and less energy consumption.
- **Network quality and reduced maintenance and support resources:** Application of new functionalities in the mobile network enabling continuous remote monitoring.
- **B.** A new relationship model between customers and services based on self-installation/self-supply, flexibility, and immediacy.
- **C.** Environmental benefits for the customers in the shape of CO₂ emissions avoided due to digital services that need the capacity and data transmission speed offered by latest high-speed mobile technologies.



Triple impact of the mobile network transformation



ENVIRONMENT

 From a Life-cycle Analysis perspective 4G and 5G technologies have an environmental impact 7 times lower than legacy mobile technologies per access and per PB⁶.



BUSINESS

- Enables higher download speeds and the ability to support many connected devices.
- Connectivity drives digitalisation by integrating new technologies and applications for security, automatisation of processes and optimisation of the value chain to increase efficiency and competitiveness and create new business models.



SOCIETY

- The digitalisation of society has the potential to reduce up to 15% of CO₂ emissions globally by 2030⁷.
- Enables digital education, entrepreneurship, new business and relationship models, greater ability to balance family life and work, better access to health services and population retention in rural areas.

5.2 Impact indicators calculation methodology

Mobile network transformation modernisation

Mobile network electricity consumption (kWh)

Electricity consumptions at base stations where Telefónica has equipment. It includes both, the consumption of base stations owned by the Company and the consumption of sites rented by Telefónica to other operators. Both are needed to provide mobile network communications services. IT and supporting consumption are also considered.

Mobile network electricity consumption per unit of data traffic (kWh/PB)

Energy intensity ratio calculated by using mobile network electricity consumption (kWh) as described above and mobile data traffic, expressed in petabytes (PB).

Mobile network electricity savings (kWh)

Electricity savings are calculated annually through real data; paid invoices, and estimated data (using data from prior years as proxies for unpaid invoices) when calculations are made. These savings are the result of analyzing how much the annual consumption of the network would have been with respect to the previous year if the network transformation had not taken place. It considers both the evolution in electricity consumption and the evolution in the data traffic that had to be managed in the same period.

Mobile Network avoided CO₂ emissions from electricity savings (tCO₂)

The calculation of avoided carbon emissions is based on the electricity savings generated by the mobile network transformation, according to the description in the indicator, using the emission factors of the electricity mix in the country where the projects are developed.

Please note that the activity data (mobile network electricity consumption) and emission factors have been validated by an independent third party (AENOR). These data are used to calculate the impact indicators shown above.

⁶ Connectivity Solutions' Life Cycle Assessment. Telefónica Spain. 2022.

⁷ Connectivity & Beyond How Telcos Can Accelerate a Digital Future for All. ETNO and Boston Consulting Group. March 2021.



Telefónica, S.A.

Independent Limited Assurance Report

Projects: "Mobile network transformation (Brazil and Germany)" (re)financed by the hybrid green bond (ISIN XS2462605671)" and by the hybrid green bond (ISIN XS2582389156), considering the annual period from 23 November 2022, the date of issue of the bond (ISIN XS2462605671), to 22 November 2023, as well as the two years prior to the date of issue of the bond



Independent limited assurance report

To the directors of Telefónica, S.A.

We have carried out our work to provide limited assurance in respect of the information related to the projects "Mobile network transformation (Brazil and Germany)" (re)financed by the hybrid green bond (ISIN XS2462605671) and by the hybrid green bond (ISIN XS2582389156) issued by Telefónica Europe B.V., (hereinafter, "the Bonds"), contained in the "2023 Report Telefónica's Green Financing Instruments" report of Telefónica S.A. (hereinafter, "Telefónica"), considering the annual period from 23 November 2022, the date of issue of the bond (ISIN XS2462605671), to 22 November 2023 as well as the two years prior to the date of issue of the bond, as indicated in the sustainable financing framework and prepared in accordance with the sustainable financing framework "Telefónica SDG Framework, January 2021", (hereinafter, "the Framework"), available in the web page:

https://www.telefonica.com/en/shareholders-investors/rating/sdg-framework/

The aspects of the information subject of our engagement are the following:

- The application of the eligibility criteria in the projects (re)financed by the Bonds described in the Framework, as well as the (re)financed projects themselves.
- The allocation of the funds obtained through the Bonds to the (re)financed projects and that the capital invested in the projects (re)financed is attributable to the Bonds ("Funds allocation" included in table in "5. Project allocation and impacts" section).
- The verification that the impact indicators (Mobile network transformation: Electricity consumption/network traffic (kWh/PB), electricity savings (kWh), avoided CO₂ emissions (tCO₂), are prepared in accordance with their calculation methodology, defined in the mentioned report "2023 Report Telefónica's Green Financing Instruments".

Responsibility of directors

The directors of Telefónica are responsible for the preparation, content and presentation of the "2023 Report Telefónica's Green Financing Instruments" report, in accordance with the criteria included in the Framework in which the eligibility criteria of the projects, the allocation of funds and the impact indicators are described. Directors' responsibility includes establishing, implementing and maintaining the internal control required to ensure that the information included in "2023 Report Telefónica's Green Financing Instruments" report is free from any material misstatement due to fraud or error.

The directors of Telefónica, S.A. are also responsible for defining, implementing, adapting and maintaining the management systems from which the information required to prepare the mentioned report, is obtained.



Telefónica, S.A.

Our responsibility

Our responsibility is to issue a limited assurance report based on the procedures that we have carried out and the evidence obtained. Our limited assurance engagement was done in accordance with the International Standard on Assurance Engagements 3000 (Revised) "Assurance Engagements other than Audits or Reviews of Historical Financial Information", issued by the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC).

The scope of a limited assurance engagement is substantially less extensive than the scope of a reasonable assurance engagement and thus, less security is provided.

The procedures that we have carried out are based on our professional judgment and have included consultations, observation of processes, document inspection, analytical procedures and random sampling tests. The general procedures employed are described below:

- Meetings with Telefónica's personnel from various departments who have been involved in the
 preparation of the "2023 Report Telefónica's Green Financing Instruments" report to understand
 the characteristics of the projects (re)financed by the Bonds, the internal management
 procedures and systems in place, the data collection process, and the environment control.
- Verification of the application of the eligibility criteria, described in the Framework, for the selection of projects (re)financed by the Bonds.
- Analysis of the procedures used for gathering and validating the information and data presented in the impact indicators included in the "2023 Report Telefónica's Green Financing Instruments" report.
- Verification of the traceability of the funds obtained through the Bonds to (re)finance the projects and verification that the investments undertaken by Telefonica in the projects (re)financed have been made in accordance with the Framework criteria.
- Verification through sampling tests and substantive tests of the information related to impact indicators. We have also verified whether the impact indicators have been appropriately compiled from the data provided by Telefónica's sources of information.
- Obtainment of a management representation letter from the directors of Telefónica.

Our Independence and quality management

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

Our firm applies International Standard on Quality Management 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.



Telefónica, S.A.

Limited assurance conclusion

As a result of the procedures carried out and the evidence obtained, nothing has come to our attention that causes us to believe that:

- The projects (re)financed by the Bonds included in the "2023 Report Telefónica's Green Financing Instruments" report do not comply, in all its significant matters, with the eligibility criteria described in the Framework.
- The funds obtained through the Bonds have not been assigned to the (re)financed projects and that the capital invested in the (re)financed projects is not attributable to the Bonds.
- The impact indicators contain significant errors or have not been prepared, in all their significant matters, in accordance with what is indicated in the Framework and as indicated in the "2023 Report Telefónica's Green Financing Instruments" report in relation to its calculation.

Restriction on distribution and use

This report, including the conclusion, has been prepared solely for the directors of Telefónica, to assist them in reporting on the information related to the projects "Mobile network transformation (Brazil and Germany)" (re)financed by the Bonds issued by Telefónica Europe B.V., contained in the "2023 Report Telefónica's Green Financing Instruments" report. We permit the disclosure of this report within the "2023 Report Telefónica's Green Financing Instruments" report, to enable the directors to demonstrate they have discharged their governance responsibilities by commissioning an independent assurance report in connection with the information related to the projects (re)financed by the Bonds. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than directors as a body and Telefónica, S.A. for our work or this report save where terms are expressly agreed and with our prior consent in writing.

PricewaterhouseCoopers Auditores, S.L.

Pablo Bascones Ilundain

14th December 2023

