Welcome to your CDP Climate Change Questionnaire 2022

C0. Introduction

C0.1

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

Telefónica is one of the largest telecommunications companies in the world in terms of market capitalisation and number of customers. Supported by the best fixed, mobile, and broadband networks, as well as an innovative range of digital and data economy services, our Company is favourably placed to meet the needs of our customers and capture growth in new businesses. Our headquarters is in Madrid (Spain). At the end of 2021, we operated in 14 countries, with a presence in 33 countries, and had a customer base that surpasses **369** million connections throughout Spain, Germany, and Latin America, where most of our growth strategy is focused. We are, therefore, one of the most international companies in the sector, generating more than 68% of our business outside the domestic market. Movistar (Spain and Hispam), Vivo (Brazil), and O2 (Germany) are the main brand names around which we structure our commercial offer. We are a wholly private company with **1,2** million direct shareholders. We are listed on the continuous market of the Spanish stock exchanges, as well as on the stock exchanges in New York and Lima. Revenue totalled **39,277** million euros, Telefónica obtained a net income of €8.137 million in 2021, a five-fold increase compared to the previous year. The Group closed the year with a balance sheet marked by the achievement of its financial targets and by the positive results derived from the execution of its main strategic lines, with a stronger position in key markets and a reduction in exposure in Latin America.. The number of Telefónica employees on 31 December 2021 totalled 103,934.
More information at: https://www.telefonica.com/en/wp-content/uploads/sites/5/2022/03/consolidated-management-report-2021.pdf (pages 8-13).

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for

Reporting year	enero 1, 2021	diciembre 31, 2021	Yes	3 years

C0.3

(C0.3) Select the countries/areas in which you operate.

Argentina
Bolivia (Plurinational State of)
Brazil
Chile
Colombia
Ecuador
Germany
Guatemala
Mexico
Panama
Peru
Puerto Rico
Spain
United States of America
Uruguay
Venezuela (Bolivarian Republic of)

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

EUR

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	ES0178430E18

C1. Governance

C1.1

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

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board-level committee	The Board of Directors is responsible for the company's Climate Change Strategy (CCS), as part of the Company's Global Responsible Business Plan. The Committee of the Board of Directors in charge of sustainability and climate change objectives is the Sustainability and Quality Committee. This Committee is responsible for the organization's sustainability strategy and the monitoring of the Global Responsible Business Plan, including the evolution of climate change targets & all other climate-related issues., Since 2019, reduction of CO2 emissions at Telefónica as one of the non-financial KPIs to be considered in the calculation of the annual variable remuneration of all our employees. As an example, in early 2021 one of the climate-related decisions made by the Board of Directors was the increase of the weighting of emission reduction target to up to 5% of the variable remuneration. The most significant decision taken in the last two years was the approval in 2020 of new and more ambitious climate change targets, including for the first time net zero targets for all operations by 2040. More recently, in 2021, to increase the Executive Directors' and management team's commitment to the company and its Strategic Plan, the Board of Directors approved linking their remuneration to creating value for the shareholders and sustainable achievement of the strategic targets, so that they are in line with the best remuneration practices. In this sense, sustainability (ESG) objectives were included in the long-term remuneration policy: Neutralisation of CO2 Emissions, weighting 10%. The Committee is made up of six Directors. The Senior Directors who report to this committee on Climate Change Strategy are the CSO (Chief Sustainability Offcier) , and the CTIO (Chief Technoogy&Information Officer) to the extent that this strategy affects their responsibilities. Furthermore, the Board of Directors is also in charge of supervising the risk management model, including climate change risks, which are reported to them by the Audit and Control Committee.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Monitoring and overseeing progress against goals and targets for addressing climate-related issues	In order to ensure that the corporate governance is undertaken correctly, the Board is divided into 6 separate committees, each one focused on a particular area of the business. In this regard, the Sustainability and Quality Committee is the one in charge of the Sustainability and Climate Change Strategy (CCS). This Committee is responsible for the organization's sustainability strategy and monitors the Global Responsible Business Plan, including the performance of climate-related KPIs such as emissions, renewable energy and energy efficiency objectives. In addition, this Committee monitors the actions planned in the main programs related to climate-related issues such as the Renewable Energy (RE) and Energy Efficiency (EE) Plans. Additionally, to ensure that the CCS is engrained in the company's operations, the Board incorporates climate change aspects to all levels of governance, as well as in the strategic indicators and key objectives of the company as a whole. They are included in the company's 3-yearly strategic business plan. For example, early in 2021, we updated our Sustainable Financing Framework, with the objective of extending the scope of development to projects with a social impact. The company has identified 5 types of initiatives: EE of network infrastructure; RE; digital solutions for the environment; broadband deployment in disconnected areas; and, finally, support for employment, entrepreneurship, educational initiatives, and the development of skills for economic growth. Following the issue of green bonds and instruments in the last two years, in 2021 again saw us pioneer the issuance of the first sustainable hybrid instrument in the telecom sector. At the end of 2021, the Group has between 5%&10% of sustainable financing, with the objective of reinforcing this new financing scheme & exceeding 10,000Million€ in the coming years

		This allows the diversification of its portfolio and is aligned to the target related to the business decarbonization strategy and its new targets, which are aligned with the greater ambition of limiting the global temperature rise to 1.5ºC. In addition, this committee has approved that, since 2019, a percentage of the variable remuneration of all employees, including the Board of Directors, is conditional upon the accomplishment of our carbon reduction targets. In 2021, Neutralisation of CO2 Emissions KPI has been included in the long-term remuneration of Executive Directors. Moreover, the risk supervision function, both locally and at a corporate level, is integrated into the Audit and Control Committee, which receives periodic reports on Climate Change risks as part of its function of supervising the risks included in the Telefónica Group's Risk Management Model. The Senior Directors who report to these committees are the Director of Sustainability, the Global CTIO and the Director of Risk (CRO), to the extent that this strategy affects their responsibilities.

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues
Row 1	Yes	One Member of the BoD is an independent Director with expertise in Environmental topics. The assessment of a board's readiness should be based on the ability to assess the organisation's three levels of application of ESG: environmental, social and governance. Thus, at the environmental level, the focus is on climate change. As mentioned in answer C1.2a, Telefonica's Board of Directors has an advisory committee on climate change issues, the Sustainability and Quality Committee. This committee is composed by several board members & is responsible for the organization's sustainability strategy & for monitoring the implementation of the Global Responsible Business Plan, including the evolution of climate change targets & all other climate-related issues. In this context, Telefónica takes into consideration the following criteria

		to assess the competencies of the Board members in order to supervise our sustainability & CC objectives: - To have a deep understanding of the Telefónica core business and strategy, our Responsible Business Plan, & Telefónica's commitments against CC & carbon reduction targets (SBTs), including: our emission reduction strategy, pathway to Net-Zero, climate-related risks & opportunities & our action towards preservation & protection of biodiversity. Our main sources of emissions. - Knowledge of international alignment initiatives such as Science Based Targets Initiative (SBTI), Carbon Disclosure Project (CDP), Task Force on Climate-related Financial Disclosures (TCFD), the Agenda 2030 SDGs & the Paris Agreement. - Knowledge of existing & emerging climate change regulation at a European, national & local level. In 2021 Telefónica conducted formative sessions on sustainability & ESG for the board of directors. Some of the following climate-related topics were covered: The Agenda 2030 & the Paris agreement; The Green Deal & European initiatives; The risks of climate change & its relevance for boards of directors; Non-financial reporting & initiatives (TCFD, GRI, SASB, IIRC, WEF); Carbon neutrality; Biodiversity; Circular economy; & water footprint. Further sessions will be held in 2022 on topics such as sustainable finance taxonomy.

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Risks Officer (CRO)	Both assessing and managing climate-related risks and opportunities	Half-yearly
Chief Sustainability Officer (CSO)	Other, please specify The CSO is in charge of reviewing and reporting the information regarding Energy and Climate Change KPIs, jointly responsible with the CTIO for the achievement of objectives.	Quarterly
Other C-Suite Officer, please specify CTIO	Both assessing and managing climate-related risks and opportunities	Quarterly

Other C-Suite Officer, please specify CEO OBs	Both assessing and managing climate-related risks and opportunities	Annually

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

i) Below the Board level – who is ultimately responsible for the approval of the company's Climate Change Strategy – the committee in charge of sustainability and climate change objectives is the **Sustainability and Quality Committee**. This Board committee oversees the implementation of the climate change and environmental initiatives and monitors the progress on the climate change objectives (as well as all other objectives of Telefonica´s Global Responsible Business Plan). The Director of Sustainability (CSO), the Global CTIO and the Director of Finance (CFO) report to it.

Our Responsible Business Principles and our Responsible Business Plan, respectively, make up the ethical framework and our roadmap as regards sustainability. Both are approved by the Board of Directors, as are the group's most important policies on this issue. The Sustainability and Quality Committee of the Board supervises the implementation of the Responsible Business Plan at its monthly meetings. In addition, the Audit and Control Committee takes on an important supervisory role as regards ethics and sustainability, as it supervises the compliance area, the risk analysis and management process, and the Company's reporting processes.

The Committee meets 11 times a year, and every 2 months is specifically informed of climate-related issues. This Committee monitors and assess the progress of the Responsible Business Plan, including the climate change strategy. For example, the Committee closely monitors Telefónica's performance against its carbon reduction targets (SBTs), ensuring emission reductions are in line with the objectives as variable remuneration of Telefónica's entire workforce includes this factor. Also, during the year 5 CEOs of the main Telefónica companies (OBs) report their progress on climate change strategy.

Below this Committee, the Global Climate Change and Energy Efficiency Office (CC&EEO), comprising company-wide departments such as Operations **(led by the CTIO)**, Environment **(led by the CSO),** and Purchasing, is in charge of the operational implementation of the Company's CC Strategy (including energy efficiency projects, renewable energy purchases and emission reduction activities in all countries). Progress in climate-related aspects (i.e. progress against carbon reduction targets and renewable energy goals) is regularly reported to the Management Committee in each country and reported at a global level to the Sustainability and Quality Committee. The strategy implemented by this Office is coherent with the Company's Responsible Business Plan to foster value creation in the long term through effective risk management and taking advantage of environmental opportunities.

The main associated responsibilities of the CC&EEO are to:

- Assess and monitor Telefónica's environmental KPIs such as energy and fuel consumption, percentage of renewable electricity, scope 1,2 and 3 carbon emissions, etc.
- Ensure climate-related metrics (i.e. absolute emissions, carbon reduction targets) are reported according to international standards;
- Monitor performance against targets, for example, performance against carbon targets (SBTs), and against renewable targets (100%).
- Review compliance with our stakeholders' expectations and ensure a high level of performance in climate-related indices.
- Permanently monitor possible climate-related regulatory aspects which may affect the company's operations.

Regarding the evaluation and management of climate change risks and opportunities, the ultimate responsibility lies with the Chief Risks Officer. **The CRO** is in charge of the risks area, which in turn is responsible for the quarterly evaluation and reporting of the company's risks, in which climate change is included since it is one of Telefónica's basic risks.

ii) The CTIO (Director on Board) is the most suitable executive for the monitoring of the climate-related issues and the achievement of the energy efficiency and reduction targets because on him/her depends the operation of our network, which is the main energy consumption source of Telefónica. In addition, network infrastructures are the most exposed to the physical Climate Change risks. On the other hand, **the CSO** is responsible for monitoring the achievement of Climate Change targets from an emissions reduction perspective.

C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	Environmental strategy is the responsibility of the Board of Directors, which approves the global environmental policy and targets, within the framework of our Responsible Business Plan. For instance, carbon emissions reduction targets are part of the variable remuneration of all the Company's employees, including the Board of Directors, the Executive Chairman and the Chief Operating Officer (COO). Climate Change has become a strategic issue for the Company.

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment

Chief Operating Officer (COO)	Monetary reward	Efficiency target	Telefónica´s COO, in charge of Operations and IT, has incentives related with energy efficiency, linked directly with one of our global goals of Energy and Climate Change: 90% more efficient by 2025 in terms of MWh/PB. But also has the emission reduction target fulfilment as part of his/her bonus.
Corporate executive team	Monetary reward	Emissions reduction target	The Corporate executive team's incentives (and therefore his/her bonus), as well as all Directives and employees with variable remuneration, are linked to the accomplishment of the emissions targets. Therefore, their variable remuneration is directly linked to emission reduction (90% reduction of Scope 1 and 2 CO2 emissions for our main markets - Spain, Brazil, and Germany - by 2025, 80% reduction for our other markets and a 56% reduction for our Scope 3 by 2030, as well as net-zero emissions by 2040. The KPIs used to assess performance are annual CO2 emissions reduction.
Chief Procurement Officer (CPO)	Monetary reward	Emissions reduction target	One of our lines of action is low-carbon purchasing: mainly through renewable energy purchase; TCO implementation; and CO2 consideration when purchasing refrigerant gases. For equipment with high energy consumption, we incorporate the concept of Total Cost of Ownership (TCO) in the acquisition process, thus considering the amount of energy that the equipment will consume during its use and not just the cost of purchase. The TCO makes it possible for us to reduce the Company's energy expenditure and, therefore, the associated carbon emissions. The CPO is responsible for ensuring that this TCO concept is incorporated in the procedures of the purchasing division as well as ensuring renewable energy purchases take place. This directly links with Telefónica's Energy Efficiency and Renewable Energy Plans and hence, with our global goals of Energy and Climate Change. Therefore, the CPO's variable remuneration is directly linked to emission reduction (90% reduction of Scope 1 and 2 CO2 emissions for our main markets - Spain, Brazil, and Germany - by 2025, 80% reduction for our other markets and a 56% reduction for our Scope 3 by 2030, as well as net-zero emissions by 2040). The KPIs used to assess performance are the annual CO2 emissions reduction and the % renewable electricity.

All employees	Monetary reward	Emissions reduction target	At Telefónica we are committed with the Paris Agreement. As a tangible sign of our commitment to long term sustainability strategy, a percentage of the variable remuneration of our entire team with variable bonus scheme is conditional upon the accomplishment of our reduction targets (90% reduction of Scope 1 and 2 CO2 emissions for our main markets - Spain, Brazil, and Germany - by 2025, 80% reduction for our other markets and a 56% reduction for our Scope 3 by 2030, as well as net-zero emissions by 2040.. This applies from the Executive Team to all employees with variable remuneration, including the Chief Sustainability Officer, the Global Head of the Climate Change Office, and environmental/energy managers. The % of the remuneration varies in function of the direct responsibility to emission reduction and the performance, and the relevant KPI is annual CO2 emissions reduction. In addition, for all environmental and energy managers their bonus is related to our climate change and energy targets (among other environmental targets) at local level. The Global Head of Infrastructure Efficiency's objectives (reporting to CTIO) are linked to implementation of energy efficiency projects, the reduction of the company's energy costs in the network and the achievement of energy and efficiency targets. She/He has incentives related to energy efficiency, linked with one of our global goals: 90% more efficient by 2025 in terms of MWh/PB; as well as an impact on the other two: 100% renewable electricity in own facilities by 2030, and 90% reduction of CO2 emissions in our main markets by 2025 and 80% for the rest by 2030. The following KPIs are used to assess performance: MWh/PB; % renewable energy and annual CO2 emissions reduction. Therefore, these targets are linked to his/her bonus.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	1	10	These time horizons are in line with our Science Based Targets and our Renewable Energy objectives at short, medium, and long term (2015-2025, 2015-2030, 2015-2050), counting from the baseline year (2015). Additionally, they are also in line with the timeframes we have used in the vulnerability analysis of climate-related risks (namely physical risks), since our infrastructures have an estimated lifetime of 20 to 30 years and physical risks related to climate change are expected to have a greater impact in the medium and long terms. They are also in line with our Climate Change Strategy 2015-2050, which sets intermediate reduction goals for 2025, 2030 and 2040.
Medium-term	10	15	These time horizons are in line with our Science Based Targets and our Renewable Energy objectives at short, medium, and long term (2015-2025, 2015-2030, 2015-2050), counting from the baseline year (2015). Additionally, they are also in line with the timeframes we have used in the vulnerability analysis of climate related risks (namely physical risks), since our infrastructures have an estimated lifetime of 20 to 30 years and physical risks related to climate change are expected to have a greater impact in the medium and long terms. They are also in line with our Climate Change Strategy 2015-2050, which sets intermediate reduction goals for 2025, 2030 and 2040.
Long-term	15	35	These time horizons are in line with our Science Based Targets and our Renewable Energy objectives at short, medium and long term (2015-2025, 2015-2030, 2015-2050), counting from the baseline year (2015). Additionally, they are also in line with the timeframes we have used in the vulnerability analysis of climate related risks (namely physical risks), since our infrastructures have an estimated lifetime of 20 to 30 years and physical risks related to climate change are expected to have a greater impact in the medium and long terms. They are also in line with our Climate Change Strategy 2015-2050, which sets intermediate reduction goals for 2025, 2030 and 2040.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

Telefonica has a global risk management model (GRM), based on the model established by the Committee of Sponsoring Organizations of the Treadway Commision (COSO). Telefónica also has a Risk Management Policy, approved by the Board of Directors, and a Corporate Risk Management Manual, both based on experience, best practices and Good Corporate Governance recommendations.

In this sense, Telefónica has identified a threshold to determine if a risk has the potential to significantly affect the company and needs to be reported. Our Risk Management corporate policy defines an acceptable risk as the degree of exposure that the company is ready to accept inasmuch as it allows the creation of value, achieving the right balance between growth, performance and risk. This threshold is considered when reviewing our strategy to ensure we operate within the established risk boundaries. What we define as a “reportable risk level” is divided between corporate and local:

a. At a company level, a significant financial impact is either 0.3% of the company´s OIBDA (if the probability of the risk happening is higher than 50%) OR 0.77% (without factoring in probability)
b. At a local asset level, the threshold lies at 0.5% of each asset’s OIBDA, with a minimum financial impact of 2M€, and is updated annually.

OIBDA is considered as the metric to define substantive impact since it is one of the measures of financial performance that Telefonica uses to determine profitability of the company, hence directly affecting the business strategy.

Additionally, risks and opportunities are considered to have **a substantive significant strategic impact** if these impact our ability to meet stakeholders’ expectations and demands either directly or indirectly. In relation to CC, any risk associated with a negative perception of our commitment towards a low carbon economy or adaptation against resource scarcity will be considered a significant strategic impact. In this line, any opportunity linked to measures or business activities that contribute to reducing Scope 1&2 emissions, that promote energy savings, improve energy efficiency and address climate change mitigation and adaptation will be considered as a positive strategic and financial impact.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

Our global risk management model (GRM) allows us to analyse exposure to potential climate-related R&O. The GRM takes the Company's strategy and objectives as a reference for the identification of the main risks that could affect its achievement, recognizing the benefits to guarantee a high awareness on risks&the capacity to assign the most effective resources to control&respond to them.
i. Risk identification and assessment
We assess risks from 4 different viewpoints to ensure an integral evaluation aligned with the Group's operations&needs: Local(Bottom-Up), Global(Top-Down), Risks in Processes&Projects Risks. The assessment of CC risks is done mainly through the Top-Down approach& supported by specific office evaluation (Bottom-Up).
Global: To ensure consistency, the Top-Down approach focuses on global R&O that may incur possible losses in value&results from events that affects us in corporate sustainability, markets, shareholders&investors or marketing management. These risks are defined as "Basic Risks" &are assessed&periodically reviewed by the relevant global operational areas (Compliance, Strategy, etc). One of the Basic Risks analysed is CC, including both physical risks that affect our infrastructures/business lines due to chronic or extreme weather events&transition risks due to changes in CC regulation or lack of resources. Additionally, we perform the analysis under different climate scenarios&different time scales, in accordance with the TCFD's recommendations &stakeholder demands.
To facilitate their evaluation&monitoring, each potential risk is assigned a Key Risk Indicator, which considers the following:
•Probability&potential financial impact of each basic risk in each asset&the whole company
•Historical&future development trends per risk
•Opinion regarding the level of control (self-evaluation)
•Potential reputational impact
•Exposure estimation for each basic risk based on the sum of the potential impact&probability of all the specific risks
Local: We also use a Bottom-Up approach based on a risk self-assessment, where local managers are responsible for identifying risks in their areas, prioritizing reporting,monitoring&determining their specific response to them (i.e. mitigation plans to avoid/transfer those risks). Local risk owners meet periodically (at least half-yearly) to identify, evaluate &manage risks. Whenever possible, risk assessment will be quantitative &potential impact measured against operational cash-flow. To minimise the impact of potential physical risks materialising in our assets, we also manage exposure to acute physical events from an insurance perspective. The modelling is carried out every 3yrs by an external consultant &consists of:

1. Data Collection: Corporate Insurance team compiles info from every location in all countries into the modelling software
2. Analysis&modelling: QA process to correct any errors prior to the modelling, which is based on statistical calculations using the most updated software system (RMS, EQCat, etc.) with historical climate-related events
3. Results &findings: results are broken down by country&risk, establishing the probabilities of possible losses for different return periods. The results are analysed to create the most efficient limits&retentions structure for the insurance program on material damages.

Net impact of the identified risks will be compared against the Group's Reportable Risk Level (information on the substantive impact threshold has been provided in C2.1b).

ii. Risk management (RM) &prioritization

This initial assessment allows us to prioritize risks &incorporate results into long-term business decisions, minimising risks&maximising opps. Decision making is based on the financial impact estimated during the assessment risk process&its influence in operational efficiency, access to new markets, reputation, etc. For each identified risk we establish a mitigation plan including an implementation timeline assigning responsibilities. The person responsible will update &report the degree of development of each risk using our RM tool. Likewise, local risks will be prioritised in order to review their development&update their potential impact on the company. These risks are then supervised periodically by the Exec Committees at country level &reported to the Corporate Function of RM. This strategy allows us to adapt to both physical & transition changes.

Physical risk: whilst the evaluation using different projections and historical data demonstrated the risk of operations' interruption due to extreme climate events to have a low magnitude, it's high probability in the scenarios analysed translated into mitigation actions via the introduction of Emergency Committees & Business Continuity Plans at asset level, aimed at re-establishing connectivity asap, &reducing the risk of revenue&reputational losses associated to connectivity loss. The last events reported in 2021 were: the storm Filomena, which caused a supply failure at a power station in Madrid (Spain) &network incidents. Telefónica installed an emergency generator to power the plant restoring the service adequately; the fires in Chile. The Telefonica crisis committee was activated to manage possible impacts on internal and external plant infrastructure affecting the operation. Working groups were designated according to the crisis management plan.

Transition risk: establishment of our Renewable Energy (RE) &Energy Efficiency (EE) Plans. During our top-down risk assessment, based on scenario RCP2.6 &with 2030 as the time horizon due to data availability, we identified a high probability of future fossil fuel price increases, leading to energy price increases that would have a high impact in our operations. To reduce our dependence we self-generate energy, purchase RE & establish Power Purchase Agreements (PPA). In 2021, 4 PPA were signed in Spain to supply 482GWh (amounting 582GWh) of RE per year. In Europe, Brazil and Peru, 100% of the electricity consumed at our own facilities comes from RE. We undertook 188 EE&management initiatives in our networks&offices saving 302GWh. In summary in 2021, 4,234GWh came from RE sources avoiding 1.28MtCO_2e.

iii. Opportunities management

Climate related opps are also assessed & managed through our GRM, since we believe

an efficient & proactive management allows for the detection of new business opps. In a low-carbon economy, Telefónica has considerable opps for both internal energy management &business growth, through selling products that reduce our customers emissions. The internal opps include the RE & the EE Plans, which enable us to reduce the Company's operating costs, decrease GHG emissions&improve our positioning. From a product development perspective, our greatest contribution is increased digitalisation, supported by a RE network. Through our services, we are able to reduce GHG emissions in other sectors&increase the resilience of the communities in which we operate.

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Telecom sector is not intense in terms of fossil fuels consumption or GHG emissions, so we are not a regulated sector in terms of emissions in the countries where we are present. However, as the electricity consumption of our network is high, reaching 5,815,665 MWh in 2021, we assess and include regulatory risks in our Global Risk Assessment Process as Basic Risk of Climate Change. For example, in 2021, two regulations were implemented in 2 of our main markets. The Spanish Climate Change and Energy Transition Law, set national 2030 targets based on 1990 figures (23% emission reduction, 42% renewable final energy consumption, 74% renewable energy on electricity grid, 39.5% improvement on energy efficiency) and the achievement of net zero emissions by 2040. Furthermore, the Amendment to the German Climate Change Act came into force setting new national climate targets which mean a reduction of the GEI emissions by at least 65% by 2030; at least 88% by 2040 to become greenhouse gas neutral country by 2045. The estimated economic impact of this risk category is lower than the 0.3% of the OIBDA at company-level and lower than 0.77% of the OIBDA at an asset-level, so it is therefore below the “Reportable Risk Level” that Telefónica sets as the threshold of its significant risks.
Emerging regulation	Relevant, always included	Telefónica includes upcoming climate-related legislation into the risk assessment process, evaluating the magnitude, probability and vulnerability to the impact. For example, the Spanish Climate Change and Energy Transition Law, even though does not include explicitly carbon taxation, it does include the creation of an Expert Group dedicated to defining the best approach to updated the current fiscal system to incorporate green elements to it.

		Whilst the implementation of a carbon tax is still in an initial phase in the countries in which Telefónica operates, measures in this regard are already beginning to be planned in the short term: • Germany introduced (1) a carbon price for transport and buildings of 25€/t for 2021 which will increase to 55 €/t in 2025. • Spain established (2) in 2014 a carbon tax, where around 30% of the emissions made were taxed, fundamentally affecting the transport sector • Brazil has a Climate Change Policy in the form of a law (Law 12.187) dating from 2009, which clearly states the need to stimulate the development of the Brazilian Emission Reduction Market (MBRE). Whilst the implementation of a carbon tax still isn't a reality in Brazil yet, measures in this regard are already being planned in the short term. There is a Law Project 528/2021 for the establishment of the MBRE, still pending in the Legislative Chamber, and recently a decree (nº 11.075) that creates the basis for the creation of a regulated carbon market was approved - this decree establishes the procedures for the elaboration of Sectorial Plans for Mitigation of Climate Changes and institutes the National System for the Reduction of Greenhouse Gas Emissions - Sinare. Since the Telecom sector is not intense in terms of fossil fuels consumption or GHG emissions, we do not expect to become a regulated sector in terms of emissions in the countries where we are present, so the estimated economic impact of this risk category in our assessment is lower than the 0.3% of the OIBDA at company-level and lower than 0.77% of the OIBDA at an asset-level, and it is therefore below the "Reportable Risk Level" that Telefónica sets as the threshold of its significant risks.
Technology	Not relevant, included	Telefónica (TEF) considers a low impact risk the possible need for early retirement of HVAC or energy assets due to a transition to a low-emission economy, which will require the replacement of existing equipment with refrigerant gases, such as R22, for more energy efficient &climate-friendly equipment. From an opps' perspective, the services provided by TEF are noncarbon-intensive, &they help its users reduce their own emissions and adapt to CC. In this sense, to provide our customers with low carbon products&services and to achieve our reduction targets, Telefónica uses green bonds, &green &sustainable hybrid instruments to finance projects aimed at increasing the company's energy efficiency through the process of transforming the copper network into fibre optic (85% more efficient) in Spain. TEF is one of the largest issuers of sustainable bonds in its sector, both in terms of volume, number &diversification of issues (senior green bonds &hybrid green or sustainable instruments). In addition, TEF uses other sustainable bank financing instruments such as loans &credits linked to sustainability

		objectives, which enable it to make progress in achieving corporate objectives linked to the reduction of emissions. At the end of 2021, the Group had between 5%&10% of sustainable financing, with the objective of reinforcing this new financing scheme &exceeding 10,000Million€ in the coming years. TEF sees future potential technology shifts as an opp as opposed to a risk. In fact, digitalisation is expected to be essential to address the transition to a low carbon economy, according to the Smarter 2030, having the ICT sector the potential to reduce 3.6GtCO2e by 2030. TEF develops services based on the IoT, Cloud, Big Data&Connectivity that enable our customers a more efficient use of resources such as energy &water, improve traffic planning, air quality, reduce GHG emissions or improve our response to a climate catastrophe. In 2021 the income from these new digital services grew >30% compared to last year. In the climatic scenarios evaluated in our global risk evaluation processes, the estimated economic impact of this risk category is lower than the 0.3% of the OIBDA at company-level &lower than 0.77% of the OIBDA at an asset-level, so it is therefore below the “Reportable Risk Level” set as the threshold of significant risks. And we do not foresee that an increase of technology risk related to climate change could affect significantly TEF's business lines.
Legal	Not relevant, included	Although the potential impact of environmental legal liabilities to Telefónica’s operations associated to energy and emissions is not material due to the services provided not being carbon intensive, legal risks are still considered in the company’s risk evaluation processes. Risks associated to this category include direct or indirect disturbances due to environmental issues, mainly associated to non-compliance during the network deployment, for instance: - Environmental passives: equipment or network components that may cause pollution problems such as fuel tanks in a bad state, AC equipment working with banned refrigerant gases and noise generating equipment. - Deployment of the network with environmental permits, which could cause the suspension of the operation or incur fines. In the climatic scenarios evaluated in our global risk evaluation processes, the estimated economic impact of this risk category is lower than the 0.3% of the OIBDA at company-level and lower than 0.77% of the OIBDA at an asset-level, so it is therefore below the “Reportable Risk Level” set as the threshold of significant risks. And we do not foresee that an increase of legal risk related to climate change could affect significantly Telefónica's business lines.

Market	Relevant, always included	Market risks are considered in Telefónica's Global Risk Assessment Process under the Basic Risk of Climate Change due to our significant reliance on electricity. In 2021, our electricity consumption amounted to 5.815.665 MWh. In some countries in which we operate, the grid mix is highly dependent on hydraulic generation (e.g. Both Brazil and Peru approx. 60%). Furthermore, energy prices in our main markets Spain, Germany, Brazil are expected to rise, increasing the exposure to market risk until 2050. Brazil poses the most significant impact as energy consumption is expected to increase by up to 70% by 2030. In the climate-related scenarios that we analysed we estimate that annual precipitation in those countries is set to decrease by 20% around 2050. This may imply significant increases in energy prices that will directly affect our OPEX. The estimated economic impact of this risk is higher than the 0.3% of the OIBDA at group level and the probability of it happening is higher than 50%, which is why it is above the "Reportable Risk" threshold.
Reputation	Relevant, always included	Reputational risks related to climate aspects such as the ones explained below are considered by Telefónica to be Basic Climate-Related Risks, and therefore are always included in the company wide's risks' assessment and evaluation. For instance, greater demand of information by investors and shareholders, maintaining consistency in the CC management, alignment with the TCFD. A concrete example is the case of BlackRock, one of our main investors and the world's largest asset manager. In its influential annual letter to chief executives in early 2022, the firm noted that companies' strategy and resilience to transition risks are identified as key drivers of long-term economic potential. In its 2021 TCFD report it is stated that 75% of their managed assets invested in corporate and sovereign issuers are expected to be invested in issuers with science-based net zero-aligned climate targets by 2030. This shift in their investment policy could potentially lead to a reduction in the perceived value of our company should Telefonica become unable to meet these new expectations. Additionally, non-compliance with environmental law from any of our suppliers that may lead to a negative impact in Telefónica's reputation. Although the estimated economic impact of this risk category is lower than the 0.3% of the OIBDA at company-level and lower than 0.77% of the OIBDA at an asset-level, as per our definition in C2.1b we consider this risk to have a significant strategic impact, as it impacts our ability to meet stakeholders' expectations, i.e. a negative perception from our

		stakeholders of our commitment towards a low carbon economy or adaptation against resource scarcity.
Acute physical	Relevant, always included	Acute physical climate(C) risks are considered in Telefónica's Global Risk Assessment (assmt) Process under the Basic Risk of CChange and therefore are always included in the company's risks assmt &evaluation. In 2021 we implemented the more in-depth climate scenario analysis conducted in 2020 (more info in C3.2), which allowed us to assess&quantify the exposure of our different business lines in each country to physical&transition risks under 2different C scenarios, one representing BusinessAsUsual (RCP8.5), &one keeping temp in line with the Paris Agreemnt (RCP2.6). E.g, our analysis identified our greatest exposure to physical risks to be lying in our landline&mobile network infrastructure, mainly in Latam. Based on the probability&impact that the different extreme climatic events could have on our infrastructures&operations (e.g, service disruptions, increase of insurance cost, etc), we found the most impactful acute physical risk to which these would be exposed in the medium &long term, under both scenarios, would be flooding &wildfires. In this context, in 2021, 2extreme weather events affected our assets &caused service outages: wildfires in Chile &snowstorm in Spain. This climate-related risk assmt process has been incorporated into our general risk assmt framework, with identified risks therefore managed following the same process described in C2.2 via our adaptation plan, which includes several action lines to limit our exposure to these risks. E.g, exposure to acute physical events from an insurance perspective is managed by our Corp. Insurance Dept. in an effort to protect assets. The modelling for this is carried out by an external consultant and consists of the following: 1. Compiling the necessary information into the modelling software for every location in all countries. 2. Use of relevant software systems (RMS, EQCat, etc) -updated with catastrophic information and historical climate-related events-, to perform the modelling based on statistical &probability calculations. 3. Results broken down by country&risk, establishing for different return periods the probabilities of possible losses. Results are analysed to look for the most efficient structure in limits &retentions for the insurance program in the area of material damages. The estimated economic impact to 2050 of this risk is higher than the 0.3% of the OIBDA at group level &the probability of it happening is higher than 50%, which is why it is above the "Reportable Risk" threshold
Chronic physical	Relevant, always included	Chronic physical climate risks are considered in Telefónica's Global Risk Assessment Process under the Basic Risk of Climate Change and therefore are always included in the company's risks assessment and evaluation.

		As part of our risk identification process, in 2021, we implemented the more in-depth climate scenario analysis conducted in 2020, which allowed us to assess and quantify the exposure of our different business lines in each country to future physical and transition risks under two different climate scenarios, one representing Business As Usual (RCP8.5), and one keeping temperatures in line with the Paris Agreement (RCP2.6). For instance, our analysis identified our greatest exposure to physical risks to be lying in our landline and mobile network infrastructure, mainly in Latin America. The most impactful chronic physical risk to which these would be exposed in the medium and long term, under both scenarios, would be temperature increases, which could cause failures in the telecom equipment, would require more cooling and consequently more energy consumption. All this will translate into a greater need for OPEX and CAPEX. This climate-related risk assessment process has been incorporated into our general risk assessment and management framework, with identified risks therefore managed following the same process described in C2.2 via our adaptation plan, which includes several action lines to limit our exposure to these risks. The estimated economic impact of this risk to 2050 is higher than the 0.3% of the OIBDA at group level and the probability of it happening is higher than 50%, which is why it is above the “Reportable Risk” threshold.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Changing temperature (air, freshwater, marine water)

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

Rising mean temperatures could increase Telefónica's operating costs due mostly to the increase on refrigeration needs of network equipment.

In 2021 we implemented the in-depth quantitative Climate Scenario Analysis conducted in 2020 which highlighted that temperature increase is one of the main significant climatic threats to our activity. The increase of the global average temperature would directly affect the operational conditions of our network equipment, especially in data centres, fixed operational buildings and cell sites. High temperatures can affect the telecommunication equipment producing failures, write-offs and early retirement and therefore increase the risk of service disruption; therefore, cooling is essential. Nowadays it represents an average of 40% of energy consumption in our network. In the climate scenarios analysed, the average temperatures are expected to increase until 2050 in all countries where we operate. However, our analysis identifies that this risk has a significant operational impact particularly in two regions: Brazil and Spain. with an increase of 2.5ºC. Therefore, cooling needs and operational costs could also rise.

The electricity consumption of our network was 5,815,665 MWh in 2021. Our network consumption in responsible for more than 95%, from which 40% corresponds to our refrigerant needs. Small increases due to greater cooling needs may incur higher energy costs. For example, a 10% increase of the electricity consumption of our network would have an average impact of 75 million euros in our energy Opex. According to our Global Risk Analysis, Procedure, the estimated economic impact of this risk is classified as substantive.

To avoid this risk Telefónica has several action lines with the objective of reducing cooling needs. With this purpose we promote energy efficiency projects, like free-cooling and also, we include more critical technical specifications in the network equipment we are buying from now so it can work under higher temperatures.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

8.056.000

Potential financial impact figure – maximum (currency)

11.235.000

Explanation of financial impact figure

The impact of this risk was calculated as part of our Climate Scenario Analysis exercise, the information of which can be found in C3.2.

The final financial figures have been calculated based on:
- The costs associated to changes in the energy consumption of our network at different operating temperatures foreseen in scenario RCP 8.5 (maximum potential impact) in 2050 and the Paris Agreement scenario (minimum potential impact), as extracted from the Copernicus database for the specific regions the assets analysed were located in within the countries analysed.
- An empirical model to determine the impact of temperature increases on electricity consumption. We have also taken into account the potential damage to our assets as a result of heatwaves. For this model, the following parameters have been taken into account to determine the expected consumption increase:
o countries' historical electricity consumption data,
o % of consumption by asset,
o regression parameters
o average temperature changes.
- For the associated electricity price, the following parameters have been used:
o Annual consumption, % consumption by asset
o Increase in electricity prices associated to temperature
o Average temperature changes
- The impact range was then calculated as follows:
i. Minimum impact – considering the above KPIs under the Paris Agreement scenario: We consider the location of our different assets and the forecasted temperature increase. Then we apply the empirical model to calculate the costs associated to the increase in energy consumption as a consequence of temperature increase.
ii. Maximum impact – considering the above KPIs under scenario RCP 8.5: We consider the location of our different assets and the forecasted temperature increase. Then we apply the empirical model to calculate the costs associated to the increase in energy consumption as a consequence of temperature increase.

Overall, financial impact ranges come from: Σ (Δ IT CAPEX+Δ IT OPEX+Δ ENERGY OPEX).

Cost of response to risk

5.395.218

Description of response and explanation of cost calculation

SITUATION: Rising of temperatures could increase our operating costs due mostly to the increase on refrigeration needs of network equipment. TASK: To manage this risk, we have an Adaptation Plan (AP) with several action lines including the objective of

reducing cooling needs. With this purpose we promote free-cooling &also we include more critical technical specifications in the network equipment we are buying so it can work under higher temperatures. Another action line within our AP is our Energy Efficiency Plan (EEP). In 2021 we continued modernising our network to increase its efficiency, e.g. by replacing copper with fibre optic; power plants&HVAC equipment renovation projects; using free-cooling; shutting down legacy networks; implementing power saving features in the access network;&reducing fuel consumption through hybrid stations with photovoltaic solar energy. In 2021 we keep implementing projects under the disruptive business model “Energy Savings as a Service” (ESaaS): based on an agreement with a specialised supplier who designs the solution, invests, operates, maintains &ensures savings. The actions includes different initiatives: AC replacement, power, lighting or electric generation systems. The service is paid for by sharing the savings generated thanks to the measures implemented. ACTION: In 2021, we rolled out a sustainable immersion cooling solution in Spain that shows how less energy can be used to support growing demand for data in Edge Computing&5G, immersing the servers in an electrically non-conductive, non-toxic, biodegradable fluid (up to 50% more energy efficient than AC). Also, in 2021, we implemented 188 initiatives, including 44 free-cooling solutions. As a RESULT we saved 302GWh (10MWh related to free-cooling initiatives)

We also modified our purchasing criteria to purchase equipment with greater resistance to high temperatures, reducing the need for cooling of our networks &we have implemented ISO 50001 on EMS in our operations in Spain &Germany (which account for approximately 51% of our revenues & 39% of our total energy consumption).We are extending this standard to other operations, such as Brazil, where the HQ are already certified, ensuring that the EE and management of our Network is continuously improving.

The cost of management has been calculated considering the CAPEX involved in the EEP (98% of cost) &costs related to the implementation &maintenance of EMS (2% of cost): Σ(Energy Efficiency Projects CAPEX + EMS).

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

Other, please specify

Increased severity and frequency of extreme weather events such as heavy precipitation (rain, hail, snow/ice), wildfires and floods.

Primary potential financial impact

Increased indirect (operating) costs

The two main financial impact drivers are the damages to our network assets and the income losses for services disruption due to electricity cut and damage to our telecommunication equipment

Company-specific description

An increase in severity and extreme weather events such as heavy precipitations, wildfires and floods can damage Telefónica's infrastructure, mainly our telecommunication network assets

In 2021 we implemented the Climate Scenario Analysis conducted in 2020 which highlighted the increase in the frequency and intensity of floods, as the most significant climatic threat to the activity of Telefónica, followed by wildfires. They can cause physical damage to our infrastructures and therefore could produce service and operations disruptions.

In the climate scenarios that we have analysed, the greatest exposure to physical risks lies in the infrastructure that supports fixed and mobile connectivity. As a result, Telefónica's assets with greater exposure to risk are: Base Stations and Fixed Line network. The geographical area with the greatest exposure is Latin America, namely in Brazil due to our greatest % of activity being located there, representing 19% of our assets.

As an example, in 2021, there were two extreme weather events affecting our assets: the wildfires in Chile, causing many fires in the north and south of the country; and the snowstorm Filomena in Spain, causing a service outage at a power station in Madrid, at the beginning of the year. In both cases, the Crisis Committee was activated to ensure service stability and operation. In the snowstorm in Spain, Telefonica restored rapidly the service installing an emergency generator to power the affected plant..

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

12.781.000

Potential financial impact figure – maximum (currency)

32.160.000

Explanation of financial impact figure

The financial impact of this risk is calculated by analysing the extreme weather events forecast of the countries in which we have presence and its possible impact assuming we did not carry out any control, mitigation or adaptation action. The financial impact has been calculated based on the results of our Climate Scenario Analysis, considering scenario RCP 8.5 (maximum potential impact) and the Paris Agreement scenario (minimum potential impact). The impact range was calculated based on the following parameters:

- Destruction of physical assets and service interruption
- Impact of extreme weather events on our assets (IT equipment CAPEX and OPEX)
- % of assets annually affected by floods
- Cost of an increase in the premium to cover the most exposed assets
- Value of the assets exposed to floods and wildfires
- Costs associated to service interruption
- Asset expenditure

Overall, financial impact ranges come from:
Σ (INCOME LOSSES&PENALTIES + Δ NETWORK OPEX + Δ NETWORK CAPEX + Δ INSURANCE COSTS)

The reported range is related to the differing probabilities associated to the minimum impact (considering the Paris Agreement scenario) and the maximum impact (RCP8.5 scenario).

Cost of response to risk

10.000.000

Description of response and explanation of cost calculation

[SITUATION] An increase in severity and extreme weather events such as heavy precipitations, wildfires and floods can damage our infrastructure, mainly our telecommunication network assets.
[TASK] To manage this risk, we have Global Business Continuity (GBC) Regulations included within our Adaptation Plan to prescribe preventive risk management, ensuring the maximum resilience of our operations in the face of any potential interruption. These include:
a) Business Continuity Plans in each country establishing how to restore essential functions that have been interrupted
b) Global Crisis Management System to manage high impact threats. It has a Global Crisis Committee, including specialists for each type of incident (i.e. natural catastrophes).

The Committee acts in 4 phases:
i) alert of the crisis at local level
ii) evaluation of the impact globally
iii) development and implementation of the action procedures
iv) return to normality post-crisis

[ACTION] As an example, the last reported events for which we followed this plan were in Chile and Spain in January 2021 due to wildfires in the north and south of the country and the snowstorm Filomena, which sustained snowfalls for 36 hours in the centre of the country, respectively. In both cases, the Crisis Committee was activated to ensure service stability and operation. In the snowstorm in Spain, Telefonica restored rapidly the service installing an emergency generator to power the affected plant. As a [RESULT]: the operation returned to normality.

In the snowstorm in Spain, Telefonica restored rapidly the service installing an emergency generator to power the affected plant. In order to mitigate the more critical effects of acute risks, Telefónica's Corporate Assurance Dept. also determines the most appropriate insurance contracts and premiums for each country based on the outcomes of climate modelling. This considers the risk exposure of that specific country (e.g. higher in Latam).

The cost for managing this risk considers the costs associated to having a Global Business Continuity System in all countries and average costs not covered by our insurance premium.

Overall, the cost of management comes from: Σ (Global Continuity Plan annual cost + cost not covered by insurance premium) = 10,000,000 €

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Market

Increased cost of raw materials

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

Whilst electricity prices have remained fairly stable in the last few years, in the second half of 2021, average household electricity prices in the EU increased sharply compared with the same period of 2020 (€21.3 per 100 kWh), standing at €23.7 per 100 kWh, affecting one of our main markets, Spain. Furthermore, the increased demand that will come by the hand of a population increase and the greater electrification needs make increased costs of energy the main market risk that Telefónica will be confronted with in a RCP2.6 scenario. As we explained in the sections above, Telecom sector is not intense in terms of fossil fuels but is very dependent on the electricity consumption for

its networks. In 2021 our total electricity consumption reached 5,815,665 MWh. For this reason, an increase in the electricity price due to emerging regulation of the electricity generation sector or shortage of natural resources, may have a high impact on our energy OPEX.

In this sense we differentiate two types of risks according to the electric mix of the countries in which we are present:

(i) Countries with an electric mix highly dependent on fossil fuels: the increase on fuel and energy taxes and regulations can cause increases in electricity production costs and therefore increase kWh price. This is the case of countries like Germany, one of the main markets in which we operate and responsible for 19.8% of our 2021 revenue, where non-renewable sources account for 49% of the total generation

(ii) Countries with an electric mix with a high percentage of hydraulic generation: These countries have a high vulnerability to drought periods so water stress can also increase electricity prices. This is the case of Brazil and Peru both with approximately 60% of hydro generation in their energy mix and responsible for 21.5% of our revenue.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

151.700.000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The financial impact of this risk has been calculated based on the following aspects:
- Traffic demand from Telefónica's customers, which will continue to increase significantly in the coming years, even if this increase will be partially offset by energy efficiency improvements.
- Telefónica's energy consumption projections per country up until 2030
- Projection of electricity prices: we have based these on the EU energy outlook (2050), whereby prices increase by 2% by 2030, then by 1% until 2040 and by 0.5% until 2050. The latter have been determined as a conservative approach based on other country

specific projections which indicated a decrease in energy prices in the medium term.

Overall, the financial impact of this risk comes from: Σ(Energy consumption projections x increase in electricity price)

Note: transition risks and opportunities have only been analysed under scenario RCP 2.6 for 2030, since RCP8.5 would be a BAU scenario whereby no transition to a low carbon economy would take place.

Cost of response to risk

676.717

Description of response and explanation of cost calculation

[SITUATION] The increased demand that will come by the hand of a population increase &the greater electrification needs make increased costs of energy the main market risk that Telefónica will be confronted with in a RCP2.6 scenario.
[TASK] In order to manage this risk and reduce our exposure to increasing energy prices we have in place 2 main plans:
i) EE Plan: Since 2010 we have implemented 1,440 projects under this plan achieving savings of more than 8,8 TWh & 1,266 M€ on energy.
In 2021 we implemented 188 initiatives leading to savings of 302 GWh &avoiding 69,000 tCO2e into the atmosphere These efforts are reflected in an 86% improvement in our energy intensity ratios (MWh/PB) compared to 2015. In 2021 our networks transmitted 113,547 PB &we keep on decoupling our services' growth from energy consumption, significantly reducing the risk of an increase in our electricity OPEX.
[ACTION] ii) Telefónica has a RE Plan which reduces our operating costs &makes us less dependent on fluctuations in fossil fuel prices. Our RE Plan projects potential savings in energy OPEX that could reach more than 25% in 2030. Indeed, Telefonica was shortlisted in the "Best Mobile Innovation for Climate Action" category at the GLOMO Awards at MWC 2022 for the project "Green Radio -Intelligent software solution for Energy optimization".
We have also committed to making our electricity consumption 100% renewable in own facilities by 2030 (RE100 initiative taget). RESULT: In 2021, our main markets &Peru maintained 100% renewable. In 2021, we signed in Spain 4 new long-term, RE PPA for 2022-2031, which will cover 30% of the total consumption for the country, equivalent to 482 GWh per yr for 10 yrs (accounting 582 GWh). We also implemented photovoltaic self-generation systems in several buildings, using solar production for self-supply. Furthermore, we continued our distributed generation project in Brazil, which will enable 85 new RE plants around the country to generate over 700 GWh per year for Telefónica Brazil &thus reduce dependence on iREC guarantees of origin.

The cost of management considers the costs associated to:
- Purchase of RE Certificates (OPEX) in Spain, Germany, Brazil, Colombia, Chile and Peru
- Energy consulting costs in Brazil (OPEX)
- PPA consulting costs (OPEX)
- Self-generation project investment (CAPEX)

Overall, the cost of management comes from: Σ of [PPA + GOO] + REP Capex

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

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

Identifier

Opp1

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Telefónica has identified opportunities in a low carbon economy for business growth, by selling products that reduce our customers' carbon emissions. In this sense, digitalization will be essential to address the transition to a low carbon economy.

According to the Smarter 2030, the ICT sector has the potential to reduce 3.6 GtCO2 by 2030. Telefónica's business strategy is committed to the digital revolution to address environmental challenges, which is why we are promoting the sale and development of new products in the following business lines: services based on the IoT, Cloud, Big Data and Broadband Connectivity.

In 2021 we had a sustained annual growth of these services which represented an increase of our income from these new digital services. Most of the portfolio of these products focus on enabling our customers to make a more efficient use of resources such as energy and water, improve traffic planning, air quality, reduce greenhouse gas emissions or improve our response to a climate catastrophe. We see a greater

investment into the development and improvement of these services as an opportunity to both increase our revenues and reduce environmental impact of our clients.

Regarding IoT, we highlight some of the most important services provided in 2021 at regional &sectoral context:
- Management solutions for the agricultural sector such as Smart Agro, which enables innovation, digitalisation, and data analysis for crops with the aim of optimising resource use.
- E-health solutions for the health care sector that provide remote health care through mobile devices and apps that enable the monitoring of patient symptoms, prevent unnecessary trips to healthcare centres and facilitate early detection of health problems.
- Mobility optimisation solutions, such as our fleet management or asset tracking solutions.
- Products such as: Router Smart wifi which consumes 30% less energy &weighs 40% less than a conventional router, saving on the use of materials (plastics, metals &other components); &Half SIM Card which reduces by 50% the plastic used, avoiding the manufacture of 190 tonnes of plastic, saving 648tCO2e &optimising its logistic.

Solutions for the transport sector which help optimise planning of transport systems and infrastructure planning through greater understanding of travellers, timetables and routes
As a result, in 2021 IoT in Telefónica closed with nearly 23 million IoT lines for our customers.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1.752.000.000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Telefonica’s Digital Services Revenue in 2021 amounted to €1bn Telefónica has identified opportunities in a low carbon economy for business growth, by selling products that reduce our customers’ carbon emissions. In this sense, digitalization will

be essential to address the transition to a low carbon economy. Telefónica estimates potential increases in revenues due to both:
- Services that we currently have in our portfolio and we expect their sales volume will increase in the coming years. Some examples are broadband connectivity for Teleworking, Smart Energy Management, Fleet Management, Smart Agro (IoT services) and Cloud solutions.
- Expected sales volume of new products and services currently under development. Some examples are fire-prevention with drones or renewable energy generation systems in remote mobile antennas or new services that will be possible thanks to applications of 5G technology, which is expected to avoid 3.6GtCO2e by 2030, with the greatest impact seen in the utilities and home energy sector.

The potential financial impact has thus been estimated based on:
- Telefónica's revenues associated to IoT and Cloud in 2021, broken down by country
- Global growth projections for digital services to 2030 according to Statista (11.5% for IoT and 17.5% for Cloud)
- % of these services associated to sustainability based on World Economic Forum and the Guardian projections (84% for IoT and 38% for Cloud)

Overall, the financial impact of this opportunity comes from: Σ [(current IoT&Clould revenues) x (Expected growth to 2030 of these services) x (% of these services associated to tackle climate change)]

Note: transition risks and opportunities have only been analysed under scenario RCP 2.6 for 2030, since RCP8.5 would be a BAU scenario whereby no transition to a low carbon economy would take place.

Cost to realize opportunity

5.820.000

Strategy to realize opportunity and explanation of cost calculation

We see future potential technology as an opp, with digitalization being essential to addressing the environmental challenges, which is why we are a founding member of the European Green Digital Coalition. Thus Telefónica created LUCA, a Big Data services unit and a IoT business unit to promote the development and sale of new products based on Broadband Connectivity, IoT, Cloud & Big Data, with positive impact on the adapt.&mitig. of CC. Since 2019, Telefónica Tech boosts the growth of digital services involving IoT/Big Data, cloud &cybersecurity to achieve a greater scale and integrate the main digital solutions that help our B2B customers progress towards a more digital and sustainable world.

Case Study:
[SITUATION] Agriculture is a significant contributor to anthropogenic global warming and GHG emissions, due to the high use of energy, water and agrochemicals.
[TASK] We developed a high-tech vertical agriculture solution sensorised and connected to the cloud for crop harvesting remote control.
[ACTION] In 2021, this solution was implemented in an indoor Smart Agro project for

growing strawberries based on Vertical Green's aeroponic technology using IoT, 5G communication, cybersecurity &machine learning to digitally control the environment in which the produce is grown.
As a [RESULT] this new cultivation system reduces the environmental impact, the use of agrochemicals by 15%, energy consum. by 65% and water consum. by 95%; &achieves high-density sustainable production in small areas,

As our business strategy is committed to the potential of these new DS, we had set a new objective for 2025: to avoid the emission of 12 MtCO2 into the atmosphere. The COVID-19pandemic has reinforced the need to accelerate digital transformation by having the precise security tools to maintain business activity & services. For this reason, since 2020 solutions provided by TTech were more in demand, with revenues increasing by 33% to €1bn. In 2021, thanks to IoT's services we avoided 8.5 $MtCO_2$ from being generated by our customers thanks to the high penetration of digitalisation during the pandemic.

The cost to realize this opportunity is 5.8M€. It has taken into account the budget dedicated to R&D activities to develop new climate-related digital services and improvements to the ones already offered. The cost of management thus comes from: Σ [Capex New Digital services]+ [Capex Improvement of current digital services]

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

Telefónica has an important opportunity associated to cost reduction coming from energy management.

As we have explained in question C2.3a the electricity consumption of our network is high. Telefónica's total average electricity consumption in recent yrs has been around 6milion MWh. Telefónica has multiple projects underway to increase the efficiency of its network, such as the replacement of the copper network by FTTH, which is 85% more

efficient or the implementation of 5G, which is estimated to be 90% more efficient.

As our network evolves due to technology evolution, we could have energy increasing demands, as an example, an increase of 10% in our energy consumption would mean an average increase of €75Min Telefónica´s electricity OPEX.

Telefónica´s Energy Efficiency Plan (EEP) allows us to manage this risk, but also we consider it as an opp because it provides us with an important competitive advantage in our sector as it increases the efficiency &resilience of our networks &also reduces our operating costs. This allows us to increase the quality and technologies that we offer to our clients (3G, 4G, 5G, Broadband), without an increase in fares.

In this line, in 2021, we undertook 188 energy efficiency &management initiatives in our networks &offices, reducing power consumption by 7.2% (since 2015), while increasing data traffic 6.7 times over &achieving savings of 302 GWh &€37.6M. Examples of projects in 2021:

- In Germany, the 3G switch-off was completed &improved the energy efficiency ratio of its O2 network by 78% compared to 2015 based on its energy consumption per data volume (GWh/PB).

- In Spain, we rolled out a sustainable immersion cooling solution that shows how less energy can be used to support growing demand for data in Edge Computing &5G, immersing the servers in an electrically non-conductive, non-toxic, biodegradable fluid (up to 50% more energy efficient than AC).

Telefónica has within its strategic objectives for the fight against CC, the reduction by 2025 of 90% of energy consumption per unit of traffic, taking 2015 as a reference. With the EEP our objective is to decouple the growth of our business from energy consumption and that is why it is integrated into our global CC strategy. Our energy consumption is almost stable, although the data traffic passing through our networks in increasing in an exponential way.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

181.000.000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The financial impact of this opportunity is calculated by projecting:
- Company's energy consumption taking into account energy efficiency measures. Since 2010 our Energy Efficiency Plan has allowed us to achieve 1,266M€ of energy savings. In 2021 we implemented 188 initiatives in our networks and offices, achieving savings of 37.6M€ in our OPEX, energy reductions of 302 GWh, reducing 69,000tCO2e.
- Company's energy consumption without taking into account energy efficiency measures
- Average cost of electricity in the last few year

We have also taken into account that these estimated savings will increase if energy prices or taxes increase in the future.

Overall, the financial impact of this opportunity comes from: Σ [(BAU's energy consumption) – (MLS's energy consumption) x (Avg cost of electricity)]

Note: transition risks and opportunities have only been analysed under scenario RCP 2.6 for 2030, since RCP8.5 would be a BAU scenario whereby no transition to a low carbon economy would take place.

Cost to realize opportunity

5.395.218

Strategy to realize opportunity and explanation of cost calculation

Telefónica´s Climate Change strategy includes 3 global energy and GHG emissions targets. One of them focus on taking advantage of this opportunity:

- Reduce energy consumption per traffic unit (MWh/PB) by 90% in 2025 compared to 2015

In order to achieve these strategic objectives, in 2010 Telefónica established an Energy Efficiency (EE) Plan and in 2019 a new and more ambitious target was set. Since 2010, we have implemented 1,440 projects under this plan. These projects are mainly developed in our infrastructures of fixed and mobile network, offices and data centres. Since 2010 our Energy Efficiency Plan has allowed us to achieve1,266M€ of energy savings. These estimated savings will increase if energy prices or taxes increase in the future.

As a regional context case study, [SITUATION] To position Telefonica Deutschland with a competitive advantage in our sector, increase the efficiency &resilience of our networks &reduce operating costs, we have raised our energy efficiency target for 2025 from 82% to 87%.

[TASK] to achieve this target, it is crucial to expand 4G &5G to contribute to boosting power efficiency in our network. [ACTION] In 2021 the 3G switch-off was completed (more than 17,000 3G sites decommissioned);
[RESULT] In 2021, we improved the energy efficiency ratio of our O2 network by 78% compared to 2015 based on its energy consumption per data volume (GWh/PB) leaving only 9% of our target to be achieved between 2022 &2025.

These efforts have made it possible for us to reduce globally energy intensity per traffic by 86% in 2021 compared to 2015 (MWh/PB).

The cost to realize this opportunity considers the CAPEX involved in the EE Plan, in projects that are mainly developed in our infrastructures of fixed and mobile network, offices and data centres, which amounted to 5.4M€.

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

As we have explained in question 2.3a the electricity consumption of our network is high, reaching 5,815,665 MWh in 2021, so increases in kWh price because the increase on the fuels or a lower availability of water for hydroelectric generation taxes may incur high costs for Telefónica.
As an example, an increase in the price of energy of 10% would mean an increase of 75M€ in Telefónica´s electricity OPEX.

On top of the Energy Efficiency Plan (REP) explained in Opp2, whose objective is to minimise energy consumption, Telefonica has also identified in its Climate Scenario Analysis an important opp associated with the use of lower-emission sources of energy, &therefore we also have in place our Renewable Energy Plan. This opp provides us with an important competitive advantage since it reduces our exposure to energy price volatility and foresees potential OPEX savings of 6% for 2021, with the possibility to reach 25% by 2030.

In 2021, Telefonica's REP allowed us to save more than 15M€ of our Electricity OPEX compared to regulated tariffs. Wehave seen important cost opps linked to renewable energy, in Brazil and Spain, for instance, moving to a renewable PPA solution which is offering us approximately 5.45% reduction cost in the electricity bill. Another example is the Distributed Generation project, which is still on-going, has allowed Telefónica Brazil to save around 20% on average, compared to the regulated tariffs and that will enable, as of 2022, 83 new renewable energy plants around the country to generate over 700GWh per yr for Telefónica Brazil reducing dependence on iREC guarantees of origin.
In Spain, we signed 4 new long-term PPAs for the period 2022-2031, which will cover 30% of the total consumption for the country, equivalent to 482 GWh per year for 10 years.

These new agreements made it possible to achieve a total of 582 GWh of renewable electricity covered by PPAs in our operations in Spain, covering 50% of the consumption of technical buildings. Furthermore, thanks to the extension of guarantee of origin programmes, countries such as Chile, Colombia and Peru certified 34%, 67% and 100%, respectively, of their electricity consumption in Latin America as renewable. In Germany, Brazil and Peru, we also certified 100% of the electricity consumption at third-party sites as renewable.

The main benefits of this opp are the resilience improvement of our business and the reduction of our operational costs.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

54.000.000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The financial impact is calculated by projecting what the energy consumption of our network and the kWh price would be in the climate scenario analysed and what is the

potential average price of energy that we can achieve thanks to the long-term purchase agreements executed under our Renewable Energy Plan. We consider different mixes between the following solutions: self-generation, purchasing renewable energy with guarantees of origin, and long-term Power Purchase Agreement (PPAs). According to our calculations, taking into account the time horizons and the percentage of renewable energy that we will consume in each of the countries, and the path defined in our Renewable Energy Plan, we have the objective of achieving 100% of electricity consumption from renewable sources by 2030.

Additionally, the potential savings associated to a reduction in our Scope 2 emissions have been estimated using Telefónica's internal emissions projections, the expected carbon price for each geography, and the savings associated with avoided emissions.

Overall, the financial impact of this opportunity comes from: Σ [(Electricity consumption) x (% of electricity under PPA) x (Savings related to PPA)]

Note: transition risks and opportunities have only been analysed under scenario RCP 2.6 for 2030, since RCP8.5 would be a BAU scenario whereby no transition to a low carbon economy would take place.

Cost to realize opportunity

676.717

Strategy to realize opportunity and explanation of cost calculation

[SITUATION] The electricity consumption of our network is high (5,815,665 MWh in 2021), so increases in kWh price due to the increase on the fuels or a lower availability of water for hydroelectric generation taxes may incur high costs for Telefónica.
[TASK] Telefónica´s CC strategy includes 3 global energy &GHG emissions targets. One of them focus on taking advantage of this opportunity: Commit to REs as a sustainable source for our business, achieving 100% of electricity consumption from RE by 2030.
[ACTIONs] In order to achieve this strategic objective, in 2016 Telefónica established the RE Plan, considering all kinds of solutions: self-generation, purchasing RE with guarantees of origin, distributed generation &long-term PPAs.

In 2021, 100% of our electricity in Europe, Brazil and Peru and 79.4% worldwide comes from zero emissions sources. Our goal is to go further than 100% in our main markets &achieve 100% in HispAm in 2030 or even before. By "further than 100%", we are referring to our endeavours to contribute to increasing the RE mix in the countries in which we operate, through self-generation or by fostering
the construction of new parks, facilitated by our medium &long-term consumption commitments.
Regarding self-generation, we gradually increased the base stations of the mobile network that run on RE, &we now have 854 sites.
[RESULT] This also allows us to avoid using fuel powered generators in isolated base stations, thus achieving a reduction in fuel consumption of between 70% and 100%. It is important to highlight the role that each country's regulations can play in fostering these

types of facilities. As an example, in Uruguay, due to more favourable regulations for developing this type of system, 3% of the energy consumed by the operator's mobile network in 2021 was self-generated through solar photovoltaic energy.

In Spain, we have implemented PV electrical energy self-generation systems in several buildings for self-supply under two models, the 1st with our own CapEx and the 2nd under a service model where we pay for the electricity generated at a lower rate than the market rate, obtaining OpEx savings.

The cost of management considers the costs associated to:
- Purchase of RE Certificates (OPEX) in Spain, UK, Germany, Brazil Colombia, Chile and Peru
- Energy consulting costs (OPEX)
- PPA consulting costs (OPEX)
- Self-generation project investment (CAPEX)

Overall, the cost of management comes from: Σ of [PPA + GOO] + REP Capex

Comment

C3. Business Strategy

C3.1

(C3.1) Does your organization’s strategy include a transition plan that aligns with a 1.5°C world?

Row 1

Transition plan

Yes, we have a transition plan which aligns with a 1.5°C world

Publicly available transition plan

Yes

Mechanism by which feedback is collected from shareholders on your transition plan

We do not have a feedback mechanism in place, but we plan to introduce one within the next two years

Attach any relevant documents which detail your transition plan (optional)

Climate_action_plan_2022_ENG (https://www.telefonica.com/en/wp-content/uploads/sites/5/2022/03/climate-action-plan-telefonica.pdf)

Climate_action_plan_2022_ENG.pdf

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy
Row 1	Yes, qualitative and quantitative

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios Bespoke transition scenario	Company-wide	1.5ºC	Telefónica has developed an internal bespoke transition scenario (SCN) based on the needs of the organisation. This SCN is aligned with the RCP 2.6 SCN &in line with TCFD recomms. Inputs: Climate variables projections of this SCN extracted from the EU's Copernicus, our assets by location &value, historical data (HD), projections not based on the SCNs (undertaken by Telefónica or a 3rd party). Methodology: We divided our SCN analysis (ANLYS) in 5 phases: a)Probability ANLYS of the most relevant climate threats affecting us based on SCN projections for each region &yr evaluated b)Impact ANLYS in financial terms by SCN, time horizon (TH) &region for each risk based on HD &our projections c)Exposure ANLYS based on the results obtained from multiplying (1)&(2), broken down by SCN, yr, threat &region d)Aggregation of results to company level e)Conversion of these risks to Basic Risks to consolidate with our risk management approach. Assumptions: we used a series of common hypotheses for all the countries evaluated. i.e.: Increase in GHG emissions leading to a <2C increase in temperature by 2100; Economic value of the impacts based on our historical business&country-specific data. ii) TH: 2030, aligned to our original SBT target yr; 2040, aligned to our global net zero target; and 2050, aligned to the Paris Agreement timelines and to our climate strategy TH. iii) Assets analysed: Base stations, switch &data centres. Regions covered: Countries which hold our greatest

			amount of activity (61% of the Group's total asset value) with results being extrapolated to the entire organisation to get an overall quantitative impact of our potential R&Os. iv) Results: Fixed &mobile connectivity in the LatAm region are our business lines with greater vulnerability; Increase in electricity prices is by far our most significant impact under this SC &opps under this SC largely offset risks, namely due to the increase in climate-related digital services considering exposure &business volume. Spain is the country which will be the most benefited from opps due to the income they represent for the Group. The largest potential opp is an increase in climate-related digital services, whilst the largest costs will be the potential increase in electricity prices The ANLYS has already influenced our strategy stablishing lines of work that help increase our resilience to CC, such as: Business Continuity Plans for climate disasters &EE &RE Plans. Our ANLYS using this SCN was qualitative.
Physical climate scenarios RCP 8.5	Company-wide		RCP 8.5 SCN selected in line with TCFD recomms. Inputs: Climate variables projections of this SCN extracted from the EU's Copernicus, our assets by location &value, historical data, projections not based on the SCNs (undertaken by Telefónica or a 3rd party). Methodology: We divided our SCN ANLYS in 5phases: a) Probability ANLYS of the most relevant climate threats affecting us based on SCN projections for each region &yr evaluated b) Impact ANLYS in financial terms by SCN, TH &region for each risk based on historical data and our projections c) Exposure ANLYS based on the results obtained from multiplying (1)&(2), broken down by SCN, yr, threat &region d) Aggregation of results to company level e) Conversion of these risks to Basic Risks in order to consolidate with our risk management approach. Assumptions: we used a series of common hypotheses for RCP8.5 all the countries evaluated. i.e.: Increase in GHG emissions leading to a 4C increase in temperature by 2100; Economic value of the impacts based on Telefónica's historical business&country-specific data; ANLYS has been extrapolated to the rest of our assets to get an overview of company-wide impact. ii) TH: 2030, aligned to our original SBT target yr; 2040, aligned to our global net zero target; and 2050, aligned to the Paris Agreement timelines &to our climate

			strategy TH. iii) Assets analysed: Base stations, switch&data centres; Regions covered: The ANLYS focused on the countries which hold our greatest amount of activity, representing 61% of the Group's total asset value, with results being extrapolated to the entire organisation to get an overall quantitative impact of our potential risks&opps. iv) Results: Fixed &mobile connectivity in the LatAm region are our business lines with greater vulnerability; Flooding &the increase of temperatures are the climatic variables with greater incidence; Considering risk exposure &business volume, Brazil is the most vulnerable due to the income they represent for the Group. Largest potential costs: Increase in energy prices in countries very dependent on hydropower; Increase in our network electricity consumption due to greater AC needs; Increase of O&M cost; Loss of income due to service disruptions. The ANLYS has already influenced our strategy: we have created lines of work that help increase our resilience to CC, such as: Business Continuity Plans for climate disasters &Energy Efficiency &Renewable Energy Plans. Our ANLYS using this SCN was quantitative.
Physical climate scenarios RCP 2.6	Company-wide		RCP 2.6 SCN selected in line with TCFD recommendations. Inputs: Climate variables projections of this SCN extracted from the EU's Copernicus, our assets by location &value, historical data (HD), projections not based on the SCNs (undertaken by Telefónica or a 3rd party). Methodology: We divided our SCN analysis (ANLYS) in 5 phases: a)Probability ANLYS of the most relevant climate threats affecting Telefónica based on SCN projections for each region &yr evaluated b)Impact ANLYS in financial terms by SCN, time horizon (TH) and region for each risk based on HD &our projections c)Exposure ANLYS based on the results obtained from multiplying (1)&(2), broken down by SCN, yr, threat &region d)Aggregation of results to company level e)Conversion of these risks to Basic Risks to consolidate with our risk management approach. Assumptions: we used a series of common hypotheses for RCP2.6 all the countries evaluated. i.e.: Increase in GHG emissions leading to a <2C increase in temperature by 2100; Economic value of the impacts

			based on Telefónica's historical business&country-specific data; ANLYS has been extrapolated to the rest of our assets to get an overview of company-wide impact. ii) TH: 2030, aligned to our original SBT target year; 2040, aligned to our global net zero target; &2050, aligned to the Paris Agreement timelines &to our climate strategy TH. iii) Assets analysed: Base stations, switch &data centres. Regions covered: Countries which hold our greatest amount of activity (61% of the Group's total asset value) with results being extrapolated to the entire organisation to get an overall quantitative impact of our potential R&Os. iv) Results: Fixed &mobile connectivity in the LatAm region are our business lines with greater vulnerability; Increase in electricity prices is by far our most significant impact under this SCN &opps under this SCN largely offset risks, namely due to the increase in climate-related digital services considering exposure &business volume. Spain is the country which will be the most benefited from opps due to the income they represent for the Group. The largest potential opp is an increase in climate-related digital services, whilst the largest costs will be the potential increase in electricity prices The ANLYS has already influenced our strategy stablishing lines of work that help increase our resilience to CC, such as: Business Continuity Plans for climate disasters & EE &RE Plans. Our ANLYS using this SCN was quantitative.

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

The increase of climate-related events and their impacts makes necessary to develop a management framework that considers the risks&opps derived from the effects of CC. In this context, Telefónica has identified the following focal questions to address the climate-related scenarios (SCN) disclosed in C3.2a:

- How could climate change plausibly affect Telefónica's business, assets,

products/services and customer segments?
- What should we do to mitigate and adapt to climate change and when?
- What forces and developments have the greatest ability to shape future performance?
- What are the most relevant physical and transition risks for Telefónica?
- What are the most relevant climate-related opportunities for Telefónica?

Telefónica developed an Internal Bespoke Transition (IBT) scenario and also selected the scenarios RCP 8.5 & RCP 2.6 of the IPCC (UN Intergovernmental Panel for Climate Change) disclosed in C3.2a to address these focal questions.
The Internal Bespoke Transition scenario was developed based on Telefónica's needs. This scenario is aligned with the RCP 2.6 scenario defined by the IPCC &in line with the Paris Agreement in which the temperature would not exceed 2ºC.
The RCP8.5 ("business as usual") was selected as it is the scenario where no change in emissions is expected, and which leads to an increase in average global temperature of 4°C by year 2100.
The RCP2.6 was selected as it represents the "Paris Agreement" scenario, where global emissions are reduced to net-negative, and the global temperature only increases with 2°C by 2100.

Results of the climate-related scenario analysis with respect to the focal questions

Telefónica identified at its climate-related SCN analysis that the most relevant risks &opps arising from CC for the organisation are:

In the RCP 8.5 SCN:
- Acute physical risk: the most significant risk will be the increase of the frequency of extreme events, notably floods (with a financial impact estimated at € 27M by 2050). Flooding may cause both damage to infrastructure and the possibility of service outages.
- Chronic physical risk: one of the greatest impacts identified will be extreme heat that will produce, among other relevant effects, increases in the cost of energy and greater cooling needs for equipment (financial impact estimated at 12 million by 2050).

In the IBT SCN &in the RCP 2.6 SCN, the main risks relate mainly to transitioning to a decarbonised economy (regulatory/legal, technological, market and reputational risks) – e.g., due to the tightening of the measures to limit GHG emissions.
- Transition risk: the most relevant risk is the market risk due to the high consumption of electricity to carry out our services, which will represent an increase in the price of electricity due to the increase in the price of GHG-emitting energy sources.
- Acute physical risk: the reduction of precipitation will pose the greatest risk to Telefónica in 2030, leading to an increase in energy prices. In 2040, heavy rainfall will increase significantly, making flooding the most significant risk.

In all scenarios &THs assessed (2030, 2040 &2050), the region with the highest exposure to climate risk is Brazil.

Opp: In IBT &RCP 2.6 SCNs, the transition to a decarbonised economy poses

considerable opps associated with cost reductions due to energy efficiency and renewable energy and to business growth in digital solutions designed to help our customers decarbonise their activities.
In both scenarios &THs assessed (2030, 2040 &2050), the region with the greatest opps is Spain.

Based on our SCN analysis, our strategy includes managing energy and CC, by aligning mitigation, adaptation and opps with the business and stakeholders' demands. In this sense, our CC & energy strategy is included in our Responsible Business Plan. In this line, to reduce our own emissions, we have implemented an Energy Efficiency Plan (EEP) & a Renewable Energy Plan.
In this sense, our REP, includes solutions such as long-term Power Purchase Agreements (PPA). In 2021, we signed 4 new PPA in Spain for the period 2022-2031, equivalent to 482 GWh per yr for 10 yrs. These new agreements made it possible to achieve a total of 582 GWh of renewable electricity covered by PPAs in our operations in Spain, covering 50% of the consumption of technical buildings.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Description &time horizon: as stated in opp-1 (C2.4a), [SITUATION] digitalisation will be a key tool in the management of environmental challenges such as CC, waste, water, air pollution, wildfires &biodiversity during the transition to a low carbon economy. According to GlobalData forecasts, the global IoT market will grow to reach $1,077bn by 2024, with a compound annual growth rate (CAGR) of 13% over the period, whilst according to Smarter 2030, the ICT sector has the potential to reduce 3.6GtCO2e by 2030. Therefore, it is a very substantive business opp for Telefónica in the short and medium term. [TASK] In this sense, the Business Solutions area is developing New Digital Services that have the potential to optimize our customers' consumption resources &thus reduce their impact on the environment. [ACTION] As e.g, we developed our IoT service Smart Agro, a high-tech vertical agriculture solution sensorised &connected to the cloud for crop harvesting remote control. [RESULT] This new cultivation system reduces the environmental impact, the use of agrochemicals by 15%, the energy consum. by

		65% &the water consum. by 95%. The solution was implemented in Spain in 2021, &it is also present in Brazil, Colombia &Peru. Most substantial business decisions: Telefónica launched Telefónica Tech 2019 to lead the digital transformation towards a low carbon world. This unit was born to further increase the revenues of these new digital services & boost the growth of digital services involving IoT/Big Data, cloud and cybersecurity, bringing together the digital businesses with high growth potential and aims to be the partner which supports other companies in their digital transformation. Telefónica Tech helps our corporate customers to digitally transform, reduce their emissions and become more sustainable. In 2021, thanks the services developed by Telefonica Tech, our business customers avoided the emission of 8.7MtCO_2. Moreover, in 2021, our Eco Smart seal, externally verified by AENOR, verified the environmental benefits of 52% of our services for large &Small &Medium Enterprises in Spain. The Eco Smart seal was also extended to Vivo in Brazil. As our business strategy is committed to the potential of these new digital services, we strive for an ambitious objective for 2025: to avoid the emission of 12MtCO2 into the atmosphere through our products and services.
Supply chain and/or value chain	Yes	Description and time horizon: [SITUATION] In our 2021 R&O RCP 2.6 SCN ANLYS, the impact of increased climate-related regulation was assessed as a transition risk. The ANLYS concluded that our supply chain (SCh) could be affected by potential new regulations arising in the short &medium terms that could compromise Telefónica's tech &material suppliers or their financial stability. [TASK] Therefore, we see the identification &mgmt of risks in our SCh as an inherent responsibility. [ACTION] As part of our sustainable management model, we pay special attention to SCh issues with a high social and environmental impact, including CO_2 emissions. [RESULT] In this sense, one of our SBTs is to reduce CO_2 emissions in our SCh by 56% in 2030 compared to 2016 and achieve net-zero emissions in 2040. Most substantial business decisions: Telefónica has made in the late years a significant progress in its policy towards a responsible SCh mgmt. In 2021, we continued our Supplier Engagement Programme (SEP), &invited our most emissions-significant suppliers to join the CDP SCh programme. In 2021, we kept implementing our SCh

		Sustainability Policy, which covers aspects related to CC, such as emissions reductions or eco-efficiency. All aspects are part of the Minimum Responsible Business Criteria that each of our suppliers must meet &implement in their own SCh. Sustainability high-risk suppliers identified also have to evaluate their sustainability performance via EcoVadis. We have also incorporated environmental criteria to select products or services with a lower impact. E.g., we have incorporated the concept of Total Cost of Ownership (TCO) in the equipment with high energy consumption acquisition process. The TCO will make it possible for us to reduce the Company's energy expenditure &the associated emissions in the short &medium term. In 2021, we kept implementing a SEP with key suppliers and is now integrated with CDP Supply Ch. These suppliers have been selected based on the following criteria: % of their emissions contribution to our Scope 3; % of spending; &Strategical importance for Telefónica. This programme collects primary information to understand the level of maturity of the suppliers' sustainability strategies, help them move forward in their CC mgmt &to set more ambitious emission reduction targets, that will help us achieve our medium term Scope 3 target.
Investment in R&D	Yes	Description &time horizon: [SITUATION] Digital services will be a key tool in the mgmt of challenges such as CC in the short &medium term, whilst the vision of sustainability as a business (biz.) opp that allows us to bet on R&D &innovation as a tool for social &environmental good remains a long-term strategic line. [TASK] As a transversal pillar to the internal R&D processes of Core Innovation &Open Innovation (developed from Open Future & Wayra) we invest in initiatives that improve our customers (CUST)' CC mitigation & adaptation capacity & that translate into biz. opps. [ACTION] In 2021 Wayra invested in Solum, a Spanish start-up on the design of solutions based on solar tile on the floor, developed from conventional photovoltaic panels [RESULT] Generate solar energy for micro-mobility to charge with 100% clean energy. Most substantial business decision is the investment in R&D of new products &services related to climate change in order to achieve our 2025 target of avoiding 12MtCO2e in CUST with our P&S. Some of the services provided in 2021 were: - Smart energy meters for our CUST, such as the case of Spain where Telefónica manages millions of connected gas,

		water and electricity meters - Smart meter solutions also for utilities, such as “Global Omnium” to remotely manage and track smart water meters - Mobility optimisation solutions, such as our fleet mgmt or asset tracking - Solutions for smart cities, based on optimising lighting, using parking spaces &managing &collecting waste - Energy optimisation solutions for biz.: Smart Agro for agriculture or E-health solutions for remote medical care - Solutions for the transport sector to optimise planning of transport systems &infrastructure planning through greater understanding of travellers, timetables &routes - Solutions for retail &Industry 4.0, in which private networks (5G/LTE) &associated solutions (e.g. AGV, drones, predictive maintenance, asset control &operator safety) take the manufacturing &mining industries &mgmt of ports &airports to a new level of operation, flexibility, productivity &efficiency - Holographic telepresence avoids travelling, reducing fuel usage &carbon emissions &helps to reduce material waste and saves on resources In 2021 IoT in Telefónica closed with nearly 23 million IoT lines for our CUST. The approximate investment of these initiatives in 2021 was about 5.8M€.
Operations	Yes	Description &time horizon: [SITUATION] As explained in Risk 3, the electricity consumption of our network is high, reaching 5,815,665 MWh, which accounted in average €753M in OPEX. We expect energy prices to increase in the medium- &long-term due to extended drought periods, taxes on energy generated using fossil fuels, etc. This could potentially impact our operations in the medium &most significantly in the long term. Most substantial business decisions & time horizon: In order to reduce our exposure to this risk, [TASK] we have implemented the following mitigation actions aimed to reduce energy consumption & increase RE: 1) [ACTION1] Creation of the Energy Efficiency Plan: In 2021 we implemented 188 initiatives in our networks and offices. [RESULT1] savings of 27.,6M€ in our OPEX, energy reductions of 302GWh, reducing 69ktCO2e. In Spain, the migration of customers from copper to fibre (85% more efficient in terms of energy consumption), allows us to shut down over 1440 stations, saving 36.7 GWh per yr.In Germany, we concluded the full shutdown of the 3G network, cutting energy consumption by 60GWh per yr.

		[ACTION2] Creation of the Renewable Energy Plan. In 2021, our main markets maintained 100% renew.& 4 new PPA were signed in Spain for the period 2022-2031. [RESULT2] covering 30% of the total consumption, equivalent to 482 GWh per year for 10 yrs &amounting in total 582GWh of renew. electricity covered by PPAs. We also implemented photovoltaic self-generation systems in several buildings, using solar production for self-supply. [ACTION3] Digitalisation of the mgmt process in Brazil. [RESULT3] increasing data accuracy &enabling implementation of new projects to reduce Scope 1. [ACTION4] Extend self-generation: we are increasing the no. of base stations of the mobile network that run on renew. Energy. [RESULT4]: up to 854, avoiding the use of fuel-powered generators in isolated base stations &achieving a reduction in consumption of between 70% &100%. [ACTION5] In Germany, we lowered energy consumption per data volume by 78% compared with 2015 &we equipped 17.600 sites (more than40% of the total electricity consumption in the country) with smart meters for digital power consumption logging to further increase the energy efficiency. [RESULT5] These efforts are reflected in an 86% improvement in our energy intensity ratios (MWh/PB) compared to 2015.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Indirect costs Capital expenditures Capital allocation Access to capital	As part of our Climate Change Strategy 2015-2040, Telefonica commits to reduce scope 1 and 2 emissions 80% by 2030 (90% in main markets - Brazil, Germany & Spain- by 2025) & achieve net-zero emissions by 2040. Whilst this will have an impact in all the financial elements selected, we want to draw attention to what opportunities the transition towards a low carbon economy represents for both internal energy management (i) & business growth (ii): i. REP & the EEP enable us to reduce our operating costs. This is important since our energy expenditure makes up around 1.97% of our revenue. Hence, managing the risk of growing energy prices is a central focus of our business strategy&has influenced our business decisions to date in the short & medium term. ii. Digital services, e.g. IoT-based, necessary for the decarbonisation of

		the economy. In 2021 revenues coming from new digital services increased more than 30%, so this impact is already a reality for us and is expected to increase in the short and medium term. CC has also impacted our financial planning & capital allocation. Based on the results of our Vulnerability Assessment, we allocate part of our CAPEX to the purchase of equipment resistant to greater Tª ranges, lower energy consumption & implementation of EE projects. An example of how we have modified our financial planning is the incorporation of the Total Cost of Ownership (TCO) criteria in the purchasing process of energy intensive equipment, considering the amount of energy that the equipment will consume during its use & not just the cost of purchase. Moreover, we have recently included in this instruction the cost per tCO2. Under the latest EEP, the CAPEX involved amounted more than 5M€, implementing 188 initiatives leading to savings of 302GWh & prevented over 69ktCO2e, with savings of 37.6M€ in our OPEX. We consider this as a medium impact at a company level. Regarding capital expenditure, since 2021, we use carbon pricing in our green strategy to achieve both our net zero goal by 2040 &our interim targets of reducing scope 1&2 emissions up to 80% in 2030 &neutralising remaining scope 1&2 emissions in our main markets by 2025 (10%). Introducing carbon pricing helps us make better investment &equipment procurement decisions with the aim to redirect investments towards clean technologies, lower-carbon solutions, &renewable energy projects across our operations &supply chain. As a result, in 2021 we introduced an implicit carbon price in our Brazil operations. Telefónica Brazil includes a requirement in their fleet contracting model for our suppliers to offset the emissions generated by the use of rental vehicles through certified carbon offssets projects. We decided to set the price at 10€/tCO2e. This price will be periodically reviewed &updated. Moreover, in 2021 we implemented a shadow carbon price in the procurement of high energy consumption equipment, integrating it to the TCO mechanism explained above.. Additionally, Telefónica needs to secure access to capital. In this sense, since 2019 Telefonica uses green bonds as a financing tool to achieve its reduction targets &contribute to a digital low-carbon transition. The company is one of the largest issuers of sustainable bonds in its sector, both in terms of volume, number &diversification of issues (senior green bonds &hybrid green or sustainable instruments). In addition, Telefónica uses other sustainable bank financing instruments such as loans &credits linked to sustainability objectives, which enable it to make progress in achieving corporate objectives linked to the reduction of emissions. In 2021, we have reached a total of €3.25b in sustainable bonds at Group level and €930M in sustainability-linked loans. The funds from the hybrid Green Bond (500 million euros) have served to finance projects aimed at increasing the Company's energy efficiency through the process of transforming the copper network into fibre optic

		(85% more efficient) in Spain. At the end of 2021, Telefónica has between 5% and 10% of sustainable financing, with the objective of reinforcing this new financing scheme and exceeding 10,000M€. The target is to have 100% of retail customers in fibre before 2025 (short term). This financing enables us to diversify our portfolio, effectively accessing a wider variety of investors. As a result of our leadership in terms of sustainable financing, we received in 2021 a Prize by the Spanish Observatory on Sustainable Financing. Finally, in 2021 we have been following very closely recent developments regarding the new EU Taxonomy due to the key role it will play in future investors decision and thus Telefónica's access to capital. In this sense, according to article 8 of Regulation (EU) 2020/852, non-financial undertakings subject to application of the EU taxonomy must disclose, as provided for in Annex I of Delegated Regulation (EU) 2021/2178. Therefore, in 2021 we have considered 3 KIPs: - proportion of Taxonomy-eligible revenues - proportion of Taxonomy-eligible capital expenditure (CapEx) - proportion of Taxonomy-eligible operating expenditure (OpEx) After assessing each of the three KPIs, according to Annex I&II of the Commission Delegated Regulation (EU) 2021/2139, the following were identified as Taxonomy-eligible economic activities: 1) Activities that can make a substantial contribution to CC mitigation: - Activity 8.1 Data processing, hosting and related activities: Operation and maintenance of data centres and cloud infrastructure. - Activity 8.2 Data-driven solutions for GHG emissions reductions: Digital services (data collection, transmission &data analysis), maintenance of technologies embedded in digital solutions that support data transmission (5G) &acquisition of spectrum for deployment of mobile tech embedded in digital solutions. 2) Activities that can make a substantial contribution to CC adaptation: - Activity 8.3 Programming and broadcasting activities: Services relating to the programming and broadcast of television content. - Activity 13.3 Motion picture, video and television programme production, sound recording and music publishing activities: Services relating to the programming and broadcast of television content. For each KPI, a scenario was considered where 0% of our networks is eligible, and one where 100% of data traffic on our networks is eligible. Thus: - Revenues from Taxonomy-eligible activities is between 9.0% and 51.6% - CapEx from Taxonomy-eligible activities is between 1.31% and 67.6% - OpEx from Taxonomy-eligible activities is between 0% and 77.3%

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?

Yes

C3.5a

(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's transition to a 1.5°C world.

Financial Metric

Revenue

Percentage share of selected financial metric aligned with a 1.5°C world in the reporting year (%)

45,6

Percentage share of selected financial metric planned to align with a 1.5°C world in 2025 (%)

47

Percentage share of selected financial metric planned to align with a 1.5°C world in 2030 (%)

49,1

Describe the methodology used to identify spending/revenue that is aligned with a 1.5°C world

In 2021, Telefónica conducted an exercise to identify the items related to its Taxonomy-eligible economic activities in compliance with Regulation (EU) 2020/852, considering the Group's consolidated financial information, &based on the corporate management control criteria relating to the KPIs: revenues.
Methodology: Telefónica assessed the information for the various operators' contribution to the Group's consolidated total. Revenues by the rest of the companies was not considered in the identification of Taxonomy-eligible economic activities given the nature of their activities (not covered by the taxonomy) and the relative weight on the total KPIs. Therefore, this information is included in the denominators to consider the Group's total revenues, but not in the numerators.
After assessing each of Revenues KPI, we identified the following as Taxonomy-eligible economic activities that can make a substantial contribution to CC mitigation:
- Activity 8.1 Data processing, hosting and related activities: Cloud services provided to users over the Internet, allowing user data to be stored in cloud data centres.
- Activity 8.2 Data-driven solutions for GHG emissions reductions: Digital services related to data collection, transmission &analysis that enable the reduction of emissions arising from other activities Technologies included in digital solutions that support data transmission, such as 5G; Acquisition of spectrum for deployment of mobile technologies embedded in digital solutions.

Within the Revenue KPI, Telefónica has considered as eligible digital services that are aligned with a 1.5°C world those products &services with the potential to reduce

emissions in other sectors. In this context, some of these services currently in our portfolio &that we expect their sales volume will increase in the coming years are: broadband connectivity for Teleworking, Smart Energy Management, Fleet Management, Smart Agro (IoT services) and Cloud solutions.

C4. Targets and performance

C4.1

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

Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Year target was set

2019

Target coverage

Company-wide

Scope(s)

Scope 1
Scope 2

Scope 2 accounting method

Market-based

Scope 3 category(ies)

Base year

2015

Base year Scope 1 emissions covered by target (metric tons CO2e)

286.201

Base year Scope 2 emissions covered by target (metric tons CO2e)

1.524.954

Base year Scope 3 emissions covered by target (metric tons CO2e)

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

1.811.155

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year

2025

Targeted reduction from base year (%)

70

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

543.346,5

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

183.231

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

353.506

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

536.737

% of target achieved relative to base year [auto-calculated]

100,5213326776

Target status in reporting year

Achieved

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

1.5°C aligned

Please explain target coverage and identify any exclusions

This target is company-wide and covers 100% of both our Scope 1 &2(market based) emissions.

In 2020, in view of the urgent need to reduce CO2 emissions and given the need identified by the scientific world to increase ambition, we announced new energy and climate change (CC) targets for 2025, 2030, and 2040, aligned with the 1.5ºC scenario of the Paris Agreement and validated by the Science-Based Targets initiative (SBTi).

These targets are part of our CC strategy, which aims to decouple the growth of our business from energy consumption and GHG emissions and help us to leverage decarbonisation opportunities, to be more competitive, and to offer our customers an ever-cleaner network. With this purpose, we have defined a path of emission reduction until 2040, establishing milestones of emission reduction: Reduce our Scope 1&2 emissions by 70% in absolute terms by 2025, 80% by 2030, and achieving net-zero emissions by 2040.

Plan for achieving target, and progress made to the end of the reporting year

List the emissions reduction initiatives which contributed most to achieving this target

In 2021 we have achieved a 100% reduction of this target with respect to 2015 (our base year), this was possible thanks to the actions within our Energy Efficiency Plan and our Renewable Energy Plan.

This has been possible mainly thanks to the actions within our Energy Efficiency Plan (EEP) and our Renewable Energy Plan (REP).
These actions are based on implementing energy efficiency projects and transitioning to a greater proportion of renewable electricity.
- Our EEP enables Telefónica to decouple its business growth from energy consumption so that in 2021 we achieved 86% improvement of our energy-intensive ratios (MWh/Traffic PB)
- Under the REP in 2021 we achieved a renewable-sourced electricity consumption of 79.4% at a global level.

In 2021, we continued the ambitious distributed generation project in Brazil, which will enable, as of 2022, 83 new renewable energy plants around the country to generate over 700 GWh per year for Telefónica Brazil and thus reduce dependence on iREC guarantees of origin.

Furthermore, thanks to the extension of guarantee of origin programmes, countries such as Chile, Colombia and Peru certified 34%, 67% and 100%, respectively, of their electricity consumption in Latin America as renewable. In Germany, Brazil and Peru, we also certified 100% of the electricity consumption at third-party sites as renewable.

OTOH, Scope 1 emissions come from 2 main sources: fuel consumption and fugitive emissions of refrigerant gases from air conditioning units. We reduce these through different initiatives, such as replacing fuel-powered generators with renewable self-generation and cooling units with free cooling or with other units whose refrigerant gases have lower GWP.

Target reference number

Abs 2

Year target was set

2019

Target coverage

Company-wide

Scope(s)

Scope 1
Scope 2

Scope 2 accounting method

Market-based

Scope 3 category(ies)

Base year

2015

Base year Scope 1 emissions covered by target (metric tons CO2e)

286.201

Base year Scope 2 emissions covered by target (metric tons CO2e)

1.524.954

Base year Scope 3 emissions covered by target (metric tons CO2e)

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

1.811.155

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year

2030

Targeted reduction from base year (%)

80

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

362.231

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

183.231

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

353.506

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

536.737

% of target achieved relative to base year [auto-calculated]

87,9561660929

Target status in reporting year

Underway

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

1.5°C aligned

Please explain target coverage and identify any exclusions

This target is company-wide and covers 100% of both our Scope 1 &2(market based) emissions.

In 2020, in view of the urgent need to reduce CO2 emissions and given the need identified by the scientific world to increase ambition, we announced new energy and climate change (CC) targets for 2025, 2030, and 2040, aligned with the 1.5ºC scenario of the Paris Agreement and validated by the Science-Based Targets initiative (SBTi).

These targets are part of our CC strategy, which aims to decouple the growth of our business from energy consumption and GHG emissions and help us to leverage decarbonisation opportunities, to be more competitive, and to offer our customers an ever-cleaner network. With this purpose, we have defined a path of emission reduction until 2040, establishing milestones of emission reduction: Reduce our Scope 1&2 emissions by 70% in absolute terms by 2025, 80% by 2030, and achieving net-zero emissions by 2040.

Plan for achieving target, and progress made to the end of the reporting year

In 2021 we reduced our total Scope 1&2 emissions by 70% compared with 2015 (base year). This has been possible mainly thanks to the actions within our Energy Efficiency Plan (EEP) and our Renewable Energy Plan (REP).
These actions are based on implementing energy efficiency projects and transitioning to a greater proportion of renewable electricity.
- Our EEP enables Telefónica to decouple its business growth from energy consumption so that in 2021 we achieved 86% improvement of our energy-intensive ratios (MWh/Traffic PB)
- Under the REP in 2021 we achieved a renewable-sourced electricity consumption of 79.4% at a global level.

In 2021, we continued the ambitious distributed generation project in Brazil, which will enable, as of 2022, 83 new renewable energy plants around the country to generate over 700 GWh per year for Telefónica Brazil and thus reduce dependence on iREC guarantees of origin.

In Spain, we signed four new long-term, renewable energy Power Purchase Agreements (PPA) for the period 2022-2031, which will cover 30% of the total consumption for the country, equivalent to 482 GWh per year for 10 years. These new agreements made it possible to achieve a total of 582 GWh of renewable electricity covered by PPAs in our operations in Spain, covering 50% of the consumption of technical buildings.

Furthermore, thanks to the extension of guarantee of origin programmes, countries such as Chile, Colombia and Peru certified 34%, 67% and 100%, respectively, of their electricity consumption in Latin America as renewable. In Germany, Brazil and Peru, we also certified 100% of the electricity consumption at third-party sites as renewable.

OTOH, Scope 1 emissions come from 2 main sources: fuel consumption and fugitive emissions of refrigerant gases from air conditioning units. We reduce these through different initiatives, such as replacing fuel-powered generators with renewable self-generation and cooling units with free cooling or with other units whose refrigerant gases have lower GWP.

List the emissions reduction initiatives which contributed most to achieving this target

Target reference number

Abs 3

Year target was set

2022

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Market-based

Scope 3 category(ies)

Base year

2015

Base year Scope 1 emissions covered by target (metric tons CO2e)

286.201

Base year Scope 2 emissions covered by target (metric tons CO2e)

1.524.954

Base year Scope 3 emissions covered by target (metric tons CO2e)

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

1.811.155

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year

2040

Targeted reduction from base year (%)

90

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

181.115,5

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

183.231

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

353.506

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

536.737

% of target achieved relative to base year [auto-calculated]

78,1832587493

Target status in reporting year

New

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

1.5°C aligned

Please explain target coverage and identify any exclusions

This target is company-wide and covers 100% of both our Scope 1 &2(market based) emissions.

In 2020, in view of the urgent need to reduce CO2 emissions and given the need identified by the scientific world to increase ambition, we announced new energy and climate change (CC) targets for 2025, 2030, and 2040, aligned with the 1.5ºC scenario of the Paris Agreement and validated by the Science-Based Targets initiative (SBTi).

These targets are part of our CC strategy, which aims to decouple the growth of our business from energy consumption and GHG emissions and help us to leverage decarbonisation opportunities, to be more competitive, and to offer our customers an ever-cleaner network. With this purpose, we have defined a path of emission reduction until 2040, establishing milestones of emission reduction: Reduce our Scope 1&2

emissions by 70% in absolute terms by 2025, 80% by 2030, and achieving net-zero emissions by 2040.

Plan for achieving target, and progress made to the end of the reporting year

In 2021 we reduced our total Scope 1&2 emissions by 70% compared with 2015 (base year). This has been possible mainly thanks to the actions within our Energy Efficiency Plan (EEP) and our Renewable Energy Plan (REP).
These actions are based on implementing energy efficiency projects and transitioning to a greater proportion of renewable electricity.
- Our EEP enables Telefónica to decouple its business growth from energy consumption so that in 2021 we achieved 86% improvement of our energy-intensive ratios (MWh/Traffic PB)
- Under the REP in 2021 we achieved a renewable-sourced electricity consumption of 79.4% at a global level.

In 2021, we continued the ambitious distributed generation project in Brazil, which will enable, as of 2022, 83 new renewable energy plants around the country to generate over 700 GWh per year for Telefónica Brazil and thus reduce dependence on iREC guarantees of origin.

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Furthermore, thanks to the extension of guarantee of origin programmes, countries such as Chile, Colombia and Peru certified 34%, 67% and 100%, respectively, of their electricity consumption in Latin America as renewable. In Germany, Brazil and Peru, we also certified 100% of the electricity consumption at third-party sites as renewable.

OTOH, Scope 1 emissions come from 2 main sources: fuel consumption and fugitive emissions of refrigerant gases from air conditioning units. We reduce these through different initiatives, such as replacing fuel-powered generators with renewable self-generation and cooling units with free cooling or with other units whose refrigerant gases have lower GWP.

List the emissions reduction initiatives which contributed most to achieving this target

Target reference number

Abs 4

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 3

Scope 2 accounting method

Scope 3 category(ies)

Category 1: Purchased goods and services
Category 2: Capital goods
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 6: Business travel
Category 11: Use of sold products

Base year

2016

Base year Scope 1 emissions covered by target (metric tons CO2e)

Base year Scope 2 emissions covered by target (metric tons CO2e)

Base year Scope 3 emissions covered by target (metric tons CO2e)

2.855.544

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

2.855.544

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

100

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year

2025

Targeted reduction from base year (%)

39

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

1.741.881,84

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

2.072.159

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

2.072.159

% of target achieved relative to base year [auto-calculated]

70,3431460758

Target status in reporting year

Underway

Is this a science-based target?

No, but we are reporting another target that is science-based

Target ambition

Please explain target coverage and identify any exclusions

In order to align with the latest Net Zero Standard published by the SBTi, Telefónica increased the ambition of its Scope 3 target by a) including all Scope 3 emissions into the target; and b) increasing its ambition to ensure the targeted reduction aligned with the 1.5C pathway.

We calculate and reduce our carbon footprint every year, including direct emissions (Scope 1) from fuel consumption and fugitive emissions of refrigerant gases and indirect emissions from electricity consumption (Scope 2), and other indirect emissions related to our value chain (Scope 3).

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity.

Scope 3 emissions represent 79% of the total generated by Telefónica. This is why in 2021 the 15 Scope 3 categories were re-screened according to the GHG Protocol to increase the quality of the data through methodological improvements. The screening identified those categories representing over 5% of the total Scope 3 emissions as being material categories: 'Purchased products and services', 'Capital goods', 'Energy-consumption-related activities' and 'Use of sold products'. In addition, we report other emissions we consider to be strategic for our business or which improve comparability with the sector, such as: 'Business travel' and 'Investments'' (32,953 tCO2). We have been reporting on the last one (Investments) in 2021 following the creation of the Virgin Media O2 joint venture. In 2021, our Scope 3 emissions fell by 27.4% compared to 2016 (base year), which represents 783,385 ktCO2 in 5 years. The main Scope 3 emissions of our value chain come from purchases from our supply chain (64%), and usage of the products we sell to our customers (29%).

This target is company-wide and covers 100% of relevant categories of Scope 3 emissions.

Plan for achieving target, and progress made to the end of the reporting year

The emissions of our value chain (Scope 3) are the largest in our entire carbon footprint. Of the total Scope 3 emissions, more than 2/3 come from the categories of purchases of products and services, capital goods and use of our products. In order to reduce our emissions in the value chain, cooperating with our main suppliers and the rest of the sector is paramount, as we share the same challenges.In this respect, we have our own Supplier Engagement Programme and we work closely with other operators in working groups in JAC (Joint Audit Cooperation) and GSMA, as well as in multi-sectoral initiatives such as 1.5°C Supply Chain Leaders and SME Climate HUB.

To achieve this target, Telefónica is firmly committed to an open, collaborative relationship with its suppliers. Our commitment to them is based on establishing relations that enable us to jointly have a positive impact on our surroundings, through close collaboration and the sharing of good practices, fostered thanks to different initiatives with our suppliers, as the participation in ECOVADIS or JAC (Joint Audit Cooperation). In this sense, we work on the management of emissions in the supply chain, both globally and at a local level. In 2021, we continued leading a new sector-based working group as part of the Joint Audit Cooperation (JAC) initiative, in order, as a telecommunications sector, to drive climate action in our supply chain. We assessed the climate-related maturity of the strategic suppliers of the 17 companies who are part of the conglomerate and began working along several different lines in order to increase their level of ambition, as well as providing training.

In addition, we foster the ecodesign and reuse of devices – both customer and network equipment – to reduce emissions from these. We also offer sustainable purchasing criteria, like the Eco Rating seal, which rates the sustainability of mobiles, thus encouraging manufacturers to improve them.

List the emissions reduction initiatives which contributed most to achieving this target

Target reference number

Abs 5

Year target was set

2022

Target coverage

Company-wide

Scope(s)

Scope 3

Scope 2 accounting method

Scope 3 category(ies)

Category 1: Purchased goods and services
Category 2: Capital goods
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 6: Business travel
Category 11: Use of sold products

Base year

2016

Base year Scope 1 emissions covered by target (metric tons CO2e)

Base year Scope 2 emissions covered by target (metric tons CO2e)

Base year Scope 3 emissions covered by target (metric tons CO2e)

2.855.544

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

2.855.544

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

100

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year

2030

Targeted reduction from base year (%)

56

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

1.256.439,36

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

2.072.159

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

2.072.159

% of target achieved relative to base year [auto-calculated]

48,9889767314

Target status in reporting year

New

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

1.5°C aligned

Please explain target coverage and identify any exclusions

In order to align with the latest Net Zero Standard published by the SBTi, Telefónica increased the ambition of its Scope 3 target by a) including all Scope 3 emissions into the target; and b) increasing its ambition to ensure the targeted reduction aligned with the 1.5C pathway.

We calculate and reduce our carbon footprint every year, including direct emissions (Scope 1) from fuel consumption and fugitive emissions of refrigerant gases and indirect

emissions from electricity consumption (Scope 2), and other indirect emissions related to our value chain (Scope 3).

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity.

Scope 3 emissions represent 79% of the total generated by Telefónica. This is why in 2021 the 15 Scope 3 categories were re-screened according to the GHG Protocol to increase the quality of the data through methodological improvements. The screening identified those categories representing over 5% of the total Scope 3 emissions as being material categories: 'Purchased products and services', 'Capital goods', 'Energy-consumption-related activities' and 'Use of sold products'. In addition, we report other emissions we consider to be strategic for our business or which improve comparability with the sector, such as: 'Business travel' and 'Investments'' (32,953 tCO2). We have been reporting on the last one (Investments) in 2021 following the creation of the Virgin Media O2 joint venture. In 2021, our Scope 3 emissions fell by 27.4% compared to 2016 (base year), which represents 783,385 ktCO2 in 5 years. The main Scope 3 emissions of our value chain come from purchases from our supply chain (64%), and usage of the products we sell to our customers (29%).

This target is company-wide and covers 100% of relevant categories of Scope 3 emissions.

Plan for achieving target, and progress made to the end of the reporting year

The emissions of our value chain (Scope 3) are the largest in our entire carbon footprint and more than 2/3 come from the categories of purchases of products and services and capital goods . This is why our supply chain sustainability policy, which all suppliers must accept within the procurement process, has a specific climate change clause and states all suppliers must have emission reduction targets within the next 3 years . To improve this clause, a specific climate requirement will be implemented within the procurement process for strategic suppliers to define specific emission reduction targets aligned with SBT. This will lead us to reach our company's goal of reducing 39% of Scope 3 emissions by 2025.

To achieve this target, Telefónica is firmly committed to an open, collaborative relationship with its suppliers that enable us to jointly have a positive impact on our surroundings, through close collaboration and the sharing of good practices, fostered thanks to different initiatives with our suppliers, as the participation in ECOVADIS, JAC (Joint Audit Cooperation) or GSMA. In 2021, we continued leading a new sector-based working group as part of the Joint Audit Cooperation (JAC) initiative, in order, as a telecommunications sector, to drive climate action in our supply chain. We assessed the climate-related maturity of the strategic suppliers of the 17 companies who are part of the conglomerate and began working along several different lines in order to increase their level of ambition, as well as providing training.

Also, to reduce our emissions in the value chain we work on the management of emissions and cooperate with our main suppliers through our Supplier Engagement Programme. They disclose emission data through CDP Supply Chain and we work through specific actions to reduce their emissions. Main actions are to keep updated our list of key suppliers, compile emission data and information about their climate change strategies and provide training and resources. The aim is to obtain for each of the suppliers a climate change maturity analysis and support them in this journey of reaching Net Zero. As 2021 has been our first year using CDP SC, this will be the base year and progress will be monitored during the year and data will be updated in an annual basis.

In adittion, we work with our SMEs to provide them with tools and resources through the SME Climate Hub.

List the emissions reduction initiatives which contributed most to achieving this target

Target reference number

Abs 6

Year target was set

2022

Target coverage

Company-wide

Scope(s)

Scope 3

Scope 2 accounting method

Scope 3 category(ies)

Category 1: Purchased goods and services
Category 2: Capital goods
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 6: Business travel
Category 11: Use of sold products

Base year

2016

Base year Scope 1 emissions covered by target (metric tons CO2e)

Base year Scope 2 emissions covered by target (metric tons CO2e)

Base year Scope 3 emissions covered by target (metric tons CO2e)

2.855.544

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

2.855.544

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

100

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year

2040

Targeted reduction from base year (%)

90

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

285.554,4

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

2.072.159

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

2.072.159

% of target achieved relative to base year [auto-calculated]

30,4820299662

Target status in reporting year

New

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

1.5°C aligned

Please explain target coverage and identify any exclusions

In order to align with the latest Net Zero Standard published by the SBTi, Telefónica increased the ambition of its Scope 3 target by a) including all Scope 3 emissions into the target; and b) increasing its ambition to ensure the targeted reduction aligned with the 1.5C pathway.

We calculate and reduce our carbon footprint every year, including direct emissions (Scope 1) from fuel consumption and fugitive emissions of refrigerant gases and indirect emissions from electricity consumption (Scope 2), and other indirect emissions related to our value chain (Scope 3).

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity.

Scope 3 emissions represent 79% of the total generated by Telefónica. This is why in 2021 the 15 Scope 3 categories were re-screened according to the GHG Protocol to increase the quality of the data through methodological improvements. The screening identified those categories representing over 5% of the total Scope 3 emissions as being material categories: 'Purchased products and services', 'Capital goods', 'Energy-consumption-related activities' and 'Use of sold products'. In addition, we report other emissions we consider to be strategic for our business or which improve comparability with the sector, such as: 'Business travel' and 'Investments" (32,953 tCO2). We have been reporting on the last one (Investments) in 2021 following the creation of the Virgin Media O2 joint venture. In 2021, our Scope 3 emissions fell by 27.4% compared to 2016 (base year), which represents 783,385 ktCO2 in 5 years. The main Scope 3 emissions of our value chain come from purchases from our supply chain (64%), and usage of the products we sell to our customers (29%).

This target is company-wide and covers 100% of relevant categories of Scope 3 emissions.

Plan for achieving target, and progress made to the end of the reporting year

The emissions of our value chain (Scope 3) are the largest in our entire carbon footprint. Of the total Scope 3 emissions, more than 2/3 come from the categories of purchases of products and services, capital goods and use of our products. In order to reduce our emissions in the value chain, cooperating with our main suppliers and the rest of the sector is paramount, as we share the same challenges.In this respect, we have our own Supplier Engagement Programme and we work closely with other operators in working groups in JAC (Joint Audit Cooperation) and GSMA, as well as in multi-sectoral initiatives such as 1.5°C Supply Chain Leaders and SME Climate HUB.

To achieve this target, Telefónica is firmly committed to an open, collaborative relationship with its suppliers. Our commitment to them is based on establishing relations that enable us to jointly have a positive impact on our surroundings, through close collaboration and the sharing of good practices, fostered thanks to different initiatives with our suppliers, as the participation in ECOVADIS or JAC (Joint Audit Cooperation). In this sense, we work on the management of emissions in the supply chain, both globally and at a local level. In 2021, we continued leading a new sector-based working group as part of the Joint Audit Cooperation (JAC) initiative, in order, as a telecommunications sector, to drive climate action in our supply chain. We assessed the climate-related maturity of the strategic suppliers of the 17 companies who are part of the conglomerate and began working along several different lines in order to increase their level of ambition, as well as providing training.

In addition, we foster the ecodesign and reuse of devices – both customer and network equipment – to reduce emissions from these. We also offer sustainable purchasing criteria, like the Eco Rating seal, which rates the sustainability of mobiles, thus encouraging manufacturers to improve them.

List the emissions reduction initiatives which contributed most to achieving this target

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Target(s) to increase low-carbon energy consumption or production
Net-zero target(s)
Other climate-related target(s)

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number

Low 1

Year target was set

2019

Target coverage

Company-wide

Target type: energy carrier

Electricity

Target type: activity

Consumption

Target type: energy source

Renewable energy source(s) only

Base year

2015

Consumption or production of selected energy carrier in base year (MWh)

5.684.210

% share of low-carbon or renewable energy in base year

17,2

Target year

2025

% share of low-carbon or renewable energy in target year

80

% share of low-carbon or renewable energy in reporting year

79,4

% of target achieved relative to base year [auto-calculated]

99,0445859873

Target status in reporting year

Underway

Is this target part of an emissions target?

Our renewable electricity target is one of the key levers to achieve our targets for reducing emissions covered Abs 1, Abs 2, and Abs 3,.

In 2021, the Renewable Energy Plan has allowed us to reduce our Scope 2 emissions by the equivalent of 114 thousand tons of CO2 compared to last year and shows that renewable energies are the key to achieving the decarbonisation of our operations and to reducing our carbon footprint in absolute terms.

Is this target part of an overarching initiative?

RE100

Please explain target coverage and identify any exclusions

Telefónica´s Climate Change strategy aims to decouple our business growth from energy consumption and GHG emissions. Through our Energy Efficiency Plan and our Renewable Energy Plan, we are managing to reduce energy expenditure while reducing our carbon emissions in absolute terms. These are the 4 global objectives within our strategy:

- More renewable energy: To continue using 100% of electricity from renewable sources in our main markets, promoting development through long-term contracts and self-

generation (HispAm 100% renewable by 2030).
- More energy efficiency: To reduce energy consumption per traffic unit (MWh/PB) by 90% in 2025 compared to 2015.
- Decrease CO2 emissions: reduce emission by 80% by 2030 and 90% by 2040, compared to 2015,
- To have net zero emissions by 2040 taking into account Scopes 1+2+3, and neutralise residual emissions by 2040 (10%), with the interim target of reducing by 90% emissions (scope 1+2) in our main markets (Spain, Brazil and Germany), and neutralise residual emissions by 2025.

These are Telefónica´s global objectives, therefore apply to all our business lines in all the countries where we are present.

Our Renewable Energy Plan considers all kinds of solutions to achieve the 100% renewable objective: self-generation, purchasing renewable energy with guarantees of origin, and long-term purchase agreements (Power Purchase Agreement – PPA). It foresees potential OPEX savings of 25% by 2030.

As a result of the various strategies established in our Renewable Energy Plan, in 2021 we achieved a renewable-sourced electricity consumption of 79.4%.

Plan for achieving target, and progress made to the end of the reporting year

Our Renewable Energy Plan enables us to reduce carbon emissions and the energy costs of our network, thanks to self-generation and the signing of long-term agreements (PPA). By 2021, 79.4% of electricity generation from renewable sources has been achieved globally, and 100% renewable energy has been achieved at facilities in Europe, Brazil and Peru. Some of the actions in place to achieve this target are:
- Implementation of 854 base stations with renewable energy projects at Telefónica facilities globally: As regards self-generation, we are gradually increasing the number of base stations of the mobile network that run on renewable energy, up to 854. This also allows us to avoid using fuel-powered generators in isolated base stations, thus achieving a reduction in consumption of between 70% and 100%.
- Signing of long-term agreements (PPA): Our Renewable Energy Plan focuses on continuing to sign long-term Power Purchase Agreements (PPAs) and selfgeneration, in order to progressively reduce the purchase of certificates of renewable origin and increase savings in OpEx for electricity
- Certificates of guarantee of origin.: The use of renewable energy purchases with a guarantee of origin programme has allowed countries such as Chile, Colombia and Peru to certify 34%, 67% and 100%, respectively, of their electricity consumption in Latin America as renewable.

List the actions which contributed most to achieving this target

Target reference number

Low 2

Year target was set
2019

Target coverage
Company-wide

Target type: energy carrier
Electricity

Target type: activity
Consumption

Target type: energy source
Renewable energy source(s) only

Base year
2015

Consumption or production of selected energy carrier in base year (MWh)
5.684.210

% share of low-carbon or renewable energy in base year
17,2

Target year
2030

% share of low-carbon or renewable energy in target year
100

% share of low-carbon or renewable energy in reporting year
79,4

% of target achieved relative to base year [auto-calculated]
75,1207729469

Target status in reporting year
Underway

Is this target part of an emissions target?
Our renewable electricity target is one of the key levers to achieve our targets for reducing emissions covered Abs 1, Abs 2, and Abs 3,.

In 2021, the Renewable Energy Plan has allowed us to reduce our Scope 2 emissions by the equivalent of 114 thousand tons of CO2 compared to last year and shows that renewable energies are the key to achieving the decarbonisation of our operations and to reducing our carbon footprint in absolute terms.

Is this target part of an overarching initiative?
RE100

Please explain target coverage and identify any exclusions

Telefónica´s Climate Change strategy aims to decouple our business growth from energy consumption and GHG emissions. Through our Energy Efficiency Plan and our Renewable Energy Plan, we are managing to reduce energy expenditure while reducing our carbon emissions in absolute terms. These are the 4 global objectives within our strategy:

- More renewable energy: To continue using 100% of electricity from renewable sources in our main markets, promoting development through long-term contracts and self-generation (HispAm 100% renewable by 2030).
- More energy efficiency: To reduce energy consumption per traffic unit (MWh/PB) by 90% in 2025 compared to 2015.
- Decrease CO2 emissions: reduce emission by 80% by 2030 and 90% by 2040, compared to 2015,
- To have net zero emissions by 2040 taking into account Scopes 1+2+3, and neutralise residual emissions by 2040 (10%), with the interim target of reducing by 90% emissions (scope 1+2) by 90% in our main markets (Spain, Brazil and Germany), and neutralise residual emissions by 2025.

These are Telefónica´s global objectives, therefore apply to all our business lines in all the countries where we are present.

Our Renewable Energy Plan considers all kinds of solutions to achieve the 100% renewable objective: self-generation, purchasing renewable energy with guarantees of origin, and long-term purchase agreements (Power Purchase Agreement – PPA). It foresees potential OPEX savings of 25% by 2030.

As a result of the various strategies established in our Renewable Energy Plan, in 2021 we achieved a renewable-sourced electricity consumption of 79.4%.

Plan for achieving target, and progress made to the end of the reporting year

Our Renewable Energy Plan enables us to reduce carbon emissions and the energy costs of our network, thanks to self-generation and the signing of long-term agreements (PPA). By 2021, 79.4% of electricity generation from renewable sources has been achieved globally, and 100% renewable energy has been achieved at facilities in Europe, Brazil and Peru. Some of the actions in place to achieve this target are:
- Implementation of 854 base stations with renewable energy projects at Telefónica facilities globally: As regards self-generation, we are gradually increasing the number of base stations of the mobile network that run on renewable energy, up to 854. This also allows us to avoid using fuel-powered generators in isolated base stations, thus achieving a reduction in consumption of between 70% and 100%.
- Signing of long-term agreements (PPA): Our Renewable Energy Plan focuses on continuing to sign long-term Power Purchase Agreements (PPAs) and selfgeneration, in order to progressively reduce the purchase of certificates of renewable origin and increase savings in OpEx for electricity
- Certificates of guarantee of origin.: The use of renewable energy purchases with a guarantee of origin programme has allowed countries such as Chile, Colombia and Peru

to certify 34%, 67% and 100%, respectively, of their electricity consumption in Latin America as renewable.

List the actions which contributed most to achieving this target

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1

Year target was set

2021

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Engagement with suppliers

Percentage of suppliers (by procurement spend) disclosing their GHG emissions

Target denominator (intensity targets only)

Base year

2021

Figure or percentage in base year

45

Target year

2025

Figure or percentage in target year

50

Figure or percentage in reporting year

45

% of target achieved relative to base year [auto-calculated]

0

Target status in reporting year

New

Is this target part of an emissions target?

Yes, it is part of Abs 5

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions

To achieve our Scope 3 target, whereby Categories 1 & 2 represent 64% of total Scope 3 emissions, Telefónica is firmly committed to an open, collaborative relationship with its suppliers. Our commitment to them is based on establishing relations that enable us to jointly have a positive impact on our surroundings, through close collaboration and the sharing of good practices, fostered thanks to different initiatives with our suppliers, as the participation in ECOVADIS or JAC (Joint Audit Cooperation). In this sense, we work on the management of emissions in the supply chain, both globally & at a local level. In 2021, we continued working as part of the Joint Audit Cooperation (JAC) initiative, in order to drive climate action in our supply chain. We assessed the climate-related maturity of the strategic suppliers of the 21 companies who are part of the conglomerate and began working along several different lines in order to increase their level of ambition, providing training in collaboration with CDP and GSMA for the major Chinese companies.

Globally, in 2021 we continued our supplier engagement programme about CC with our key suppliers. We gathered information from them through CDP Supply Chain to understand the maturity level of their climate strategies & help them set more ambitious emission reduction targets, inspire them to take action & offer them a best practices forum to foster innovation & exchange of practices.

This year we have extended the scope up to 501 suppliers to cover a bigger proportion of our suppliers and thus, more spend and more supply chain emissions. The list of suppliers selected were those with more procurement spend in our value chain and represent a 65% of the emissions of our Scope 3 and 84% of our procurement spend. Our target consisted of reaching more of 50% of suppliers (by procurement spend) disclosing GHG emissions.

Another significant action in 2021 related to our commitment to working with the supply chain was continue working with "1.5 ºC Supply Chain Leaders" initiative, which advocates reducing the emissions of the SMEs that are part of our value chain. This programme enables us to reinforce our role in the value chain and accelerate the decarbonisation of the global economy.

Plan for achieving target, and progress made to the end of the reporting year

We have our own Supplier Engagement Programme and we work closely with other operators in working groups in JAC (Joint Audit Cooperation) and GSMA, as well as in multi-sectoral initiatives such as 1.5°C Supply Chain Leaders and SME Climate HUB.

To achieve this target, Telefónica is firmly committed to an open, collaborative

relationship with its suppliers. Our commitment to them is based on establishing relations that enable us to jointly have a positive impact on our surroundings, through close collaboration and the sharing of good practices, fostered thanks to different initiatives with our suppliers, as the participation in ECOVADIS or JAC (Joint Audit Cooperation). In this sense, we work on the management of emissions in the supply chain, both globally and at a local level. In 2021, we continued leading a new sector-based working group as part of the Joint Audit Cooperation (JAC) initiative, in order, as a telecommunications sector, to drive climate action in our supply chain. We assessed the climate-related maturity of the strategic suppliers of the 17 companies who are part of the conglomerate and began working along several different lines in order to increase their level of ambition, as well as providing training.

List the actions which contributed most to achieving this target

Target reference number

Oth 2

Year target was set

2019

Target coverage

Company-wide

Target type: absolute or intensity

Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Energy consumption or efficiency

MWh

Target denominator (intensity targets only)

Other, please specify

Petabytes of data traffic (PB)

Base year

2015

Figure or percentage in base year

386

Target year

2025

Figure or percentage in target year

39

Figure or percentage in reporting year

54

% of target achieved relative to base year [auto-calculated]

95,6772334294

Target status in reporting year

Underway

Is this target part of an emissions target?

Our energy intensity target is also related to our emissions goals: Abs 1, Abs 2, and Abs 3.

To optimise the power consumption of our network, in 2010 we compiled the Energy Efficiency Plan. At Telefónica, keeping our electricity consumption stable – despite the considerable rise in digitalisation of society and thus the data traffic circulating through our networks – is a priority. To do this, our Energy Efficiency Plan encompasses initiatives such as modernising our network by replacing copper with fibre optics; power plants and HVAC equipment renovation projects; using free cooling to cool with air directly from outside; shutting down legacy networks; implementing power-saving features (PSF) in the access network; and reducing fuel consumption by means of hybrid stations with photovoltaic solar energy. In 2021, we undertook 188 energy efficiency and management initiatives in our networks and offices, achieving savings of 302 GWh. Total energy consumption was 6,107 GWh (21,983,852 GJ), 95% of which was electricity, while 5% was fuel. Our energy consumption per traffic unit rate improved by 86% compared to 2015 and we saved €37.6 million through the implementation of energy efficiency and management projects. Thanks to the implementation of energy efficiency projects, we have managed to reduce power consumption by 7.2% since 2015, while data traffic through our networks has increased 6.7 times over. The objective of these projects is to increase our network efficiency, e.g by replacing copper with fibre optic; shutting down legacy networks and reducing fuel consumption by implementing hybrid stations.

Is this target part of an overarching initiative?

No, it’s not part of an overarching initiative

Please explain target coverage and identify any exclusions

Telefónica´s Climate Change strategy aims to decouple our business growth from energy consumption and GHG emissions. Through energy efficiency and renewable energy, we are managing to reduce energy expenditure while reducing our carbon emissions in absolute terms.

At Telefónica, keeping our electricity consumption stable – despite the considerable rise in digitalisation of society and thus the data traffic circulating through our networks – is a priority. To do this, our Energy Efficiency Plan encompasses initiatives such as modernising our network by replacing copper with fibre optics; power plants and HVAC equipment renovation projects; using free cooling to cool with air directly from outside; shutting down legacy networks; implementing power-saving features (PSF) in the access network; and reducing fuel consumption by means of hybrid stations with

photovoltaic solar energy.

In 2020, in view of the urgent need to reduce CO2 emissions and given the need identified by the scientific world to increase ambition, we announced new energy and climate change (CC) targets for 2025, 2030, and 2040, aligned with the 1.5ºC scenario of the Paris Agreement and validated by the Science-Based Targets initiative (SBTi).

These targets are part of our CC strategy, which aims to decouple the growth of our business from energy consumption and GHG emissions and help us to leverage decarbonisation opportunities, to be more competitive, and to offer our customers an ever-cleaner network. With this purpose, we have defined a path of emission reduction until 2040, establishing milestones of emission reduction: Reduce our Scope 1 & 2 emissions 80% by 2030, and achieving net-zero emissions by 2040.

These are Telefónica´s global objectives, therefore apply to all our business lines in all the countries where we are present.

Plan for achieving target, and progress made to the end of the reporting year

In 2021, we undertook 188 energy efficiency and management initiatives in our networks and offices, achieving savings of 302 GWh. Total energy consumption was 6,107 GWh (21,983,852 GJ), 95% of which was electricity, while 5% was fuel. Our energy consumption per traffic unit rate improved by 86% compared to 2015 and we saved €37.6 million through the implementation of energy efficiency and management projects.

In 2021, as part of our energy efficiency projects, we fostered network transformation initiatives, responsible for 85% of our energy savings. We also rolled out projects to shut down legacy infrastructure, such as 2G and 3G networks, as well as copper networks. In Germany, we concluded the full shutdown of the 3G network, cutting energy consumption by approximately 60 GWh per year. In Spain, thanks to the migration of customers from copper to fibre (85% more efficient in terms of energy consumption), we shut down over 1,440 stations, saving 36.7 GWh per year. We should also highlight improvements in the design of mobile sites, with a more sustainable approach from the point of view of construction, maintenance, energy consumption and emissions. This model, called the Smart Site model, encompasses all available best practices, such as upgrading equipment, free cooling, installing Bluetooth locks and using renewable energy.With regard to efficient management of network capacity, we increased use of power saving features (PSF) during periods of low traffic. Thanks to the use of artificial intelligence tools and automatic prediction of traffic, the 15 new PSFs implemented in our 4G and 5G networks have reduced energy consumption by up to 30% without compromising network quality.

In 2021, we rolled out a sustainable immersion cooling solution at the Bellas Vistas fixed switch site in Madrid (Spain). This pilot scheme demonstrates how less energy can be used to support growing demand for data in Edge Computing and 5G, thanks to immersing the servers in an electrically non-conductive, non-toxic, biodegradable fluid which is up to 50% more energy efficient than air conditioning.

List the actions which contributed most to achieving this target

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number

NZ1

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Abs1
Abs2
Abs3
Abs4
Abs5
Abs6

Target year for achieving net zero

2040

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Please explain target coverage and identify any exclusions

Telefónica's ambition is to achieve net zero emissions by 2040, including value chain emissions. In addition, interim targets are set such as reducing Scope 1 and 2 emissions by 90% in the main markets (Spain, Germany and Brazil) by 2025 and neutralising the residual emissions of these scopes through nature-based solutions.

The global target for achieving net-zero in 2040 applies to the whole organisation, whereas the interim target that has been described previously only applies to scope 1 and 2 emissions of Telefónica's main markets (Spain, Germany and Brazil).

In addition, Telefónica's climate action plan considers company-wide short-, medium- and long-term targets for Scopes 1, 2 and 3, that have been validated by the SBTi initiative. Specifically, we will reduce our operations emissions (Scope 1+2) by 70% by 2025 and by 80% by 2030 through energy efficiency and renewable energy actions. We will also engage with suppliers and help to create a more circular economy, which will translate into a reduction of our value chain emissions (scope 3) of 56% by 2030 (39% by 2025). Additionally, we will improve energy consumption per unit of traffic (MWh/PB) by 90% in 2025 and we will consume 100% of electricity from renewable sources by 2030.
As part of the progress made in 2021, we achieved 79% of electricity consumption from

renewable sources in our own facilities, 100% in our main markets and Peru, and reduced carbon emissions (scopes 1+2) by 70% compared to 2015 and also reduces our value chain (Scope 3) emissions by 27% vs 2016. In addition, three sustainable loans were signed in Telefónica Colombia linked to environmental targets and other social aspects. Furthermore, in 2021 we invested around 20.8 million euros in biodiversity, and 98% of our waste was recycled.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Yes

Planned milestones and/or near-term investments for neutralization at target year

Telefónica will neutralise its unabated emissions after achieving its reduction target (at least 90%) by 2040 or its interim target by 2025, through the purchase of carbon removal credits from the voluntary market or by investing in developing its own carbon removal projects, preferably through nature-based solutions.
The 10% of residual emissions is forecasted to account for an about 400,000 tCO2e/year from 2040 and for about 80,000 tCO2e/year from 2025 (unabated emissions from Scope1+2 in the main markets).
The projects we rely on to neutralise unabated emissions must meet the following internally established criteria:
• Carbon sequestration projects, preferably using nature-based solutions, such as reforestation, afforestation or ecosystem restoration, using native plant species.
• Demonstration of additionality.
• Demonstration of long-term impact.
• Projects with environmental and social co-benefits and contributing as far as possible to the achievement of the SDGs.
• Projects certified to recognised international standards (such as Gold Standard, Verified Carbon Standard, American Carbon Registry or Climate Action Reserve or national schemes (such as the Spanish Climate Change Office registry) and verified by an accredited third party.
Aiming at creating a corporate culture in this sense and at enhancing biodiversity in the countries where we operate, Telefónica has already started to invest in reforestation projects that remove emissions from the atmosphere and permanently store them.
In 2021, Telefónica launched Bosque Telefónica (Telefónica Forest), in Palencia (Spain). Planting more than 12,500 trees of indigenous species will help to restore a degraded agricultural area, transforming it for forest use, involving rural communities and boosting the local economy by generating employment. “Bosque Telefónica” is expected to absorb 3,000 tonnes of CO2 over its life cycle. Furthermore, in 2021 Telefónica Germany neutralised 20% of its operational emissions (scope 1 and 2) (1,300 t CO2e) through the Gold Standard certified CO2OL Tropical Mix project. The initiative aims to restore more than 13,000 hectares of land and convert it into mixed forests by planting 20 different species of native trees and protecting more than 30 other species. In addition, it contributes to biodiversity conservation and offers sustainable timber and cocoa production, which in turn improves the economic and social situation of the local populations.

Planned actions to mitigate emissions beyond your value chain (optional)

Telefónica recognises that there is an urgent need to scale up finance in the near-term to support climate mitigation and therefore, before reaching or net-zero target by 2040 and our interim target by 2025, Telefónica will use of carbon credits that reduce emissions from deforestation and degradation, in addition to carbon removal credits, with the aim of contributing to halt deforestation in certain regions where Telefónica operates. This criterion follows the recommendations of SBTi's Net-Zero corporate standard and the Draft Consensus Statement on High Quality Tropical Forest Carbon Credits, drawn up by organisations such as WRI, WWF, EDF or IPAM Amazonia.
Emission reduction offsets must comply with the following criteria defined by Telefónica:
• Be high-quality REDD+ credits, supporting the conservation of existing forest carbon stocks and sustainable forest management.
• Be located in countries with a high rate of deforestation (such as Brazil, Peru or Colombia), as these projects provide short-term incentives to keep forests intact and support indigenous and local communities.
• Meet established criteria for carbon removal projects: demonstrate additionality and long-term impact, include environmental and social co-benefits aligned with the 2030 SDG agenda, be certified by recognised standards, and verified by an accredited third party.
Support for such projects that generate emission reduction credits by preventing deforestation also contributes to the first major agreement at the COP26 climate summit, whereby the countries with the largest tracts of forest pledged to stop massive felling in their states and end deforestation by 2030.

In that sense, from 2020, Telefónica Brazil offsets 100% of the emissions from its operations (141,120 tCO2e) mainly through projects that support local ecosystem conservation initiatives. For example, Cikel Brazilian Amazon REDD+, verified against the international VCS standard, located in the state of Pará, will avoid the deforestation of 27,400 hectares of rainforest. It also enhances biodiversity within the framework of FSC certification and promotes community development and local job creation.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0

To be implemented*	60	22.272
Implementation commenced*	7	2.430
Implemented*	189	184.136
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

Energy efficiency in buildings

Other, please specify

Lighting, Power-Saving Features, Cooling/Climate control, Power Modernization, Network transformation and other

Estimated annual CO2e savings (metric tonnes CO2e)

70.056

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Scope 2 (location-based)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

31.744.428

Investment required (unit currency – as specified in C0.4)

5.395.218

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

To optimise the power consumption of our network, in 2010 we compiled the Energy Efficiency Plan. At Telefónica, keeping our electricity consumption stable – despite the considerable rise in digitalisation of society and thus the data traffic circulating through our networks – is a priority. To do this, our Energy Efficiency Plan encompasses initiatives such as modernising our network by replacing copper with fibre optics; power plants and HVAC equipment renovation projects; using free cooling to cool with air

directly from outside; shutting down legacy networks; implementing power-saving features (PSF) in the access network; and reducing fuel consumption by means of hybrid stations with photovoltaic solar energy. In 2021, we undertook 188 energy efficiency and management initiatives in our networks and offices, achieving savings of 302 GWh. Total energy consumption was 6,107 GWh, 95% of which was electricity, while 5% was fuel. Our energy consumption per traffic unit rate improved by 86% compared to 2015 and we saved €37.6 million through the implementation of energy efficiency and management projects. Thanks to the implementation of energy efficiency projects, we have managed to reduce power consumption by 7.2% since 2015, while data traffic through our networks has increased 6.7 times over. The objective of these projects is to increase our network efficiency.

Initiative category & Initiative type

Low-carbon energy consumption

Other, please specify

Renewable energy purchase

Estimated annual CO2e savings (metric tonnes CO2e)

114.081

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

11.430.000

Investment required (unit currency – as specified in C0.4)

676.717

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

In 2016 we established the Telefónica Renewable Energy Plan. To reach the point of decarbonisation of the Company, not only do we need maximum efficiency in energy usage but we also need the energy to come from renewable sources.
Our Renewable Energy Plan includes all types of solutions – self-generation, the purchasing of renewable energy with a guarantee of origin and long-term agreements (Power Purchase Agreements - PPA) – and prioritises non-conventional renewable energy sources.
In 2021, 79.4 % of our total electricity consumption in own facilities came from renewable sources.We continued the ambitious distributed generation project in Brazil,

which will enable, as of 2022, 83 new renewable energy plants around the country to generate over 700 GWh per year for Telefónica Brazil and thus reduce dependence on iREC guarantees of origin. In Spain, we signed four new long-term, renewable energy PPA for the period 2022-2031, which will cover 30% of the total consumption for the country, equivalent to 482 GWh per year for 10 years. These new agreements made it possible to achieve a total of 582 GWh of renewable electricity covered by PPAs in our operations in Spain, covering 50% of the consumption of technical buildings.

C4.3c

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

Method	Comment
Dedicated budget for energy efficiency	To reduce the carbon footprint, reduce operational costs and provide services at attractive prices, Telefónica assesses, defines, and implements projects with CAPEX dedicated for energy efficiency (since financial indicators suggest that the project is attractive). Examples of indicators that we use: - The Net Present Value (NPV), that determines when an investment complies with the basic financial objective of maximizing the investment. If the NPV is positive it means that the project is viable. -Payback: this is a KPI for the company to get an idea of the time it takes to recover the payment on an investment.
Financial optimization calculations	In 2021 Telefónica managed to continue implementing projects under a disruptive business model called Energy Savings as a Service (ESaaS); this totally changes the way we optimise our infrastructure and is based on an agreement with a specialised supplier who designs the solution, invests, operates, maintains and ensures savings. The actions encompass a number of different initiatives and the service is paid for by sharing the savings generated thanks to the measures implemented. We also implemented a disruptive model in Colombia, using the Battery as a Service (BaaS) model, which enables us to reduce fuel consumption and pay with the savings achieved. This project will enable us to increase the autonomy of the batteries at 170 sites and will reduce diesel consumption by more than 70%. This means a saving of nearly 500,000 litres of diesel a year, reduced maintenance costs, and greater availability for customers. Finally, we rolled out a sustainable immersion cooling solution at the Bellas Vistas fixed switch site in Madrid (Spain). This pilot scheme demonstrates how less energy can be used to support growing demand for data in Edge Computing and 5G, thanks to immersing the servers in an electrically non-conductive, non-toxic, biodegradable fluid which is up to 50% more energy efficient than air conditioning.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon

The EU Taxonomy for environmentally sustainable economic activities

Type of product(s) or service(s)

Other

Other, please specify

Taxonomy-eligible economic activities 8.1 Data processing, hosting and related activities and 8.2 Data-driven solutions for GHG emissions reductions

Description of product(s) or service(s)

Our digital and connectivity services - based on one of the most efficient and sustainable telecommunications networks in the sector - enable our customers to optimise their consumption of resources such as energy and water, facilitate remote working, improve traffic planning and air quality in cities and promote circular economy, among others.

We are committed to digitalisation as a tool for protecting the planet. This is why our sustainability strategy focuses on transforming our networks so that their capacity can always increase efficiently. This enables us to offer the best services with the least environmental impact.

Based on the connectivity, we offer digital solutions such as broadband, fiber, Digital Workplace, cloud, IoT and Big Data solutions.

1) Digital Workplace solutions enable remote and flexible working, generating considerable environmental benefits by reducing travel and cutting fuel consumption. Examples are broadband connectivity, B2B mobile connectivity, unified communications (UC), audio-video conference services, etc.

2) Cloud solutions, housed in highly efficient data centres, reducing energy consumption and avoiding CO2 emissions. Examples are virtual data centres, Iaas, Paas, etc.

3) IoT, big data, artificial intelligence and blockchain solutions allow our clients to make their production processes more efficient and sustainable. These solutions are applied to sectors such as industry, agriculture, cities, etc.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

The Avoided Emissions Framework (AEF)

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Use stage

Functional unit used

We use different functional units depending on the service provided. Main examples are: number of M2M connections (for Fleet Management, Domestic Smart Meters, Smart Cities and other IoT services), number of fixed line home and B2B mobile connections (for Telecommuting services), number of PABX users, videoconference rooms and UC licences sold (for Video-Audio Conference solutions), and number of IaaS Telefonica servers, physical servers and suppliers' physical servers (for Cloud solutions).

Reference product/service or baseline scenario used

The base scenario used is the situation before the implementation of the digital solution. Main examples:
1) For Digital Workplace solutions the baseline scenario would be the client going to work every day to the office.
2) For Cloud solutions the baseline scenario would be the use of servers or software on premise.
3) For IoT solutions, specifically for Smart Meters would be the electricity consumption metering with analogue meters that do not allow the end-user to reduce energy consumption

Life cycle stage(s) covered for the reference product/service or baseline scenario

Use stage

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

0,1102

Explain your calculation of avoided emissions, including any assumptions

To calculate the total avoided emissions, the methodology follows the following general principle:

[Carbon abatement = volume of service provided x carbon abatement factor]

1) Digital workplace services: The volume factor is either the number of fixed line home connections, the number of B2B mobile connections or the number of UC licences sold,

among others.
As an example, the methodologies used for calculating the avoided emissions for Video Audio Conferencing (avoided travel) are as follows: ∑ [(No. of O365 users) × (abatement factor per user)]

2) Cloud services: The volume factor is the number of virtual services licenses sold or the number of IaaS, and Paas licenses sold, among others.

As an example, the methodologies used for calculating the avoided emissions for Iaas Virtualization are as follows:∑[(No. of IaaS virtual servers ÷ expected small business virtualisation rate × Annual energy consumption small server × average business PUE)-(No. of IaaS Telefonica servers × Annual energy consumption of large server)×(Telefonica PUE)] × local grid electricity factor.

3) IoT/BigData services: The volume factor is the number of relevant M2M connections, among others.

As an example, the methodologies used for calculating the avoided emissions for Fleet Management and Workforce Management Software solutions are based on expected annual mileage as provided by Telefónica's own studies. They are as follows: (No. M2M connections x dialy km x number of working days per year x fuel efficiency x Expected savings from technology x Diesel fuel emission factor)

Emission factors per connection varies between geographies due to local differences in considerations such as the local electricity grid mix, or average climate.

The chosen methodology also takes into consideration rebound effects that arise from utilising the respective connections, and methodologies are designed to ensure that there is no additionality or double counting across categories.

Where there is an element of uncertainty in the supporting calculations, we have chosen a conservative approach in order to not overestimate Telefónica's Net Positive impact.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

45,6

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

Yes, a divestment

Yes, a merger

Name of organization(s) acquired, divested from, or merged with

Telefonica UK, Telxius Telecom Towers

Details of structural change(s), including completion dates

In 2020, Telefónica reached an agreement with Liberty Global plc to unite their businesses in the United Kingdom and form a joint venture owned 50% by both companies in the United Kingdom, thus forming "VMED O2 UK Ltd". Telefónica United Kingdom, which was consolidated by global integration, leaves the scope of consolidation on June 1, 2021. On that same date, the joint business VMED O2 UK Ltd begins to be registered.

OTOH, on January 13, 2021 Telxius Telecom, S.A. (Telefónica Group company in which KKR and Pontegadea have a minority interest, directly or indirectly), signed an agreement with the company American Tower Corporation (ATC) for the sale of its telecommunications tower division in Europe (Spain and Germany) and in Latin America (Brazil, Peru, Chile and Argentina). However, it is important to highlight that in 2015 Telefonica did not have the facilities of the Telxius Telecom towers, therefore, the recalculation of emissions has been made for the years 2017, 2018, 2019, 2020.

In addition, in 2021 an “Acens Technologies” investment begins to be reported, however, it only represents 0.7% of 1+2 emissions.

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	Yes, a change in methodology Yes, a change in boundary	Regarding the methodology, there was a change because the 15 Scope 3 categories were re-screened according to the GHG Protocol to increase the quality of the data through methodological improvements. As a result of the screening, we report other not relevant emissions we consider to be strategic for our business or which improve comparability with the sector, such as: 'Business

		travel', which was being reported. and 'Investments', a new category included. Among the methodological changes, the following improvements stand out: - Consider the upstream scope 3 of product suppliers in categories 1 &2. - Consideration of LCA of devices in the stage of use (Cat. 11). There was a boundary change in the GHG emissions inventory regarding the emission sources included as part of Scope 3. The category corresponding to “investments” was added to the report to include all significant emission sources. The significant threshold percentage for this inclusion was more than 5%. Telefónica started to report this category due to the Joint Venture with Liberty Global in UK (VMO2). Also, other Telefónica investments are included in the category “investments”, such as the FiberCO created in Germany and, in general, where Telefónica has a 50% or more stake and ha sinfluence on the operational contorl of these entities. The Joint Venture in UK, in addition to the exclusion of Telxius Telecom towers represent a change in the geographical boundary. It's important to note that both methodological improvements, boundary and recalculation were verfied by a third-party (AENOR). In addition, there was no change in the reporting year definition, because the calendar year was considered (from January 1, 2021 to December 31, 2021).

C5.1c

(C5.1c) Have your organization’s base year emissions been recalculated as result of the changes or errors reported in C5.1a and C5.1b?

	Base year recalculation	Base year emissions recalculation policy, including significance threshold
Row 1	Yes	Telefonica developed a base year emission recalculation policy that clearly articulates the context of recalculations. The significance threshold determined that triggers base year emission recalculation is 5% in accordance to the rule of thumb of materiality stated by the GHG Protocol Corporate Standard. This policy includes the recalculation of the base year in case of structural changes, mergers, acquisitions, divestments, outsourcing and insourcing of emitting activities, changes in methodology, improvements in accuracy of emission factors, discovery of significant errors or any other

		change that is material in the inventory (5% threshold value). According to this recalculation policy Telefonica has recalculated the Scope 1 , 2 emissions for the years 2015, 2016, 2017, 2018, 2019 and 2020 to exclude the operations of Telefonica United Kingdom due to the merger with Liberty Global. Moreover, the recalculation of the Scope 1 and 2 emissions of the years 2017, 2018, 2019 and 2020 reflect the sale of Telxius Telecom tower business (divestment). The recalculations of emissions of Scope 1 and 2 in the years 2015, 2016, 2017, 2018, 2019 and 2020 resulted in a reduction of 5.3%, 8%, 6.9%, 6.2%, 7.1%, and 8.9% respectively. OTOH, recalculation of Scope 3 emissions in 2016 (base year), resulted in and increase of 9%, which exceeds the threshold.

C5.2

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

Scope 1

Base year start

enero 1, 2015

Base year end

diciembre 31, 2015

Base year emissions (metric tons CO2e)

286.201

Comment

Telefónica calculates and verifies its emissions according to the GHG Protocol and ISO14064-3

Scope 2 (location-based)

Base year start

enero 1, 2015

Base year end

diciembre 31, 2015

Base year emissions (metric tons CO2e)

1.869.500

Comment

Telefónica calculates and verifies its emissions according to the GHG Protocol and ISO 14064-3 standard.

Scope 2 (market-based)

Base year start
enero 1, 2015

Base year end
diciembre 31, 2015

Base year emissions (metric tons CO2e)
1.524.954

Comment
Telefónica calculates and verifies its emissions according to the GHG Protocol and ISO 14064-3 standard.

Scope 3 category 1: Purchased goods and services

Base year start
enero 1, 2016

Base year end
diciembre 31, 2016

Base year emissions (metric tons CO2e)
1.373.189

Comment
Telefónica calculates and verifies its emissions according to the GHG Protocol and ISO 14064-3 standard.

Scope 3 category 2: Capital goods

Base year start
enero 1, 2016

Base year end
diciembre 31, 2016

Base year emissions (metric tons CO2e)
448.342

Comment
Telefónica calculates and verifies its emissions according to the GHG Protocol and ISO14064-3

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start
enero 1, 2016

Base year end

diciembre 31, 2016

Base year emissions (metric tons CO2e)

244.512

Comment

Telefónica calculates and verifies its emissions according to the GHG Protocol and ISO14064-3

Scope 3 category 4: Upstream transportation and distribution

Base year start

enero 1, 2016

Base year end

diciembre 31, 2016

Base year emissions (metric tons CO2e)

18.000

Comment

This category is not material for Telefónica

Scope 3 category 5: Waste generated in operations

Base year start

enero 1, 2016

Base year end

diciembre 31, 2016

Base year emissions (metric tons CO2e)

600

Comment

This category is not material for Telefónica

Scope 3 category 6: Business travel

Base year start

enero 1, 2016

Base year end

diciembre 31, 2016

Base year emissions (metric tons CO2e)

93.640

Comment

Telefónica calculates and verifies its emissions according to the GHG Protocol and ISO 14064-3 standard.

Scope 3 category 7: Employee commuting

Base year start
enero 1, 2016

Base year end
diciembre 31, 2016

Base year emissions (metric tons CO2e)
76.041

Comment
This category is not material for Telefónica

Scope 3 category 8: Upstream leased assets

Base year start
enero 1, 2016

Base year end
diciembre 31, 2016

Base year emissions (metric tons CO2e)
0

Comment
This category is not applicable to Telefonica Group. Telefónica leases space for network infrastructure sharing, but we have the operational control of the energy consumption, so the emissions arising from electricity consumption at those sites has already been included in Scope 2.

Scope 3 category 9: Downstream transportation and distribution

Base year start
enero 1, 2016

Base year end
diciembre 31, 2016

Base year emissions (metric tons CO2e)
0

Comment
These emissions have already been included in categories 1 and 2 of scope 3.

Scope 3 category 10: Processing of sold products

Base year start
enero 1, 2016

Base year end

diciembre 31, 2016

Base year emissions (metric tons CO2e)

0

Comment

This category is not applicable to Telefonica Group. Typically Telefónica Group does not manufacture products and does not sell intermediate products, therefore there are no emissions from further downstream processing of products.

Scope 3 category 11: Use of sold products

Base year start

enero 1, 2016

Base year end

diciembre 31, 2016

Base year emissions (metric tons CO2e)

695.861

Comment

Telefónica calculates and verifies its emissions according to the GHG Protocol and ISO 14064-3 standard.

Scope 3 category 12: End of life treatment of sold products

Base year start

enero 1, 2016

Base year end

diciembre 31, 2016

Base year emissions (metric tons CO2e)

5.386

Comment

This category is not relevant for Telefónica

Scope 3 category 13: Downstream leased assets

Base year start

enero 1, 2016

Base year end

diciembre 31, 2016

Base year emissions (metric tons CO2e)

110.750

Comment

This category is not material for Telefónica

Scope 3 category 14: Franchises

Base year start

enero 1, 2016

Base year end

diciembre 31, 2016

Base year emissions (metric tons CO2e)

0

Comment

All our telcommunications businesses are operated by companies belonging to the Telefónica Group, and therefore these issues are already included in the rest of the Scope 1, 2 and 3 category.

Scope 3 category 15: Investments

Base year start

enero 1, 2016

Base year end

diciembre 31, 2016

Base year emissions (metric tons CO2e)

33.886

Comment

Telefónica calculates and verifies its emissions according to the GHG Protocol and ISO 14064-3 standard.

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

183.231

Start date

enero 1, 2021

End date

diciembre 31, 2021

Comment

Our Scope 1 emissions come from two main sources: fuel consumption of our fleet and power generators, and the fugitive emissions from refrigerant gases used in airconditioning units in our network.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

207.872

Start date

enero 1, 2020

End date

diciembre 31, 2020

Comment

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)
229.296

Start date
enero 1, 2019

End date
diciembre 31, 2019

Comment

Past year 3

Gross global Scope 1 emissions (metric tons CO2e)
245.282

Start date
enero 1, 2018

End date
diciembre 31, 2018

Comment

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based
We are reporting a Scope 2, location-based figure

Scope 2, market-based
We are reporting a Scope 2, market-based figure

Comment
In 2016 we established the Telefónica Renewable Energy Plan, with the goal of consuming 100% of electric energy from renewable sources by 2030.

As a result in 2021, 79.4% of our electricity consumption is renewably sourced. This, added to our energy efficiency projects, has allowed us to reduce our Scope 2 emissions by 114k tonnes of CO2 equivalent.

To reach the point of decarbonisation of the Company, not only do we need maximum efficiency in energy usage but we also need the energy to come from renewable sources.
To do this, Telefónica has a Renewable Energy Plan, whereby 100% of our electricity in Europe, Brazil, and Peru and 79,4% worldwide comes from zero-emissions sources. Our goal is to go further than 100% in our main markets and achieve 100% in HispAm in 2030 or even before. By "further than 100%", we are referring to our endeavors to contribute to increasing the renewable energy mix in the countries in which we operate, through self-generation or by fostering the construction of new parks, facilitated by our medium and long-term consumption commitments.

The Plan includes all types of solutions —self-generation, the purchasing of renewable energy with a guarantee of origin, and long-term agreements (Power Purchase Agreements - PPA)— and prioritises non-conventional renewable energy sources.
In 2021, we continued the ambitious distributed generation project in Brazil, which will enable, as of 2022, 83 new renewable energy plants around the country to generate over 700 GWh per year for Telefónica Brazil and thus reduce dependence on iREC guarantees of origin. In Spain, we signed four new long-term, renewable energy Power Purchase Agreements (PPA) for the period 2022-2031, which will cover 30% of the total consumption for the country, equivalent to 482 GWh per year for 10 years. These new agreements made it possible to achieve a total of 582 GWh of renewable electricity covered by PPAs in our operations in Spain, covering 50% of the consumption of technical buildings.

Furthermore, thanks to the extension of guarantee of origin programmes, countries such as Chile, Colombia and Peru certified 34%, 67% and 100%, respectively, of their electricity consumption in Latin America as renewable. In Germany, Brazil and Peru, we also certified 100% of the electricity consumption at third-party sites as renewable.

C6.3

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

Reporting year

Scope 2, location-based

1.212.173

Scope 2, market-based (if applicable)

353.506

Start date

enero 1, 2021

End date

diciembre 31, 2021

Comment

Scope 2 emissions, from electricity consumption, are the most significant in our business

Past year 1

Scope 2, location-based

1.261.306

Scope 2, market-based (if applicable)

467.587

Start date

enero 1, 2020

End date

diciembre 31, 2020

Comment

Past year 2

Scope 2, location-based

1.511.089

Scope 2, market-based (if applicable)

657.024

Start date

enero 1, 2019

End date

diciembre 31, 2019

Comment

Past year 3

Scope 2, location-based

1.688.691

Scope 2, market-based (if applicable)

879.765

Start date

enero 1, 2018

End date

diciembre 31, 2018

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

C6.5

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

Purchased goods and services

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

1.153.315

Emissions calculation methodology

Hybrid method
Spend-based method
Average product method
Average spend-based method

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

84

Please explain

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order to have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity. Purchased goods and services is one of the most important categories, representing around 55% of our scope 3 emissions. The scope of this category includes 100% of the total purchase volume of Telefónica, covering all the 'product lines' of Telefónica Corporate Procurement Department, i.e. B2B/B2C, Advertising and Marketing, Services & Works, IT and Mobility.

The spend data from all 'product lines' is classified into 'products and services': products contabilizes scopes 1, 2 and 3 (upstream categories) of the supplier, and services only considers the scope 1 & 2 of the supplier. We use a hybrid approach for the calculation of emissions based on Telefónica's spend on the supplier multiplied by supplier's emission intensity (reported Scope 1, 2 and 3 emissions in tCO2/ revenue (€): (a)

calculation for top suppliers (we calculate the proportion of the reported supplier's Scope 1,2&3 (upstream categories) emissions that correspond to Telefónica's spend on those suppliers, prioritising the use of Scope 2 Market-Based) and applying scope 3 upstrem for those classified as 'product'; (b) Calculation for remaining suppliers: when no emissions data is available for these suppliers, the emissions intensity used is the average intensity of suppliers in the same 'product line' that do report their Scope 1,2&3 emissions).

The Mobility category, which includes the emissions related to "devices", i.e. mobile phones, tablets and other devices such smart watches, has been calculated from the Life Cycle Assessment (LCA) studies for each type of purchased device from the supplier or the EcoRating Initiative. The calculation process is: Models with LCA results publicly disclosed, Models publicly disclosed LCA data but with EcoRating data, and Models without LCA (where we use the average of remaining models or average of other brand models).

Capital goods

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

174.729

Emissions calculation methodology

Spend-based method
Average spend-based method

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

61

Please explain

Emissions for this category have been calculated together with emissions of category 1, Purchased Goods and Services and the same methodology has been used. All expenditure with suppliers classified as "Network" is classified as Capital Goods automatically by the model.

The spend data classified as "Network" is classified as Capital Goods automatically by the model. Spend data is defined as products and services : products contabilizes scopes 1&2 and 3 (upstream categories) of the supplier, and services only considers the scope 1 & 2 of the supplier. For the 5 categories we use a hybrid approach for the calculation of emissions based on the spend on the supplier/ supplier's emission intensity: (a) calculation for top suppliers (we calculate the proportion of the reported supplier's Scope 1&2 and 3 (upstream categories) emissions that correspond to Telefónica's spend on those suppliers, prioritising the use of Scope 2 Market-Based); (b) Calculation for remaining suppliers (when no emissions data is available for these suppliers, the emissions intensity used is the average intensity of suppliers in the same 'product line' that do report their Scope 1,2&3 emissions).

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

138.675

Emissions calculation methodology

Other, please specify

consumption of fuel and energy

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

80

Please explain

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order to have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity. Fuel-and-energy-related activities is one of the most important categories, representing 6.6% of our scope 3 emissions. In the perimeter of this category, we include 100% of the Energy Consumption of Telefónica. In this category we consider: a) Upstream emissions of purchased fuels b) Upstream emissions of electricity c) Transmission and distribution losses Upstream fuel and energy emissions are calculated by applying the relevant country-specific emission factors to the fuel and energy consumption data used in the scope 1 & 2 calculations. For this, we use DEFRA´s Well-to-tank (WTT) emission factors and Transmission and distribution losses, IEA emission factors applicable to each reporting year.

Upstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Please explain

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order to have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity. We carried out an estimation of Upstream transportation and distribution emissions and the results showed that this category is not relevant in terms of total emissions (less than 5%)

The distance-based method has been used for the calculation of this category. In this method, distance is multiplied by mass or volume of goods transported and relevant emission factors that incorporate average fuel consumption, average utilization, average size and mass or volume of the goods and the vehicles, and their associated GHG emissions.

Waste generated in operations

Evaluation status

Not relevant, explanation provided

Please explain

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order to have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity.

Waste generated in operations emissions came from the disposal and treatment of waste generated as part of Telefónica Group´s operations. We carried out an estimation of these emissions by applying emission factors to the waste volumes generated by Telefónica and the results showed that this category is not relevant in terms of total emissions (less than 5%).

To calculate emissions the waste-type-specific method has been used. Emissions from waste depend on the type of waste being disposed of, and the waste diversion method. Therefore, companies should try to differentiate waste based on its type (e.g., cardboard, food-waste, wastewater) and the waste treatment method (e.g., incinerated, landfilled, recycled, wastewater).

Business travel

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

5,395

Emissions calculation methodology

Distance-based method

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

100

Please explain

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity. Business travel is not one of the most important categories, as it only represents 1% of our scope 3 emissions. However, for years we have been implementing plans and actions to reduce emissions in this category, so we consider it relevant to include it in the total of our scope 3. In this category we consider all different modes of travel (air, rental car, taxi, bus and train) as follows:
Air - emission factors applied to distance travelled for different categories (domestic,

short haul and long haul). Emission factors used are from DEFRA and include radiative forcing. Emission factors are allocated based on the distance covered during the trip. More information on this can be found in the “Data Sources”.
Bus – distance travelled by bus is calculated using a typical annual distance per employee, multiplied by the number of employees who travel for business. Total distance is then converted to emissions using the emission factor for an average local bus.
Train – distance travelled by train is calculated using a typical annual distance per employee, multiplied by the number of employees who travel for business. Total distance is then converted to emissions using the emission factor for national rail.
Car rentals - spent data in car rentals per country is multiplied by the corresponding CEDA emissions factor.

Employee commuting

Evaluation status

Not relevant, explanation provided

Please explain

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order to have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity. These emissions stem from Telefónica’s employees’ travel between home and work during the reporting period. These trips are made in vehicles not owned or controlled by Telefónica. We carried out an assessment of these emissions in one of the countries in Telefónica and it is not relevant in terms of total emissions. (less than 5%).

Emissions from commuting trips for employees' travel have been counted using a model that incorporates the different variables of means of transport for each country and region.
The model scpecifically incorportates, the average commute time by region, and the percentage of work trips and average kms traveled by different means of transport. Data was available from the European commission on Transport statistics for the EU compared to several world countries. This data was used to calculate the comparative proportion of car, bus, rail, and tram/metro journeys taken. This was done by summing the car, bus, rail, and tram + metro categories to work out a percentage of use for each region.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

Telefónica leases space for network infrastructure sharing, but we have the operational control of the energy bill, so the emissions arising from electricity consumption at those sites have already been included in Scope 2.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Please explain

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order to have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity. These emissions stem from Downstream T&D of sold products in vehicles and facilities not owned or controlled by Telefónica are not material. We carried out an assessment of these emissions in one of the countries in Telefónica and it is not relevant in terms of total emissions (less than 5%).

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

This category is not applicable to Telefónica Group. Typically, Telefónica Group does not manufacture products and does not sell intermediate products, therefore there are no emissions from further downstream processing of products.

Use of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

600.046

Emissions calculation methodology

Hybrid method
Average product method

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

58

Please explain

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity.

Use of Sold Products is one of the most important categories, representing almost 30% of our scope 3 emissions. In the perimeter of this category, we include the end-use of goods and services sold in the reporting year (mobile phone handsets and other devices

sold), as well as those installed in customers´ premises (such as routers, set-top boxes, etc).

For this category, emissions for Broadband and STBs are calculated bymultiplying the number of sold products by the annual energy use associated with each model in each country. Should energy consumption for a specific technology in a given country not be available, then consumption is estimated based on the average consumption of that technology in all countries. Should consumption not be available for a given technology, then an average consumption per product type is taken to estimate energy usage. Energy usage is then multiplied by the electricity emission factor for the country.

For mobile devices such as smartphones or laptops, the same calculation is used as in Category 1 for mobile devices with method of life cycle assessment. (using the stage of the LCA emissions used is for the “use stage” of the device)

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Please explain

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order to have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity. These emissions stem from the waste disposal and treatment of products sold by the reporting company at the end of their life. We carried out an assessment of these emissions in one of the countries in Telefónica and it is not relevant in terms of total emissions. (less than 5%).

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity.

Main downstream leased assets are office buildings and space in data centers. These emissions are already accounted for in our scope 1 and 2 emissions as we have operational control of these assets and we pay for the energy consumed. For example, Telefónica leases space for virtual hosting & cloud computing services in our data centers.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order to have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity. In this category, emissions stem from the operation, during the reporting period, of the different franchises owned by Telefónica. We carried out an assessment of these emissions and it is not relevant in terms of total emissions. (less than 5%).

Investments

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

32.953

Emissions calculation methodology

Investment-specific method

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

90

Please explain

Telefónica has estimated the emissions of the 15 categories included in the GHG Protocol Scope 3 Standard in order have a comprehensive view of the total Scope 3 emissions related to its business lines in all the geographies. This has allowed us to identify the most relevant categories for our activity.

For companies whose carbon emissions were publicly available the Investment-specific method was used to calculate the equity investment emissions.

Other (upstream)

Evaluation status

Please explain

Other (downstream)

Evaluation status

Please explain

C6.5a

(C6.5a) Disclose or restate your Scope 3 emissions data for previous years.

Past year 1

Start date
enero 1, 2020

End date
diciembre 31, 2020

Scope 3: Purchased goods and services (metric tons CO2e)
1.087.349

Scope 3: Capital goods (metric tons CO2e)
180.471

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
143.989

Scope 3: Upstream transportation and distribution (metric tons CO2e)

Scope 3: Waste generated in operations (metric tons CO2e)

Scope 3: Business travel (metric tons CO2e)
10.153

Scope 3: Employee commuting (metric tons CO2e)

Scope 3: Upstream leased assets (metric tons CO2e)

Scope 3: Downstream transportation and distribution (metric tons CO2e)

Scope 3: Processing of sold products (metric tons CO2e)

Scope 3: Use of sold products (metric tons CO2e)
724.264

Scope 3: End of life treatment of sold products (metric tons CO2e)

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment

Past year 2

Start date

enero 1, 2019

End date

diciembre 31, 2019

Scope 3: Purchased goods and services (metric tons CO2e)

1.471.988

Scope 3: Capital goods (metric tons CO2e)

287.968

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

153.153

Scope 3: Upstream transportation and distribution (metric tons CO2e)

Scope 3: Waste generated in operations (metric tons CO2e)

Scope 3: Business travel (metric tons CO2e)

66.360

Scope 3: Employee commuting (metric tons CO2e)

Scope 3: Upstream leased assets (metric tons CO2e)

Scope 3: Downstream transportation and distribution (metric tons CO2e)

Scope 3: Processing of sold products (metric tons CO2e)

Scope 3: Use of sold products (metric tons CO2e)

720.248

Scope 3: End of life treatment of sold products (metric tons CO2e)

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment

Past year 3

Start date

End date

Scope 3: Purchased goods and services (metric tons CO2e)

Scope 3: Capital goods (metric tons CO2e)

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

Scope 3: Upstream transportation and distribution (metric tons CO2e)

Scope 3: Waste generated in operations (metric tons CO2e)

Scope 3: Business travel (metric tons CO2e)

Scope 3: Employee commuting (metric tons CO2e)

Scope 3: Upstream leased assets (metric tons CO2e)

Scope 3: Downstream transportation and distribution (metric tons CO2e)

Scope 3: Processing of sold products (metric tons CO2e)

Scope 3: Use of sold products (metric tons CO2e)

Scope 3: End of life treatment of sold products (metric tons CO2e)

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment

C6.7

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

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0,000014645

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

536.737

Metric denominator

unit total revenue

Metric denominator: Unit total

36.649.000.000

Scope 2 figure used

Market-based

% change from previous year

21,1

Direction of change

Decreased

Reason for change

In 2021, our revenue totalled 36,649 million euros (without the revenues from the UK opertion,, as this operation is not included in the boundary of scope 1+2 emissions calculations).
Our intensity figure has decreased 21.1% because our scope 1 and 2 emissions (numerator) have decreased 206.629 tCO2e, even that our revenues (denominator), has increased by 0.8%. The decrease of our emissions has been possible thanks to our Energy Efficiency Plan. In 2021 under this plan we carried out 188 initiatives in our networks and offices reducing energy consumption by 302 GWh. These efforts are reflected in the 86% improvement of our energy-intensive ratios (MWh/PB) since 2015, which shows the decoupling of our business growth from energy consumption.
Moreover thanks to Renewable Energy Plan, in 2021, 79.4% of our electricity consumption is renewably sourced (considering electricity directly purchase, and consumed in own fcilities). This has allowed us to reduce our Scope 2 emissions by 114k tonnes of CO2 equivalent.

Intensity figure

4,7

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

536.737

Metric denominator

Other, please specify

Unit of service provided petabyte (Traffic)

Metric denominator: Unit total

113.547

Scope 2 figure used

Market-based

% change from previous year

39,4

Direction of change

Decreased

Reason for change

Our intensity figure has decreased 39,4% because our scopes 1 and 2 emissions have decreased 206.629 tCO2e but also because in 2021 traffic has increased 31,1% over the past year. The services that Telefónica offers are subject to continuously growing demand, not only in connectivity but also in data traffic which is increasing exponentially. The decrease of our emissions has been possible thanks to our Energy Efficiency Plan. In 2021 under this plan we carried out 188 initiatives in our networks and offices reducing energy consumption by 302 GWh. These efforts are reflected in the 86% improvement of our energy-intensive ratios (Mwh/PB) since 2015, which shows the decoupling of our business growth from energy consumption. Moreover thanks to Renewable Energy Plan, in 2021 79.4% of our electricity consumption is renewably sourced (considering electricity directly purchased and consumed in own facilities). This has allowed us to reduce our Scope 2 emissions by 114k tonnes of CO2 equivalent.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	61.660	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	349	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	697	IPCC Fifth Assessment Report (AR5 – 100 year)

HFCs	120.525	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Germany	5.369
Spain	29.181
Brazil	64.056
United States of America	217
Mexico	7.589
Colombia	14.101
Peru	6.212
Ecuador	1.185
Venezuela (Bolivarian Republic of)	12.338
Chile	10.542
Argentina	31.801
Uruguay	550
Guatemala	24
Panama	0
Bolivia (Plurinational State of)	3
Puerto Rico	64

C7.3

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

By business division

C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
Operational Business, this includes all telecom operators in all our countries.	181.394
Infrastructure Business, it includes our telecom infrastructure business (Telxius) in all countries.	1.837

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Germany	268.505	581
Spain	246.677	22.254
Brazil	231.968	651
United States of America	2.373	2.373
Mexico	82.122	61.817
Colombia	57.617	20.981
Peru	51.913	3.074
Ecuador	8.129	8.129
Venezuela (Bolivarian Republic of)	34.128	34.128
Chile	91.311	62.334
Argentina	135.543	135.543
Uruguay	558	558
Guatemala	408	161
Panama	224	224
Bolivia (Plurinational State of)	39	39
Puerto Rico	659	659

C7.6

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

By business division

C7.6a

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

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Operational Business, this includes all telecom operators in all our countries.	1.205.850	347.849
Infrastructure Business, it includes our telecom infrastructure business (Telxius) in all countries.	6.323	5.657

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	114.081	Decreased	16,9	Thanks to renewable energy Plan our renewable electricity consumption has increased by 162,935 MWh, this means an increase of 3.6% with respect to 2020, This results in a reduction of 114,081 tCO2e of our Scope 2 Market-based, Through these activities we reduced our emissions by 114,081 tCO2e, and our total S1 and S2 emissions in the previous year were 675,459 tCO2e, therefore we arrived at -16.9% through (-114,081/675,459) * 100 = -16,9%) (i,e, an 16.9%) decrease in emissions).
Other emissions reduction activities	24.641	Decreased	3,6	In 2021, thanks to the cooling projects implemented, and the old refrigeration equipment replaced with new more efficient equipment which uses refrigerant gases with lower GWP, we reduced the leakage of refrigerant gases in our operations and also reduced our maintenance costs, Additionally, in 2021 we have implemented Energy Efficiency Projects aimed to reduce fuel consumption in operations and vehicles, that led us to a reduction of 11,946 MWh, This results in a reduction of 24,641 tCO2e of our Scope 1, Through these activities we reduced our emissions by

				24,641 tCO2e, and our total S1 and S2 emissions in the previous year were 675,459 tCO2e, therefore we arrived at -3,6% through (-24,641 / 675,459) * 100 = -3.6% (i,e, an 3.6% decrease in emissions).
Divestment				
Acquisitions				
Mergers				
Change in output				
Change in methodology				
Change in boundary				
Change in physical operating conditions				
Unidentified				
Other				

C7.9b

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

Market-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

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

	Indicate whether your organization undertook this energy-related activity in the reporting year

Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	Yes
Generation of electricity, heat, steam, or cooling	No

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	28.386	254.986	283.372
Consumption of purchased or acquired electricity		4.674.598	1.134.691	5.809.289
Consumption of purchased or acquired heat		0	7.589	7.589
Consumption of purchased or acquired cooling		0	0	0
Total energy consumption		4.709.360	1.397.266	6.106.625

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No

Consumption of fuel for the generation of heat	No
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

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

Sustainable biomass

Heating value

LHV

Total fuel MWh consumed by the organization

28.386

Comment

Biodiesel + Bioethanol

Other biomass

Heating value

Total fuel MWh consumed by the organization

0

Comment

Other renewable fuels (e.g. renewable hydrogen)

Heating value

Total fuel MWh consumed by the organization

0

Comment

Coal

Heating value

Total fuel MWh consumed by the organization

0

Comment

Oil

Heating value

LHV

Total fuel MWh consumed by the organization

228.089

Comment

Motor Gasoline + Liquefied Petroleum Gas (LPG) + Diesel

Gas

Heating value

LHV

Total fuel MWh consumed by the organization

26.897

Comment

Natural Gas

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value

Total fuel MWh consumed by the organization

0

Comment

Total fuel

Heating value

LHV

Total fuel MWh consumed by the organization

283.372

Comment

C8.2g

(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.

Country/area
Germany

Consumption of electricity (MWh)
732.032

Consumption of heat, steam, and cooling (MWh)
5.086

Total non-fuel energy consumption (MWh) [Auto-calculated]
737.118

Is this consumption excluded from your RE100 commitment?
No

Country/area
Spain

Consumption of electricity (MWh)
1.644.926

Consumption of heat, steam, and cooling (MWh)
2.503

Total non-fuel energy consumption (MWh) [Auto-calculated]
1.647.429

Is this consumption excluded from your RE100 commitment?
No

Country/area
Brazil

Consumption of electricity (MWh)
1.715.235

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]

1.715.235

Is this consumption excluded from your RE100 commitment?

No

Country/area

United States of America

Consumption of electricity (MWh)

6.771

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

6.771

Is this consumption excluded from your RE100 commitment?

No

Country/area

Mexico

Consumption of electricity (MWh)

234.180

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

234.180

Is this consumption excluded from your RE100 commitment?

No

Country/area

Peru

Consumption of electricity (MWh)

289.704

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

289.704

Is this consumption excluded from your RE100 commitment?

No

Country/area

Ecuador

Consumption of electricity (MWh)

58.608

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

58.608

Is this consumption excluded from your RE100 commitment?

No

Country/area

Venezuela (Bolivarian Republic of)

Consumption of electricity (MWh)

108.756

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

108.756

Is this consumption excluded from your RE100 commitment?

No

Country/area

Chile

Consumption of electricity (MWh)

237.114

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

237.114

Is this consumption excluded from your RE100 commitment?

Country/area

Argentina

Consumption of electricity (MWh)

469.340

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

469.340

Is this consumption excluded from your RE100 commitment?

No

Country/area

Uruguay

Consumption of electricity (MWh)

27.038

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

27.038

Is this consumption excluded from your RE100 commitment?

No

Country/area

Guatemala

Consumption of electricity (MWh)

1.675

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

1.675

Is this consumption excluded from your RE100 commitment?

No

Country/area

Panama

Consumption of electricity (MWh)

541

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

541

Is this consumption excluded from your RE100 commitment?

No

Country/area

Bolivia (Plurinational State of)

Consumption of electricity (MWh)

113

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

113

Is this consumption excluded from your RE100 commitment?

No

Country/area

Puerto Rico

Consumption of electricity (MWh)

2.051

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

2.051

Is this consumption excluded from your RE100 commitment?

No

C8.2h

(C8.2h) Provide details of your organization's renewable electricity purchases in the reporting year by country

Country/area of renewable electricity consumption

Spain

Sourcing method

Green electricity products from an energy supplier (e.g. Green Tariffs)

Renewable electricity technology type

Renewable electricity mix, please specify

Solar PV; Concentrated solar power (CSP); Wind; Hydropower; Biomass (including biogas)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

1.555.410

Tracking instrument used

REGO

Total attribute instruments retained for consumption by your organization (MWh)

1.326.423

Country/area of origin (generation) of the renewable electricity/attribute consumed

Spain

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

The energy purchasing strategy established in the Renewable Energy Plan is put into effect in several different ways. In Europe, given the maturity of the energy market, the strategy is based on the acquisition of Guarantees of Origin.

Country/area of renewable electricity consumption

Brazil

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Wind

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

1.007.760

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

1.007.760

Country/area of origin (generation) of the renewable electricity/attribute consumed

Brazil

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2.017

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

All the electricity consumption of our operation, apart from distributed generation and incentive energy of free-market, is supported by Energy attribute certificates, I-RECs.

Country/area of renewable electricity consumption

Brazil

Sourcing method

Green electricity products from an energy supplier (e.g. Green Tariffs)

Renewable electricity technology type

Small hydropower (<25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

583.915

Tracking instrument used

Contract

Total attribute instruments retained for consumption by your organization (MWh)

583.915

Country/area of origin (generation) of the renewable electricity/attribute consumed

Brazil

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2.007

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

The Brazilian energy sector is partially liberalized as a consequence of some regulations changes. This liberalized market is only available for industry and commerce and is incentivized and supported by renewable energy sources. So, all the electricity available in this incentivized and liberalized market, comes from renewable sources but it is not supported by energy attribute certificates. This market only incentivizes energy from renewable sources: Solar PV, Wind, etc.

Country/area of renewable electricity consumption

Brazil

Sourcing method

Direct procurement from an offsite grid-connected generator e.g. Power Purchase Agreement (PPA)

Renewable electricity technology type

Solar

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

34.358

Tracking instrument used

Contract

Total attribute instruments retained for consumption by your organization (MWh)

34.358

Country/area of origin (generation) of the renewable electricity/attribute consumed

Brazil

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2.021

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

Thanks to a new regulation in the energy market of Brazil, it is permitted to sign long-term contracts with renewable energy generators connected to the grid (Distributed Generation). All the electricity generated under this scheme comes from renewable sources (Solar PV, MiniHydro and Biogas).

Country/area of renewable electricity consumption

Brazil

Sourcing method

Direct procurement from an offsite grid-connected generator e.g. Power Purchase Agreement (PPA)

Renewable electricity technology type

Small hydropower (<25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

80.622

Tracking instrument used

Contract

Total attribute instruments retained for consumption by your organization (MWh)

80.622

Country/area of origin (generation) of the renewable electricity/attribute consumed

Brazil

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2.018

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

Thanks to a new regulation in the energy market of Brazil, it is permitted to sign long-term contracts with renewable energy generators connected to the grid (Distributed Generation). All the electricity generated under this scheme comes from renewable sources (Solar PV, MiniHydro and Biogas).

Country/area of renewable electricity consumption

Brazil

Sourcing method

Direct procurement from an offsite grid-connected generator e.g. Power Purchase Agreement (PPA)

Renewable electricity technology type

Sustainable Biomass

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

3.768

Tracking instrument used

Contract

Total attribute instruments retained for consumption by your organization (MWh)

3.768

Country/area of origin (generation) of the renewable electricity/attribute consumed

Brazil

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2.021

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

Thanks to a new regulation in the energy market of Brazil, it is permitted to sign long-term contracts with renewable energy generators connected to the grid (Distributed Generation). All the electricity generated under this scheme comes from renewable sources (Solar PV, MiniHydro and Biogas).

Country/area of renewable electricity consumption

Colombia

Sourcing method

Green electricity products from an energy supplier (e.g. Green Tariffs)

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

182.358

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

182.358

Country/area of origin (generation) of the renewable electricity/attribute consumed

Colombia

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

The energy purchasing strategy established in the Renewable Energy Plan is put into effect in several different ways. In some countries of Latin America, it is possible, because of the energy market, to acquire electricity bundled with energy attribute certificates.

Country/area of renewable electricity consumption

Peru

Sourcing method

Green electricity products from an energy supplier (e.g. Green Tariffs)

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

269.680

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

269.680

Country/area of origin (generation) of the renewable electricity/attribute consumed

Peru

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

The energy purchasing strategy established in the Renewable Energy Plan is put into effect in several different ways. In some countries of Latin America, it is possible, because of the energy market, to acquire electricity bundled with energy attribute certificates.

Country/area of renewable electricity consumption

Chile

Sourcing method

Green electricity products from an energy supplier (e.g. Green Tariffs)

Renewable electricity technology type

Renewable electricity mix, please specify

Solar PV, Wind, Hydropower

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

74.962

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

74.962

Country/area of origin (generation) of the renewable electricity/attribute consumed

Chile

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

The energy purchasing strategy established in the Renewable Energy Plan is put into effect in several different ways. In some countries of Latin America, it is possible, because of the energy market, to acquire electricity bundled with energy attribute certificates.

Country/area of renewable electricity consumption

Mexico

Sourcing method

Direct procurement from an offsite grid-connected generator e.g. Power Purchase Agreement (PPA)

Renewable electricity technology type

Solar

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

57.899

Tracking instrument used

Other, please specify

CEL (Certificados de Energía Limpia - Clean Energy Certificates) - National system for tracking RE.

Total attribute instruments retained for consumption by your organization (MWh)

57.899

Country/area of origin (generation) of the renewable electricity/attribute consumed

Mexico

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

Since 2018 the largest solar park in the country started supplying our operation in Mexico, thanks to a PPA signed between Telefónica and the solar power generation company. This solar park will supply 40% of the power consumed by Telefónica Mexico over the next 20 years.

Country/area of renewable electricity consumption

Germany

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Renewable electricity mix, please specify

Solar PV; Wind; Hydropower; Biomass (including biogas)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

822.852

Tracking instrument used

REGO

Total attribute instruments retained for consumption by your organization (MWh)

822.852

Country/area of origin (generation) of the renewable electricity/attribute consumed

Germany

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

No brand, label, or certification

Comment

The energy purchasing strategy established in the Renewable Energy Plan is put into effect in several different ways. In Europe, given the maturity of the energy market, the strategy is based on the acquisition of Guarantees of Origin.

C8.2i

(C8.2i) Provide details of your organization's low-carbon heat, steam, and cooling purchases in the reporting year by country.

Country/area of consumption of low-carbon heat, steam or cooling

Spain

Sourcing method

Heat/steam/cooling supply agreement

Energy carrier

Heat

Low-carbon technology type

Other, please specify

Waste energy recovery

Low-carbon heat, steam, or cooling consumed (MWh)

782.855

Comment

Energy production is carried out in an efficient way from 3 points of view: environmental, economic and safety. This results in lower energy costs for customers than would be obtained with traditional solutions. Practically all of the heat and a large part of the cooling is produced using steam from the incineration of urban waste (MSW) at the nearby TERSA treatment plant. In this way, the consumption of fossil fuels is minimized, avoiding the emission of thousands of tons of CO2 into the atmosphere per year. The remaining cold is produced with industrial-type electric chillers refrigerated by seawater and sourced by renewable electricity. This achieves high "coefficient of performance" (COP) and avoids the installation of cooling towers (eliminating the risk of legionellosis) and improving energy efficiency. This water is collected from the nearby Port Fòrum and is returned to the sea through a collector, with practically zero environmental impact. The system is completed with a 5,000 m3 cold water storage tank equipped with a stratifier that allows cold water to be stored overnight and discharged during the day.

Country/area of consumption of low-carbon heat, steam or cooling

Spain

Sourcing method

Heat/steam/cooling supply agreement

Energy carrier

Cooling

Low-carbon technology type

Other, please specify

Guarantees of Origen - All the electricity consumed for cooling water production is of renewable origin with certificates of origin of the electricity

Low-carbon heat, steam, or cooling consumed (MWh)

1.719.814

Comment

Energy production is carried out in an efficient way from 3 points of view: environmental, economic and safety. This results in lower energy costs for customers than would be obtained with traditional solutions. Practically all of the heat and a large part of the cooling is produced using steam from the incineration of urban waste (MSW) at the nearby TERSA treatment plant. In this way, the consumption of fossil fuels is minimized, avoiding the emission of thousands of tons of CO2 into the atmosphere per year. The remaining cold is produced with industrial-type electric chillers refrigerated by seawater and sourced by renewable electricity. This achieves high "coefficient of performance" (COP) and avoids the installation of cooling towers (eliminating the risk of legionellosis) and improving energy efficiency. This water is collected from the nearby Port Fòrum and is returned to the sea through a collector, with practically zero environmental impact. The system is completed with a 5,000 m3 cold water storage tank equipped with a stratifier that allows cold water to be stored overnight and discharged during the day.

All electricity consumed for the production of chilled water is of renewable origin with certificates of origin of the electricity.

C8.2j

(C8.2j) Provide details of your organization's renewable electricity generation by country in the reporting year.

Country/area of generation

Colombia

Renewable electricity technology type

Solar

Facility capacity (MW)

Total renewable electricity generated by this facility in the reporting year (MWh)

784

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were not issued (MWh)

784

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were issued and retired (MWh)

0

Renewable electricity sold to the grid in the reporting year (MWh)

0

Certificates issued for the renewable electricity that was sold to the grid (MWh)

0

Certificates issued and retired for self-consumption for the renewable electricity that was sold to the grid (MWh)

0

Type of energy attribute certificate

Total self-generation counted towards RE100 target (MWh) [Auto-calculated]

784

Comment

Facility capacity (MW) : we do not report this figure because there are a multitude of self-generation points distributed throughout the country.

Country/area of generation

Peru

Renewable electricity technology type

Solar

Facility capacity (MW)

Total renewable electricity generated by this facility in the reporting year (MWh)

3.052

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were not issued (MWh)

3.052

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were issued and retired (MWh)

0

Renewable electricity sold to the grid in the reporting year (MWh)

0

Certificates issued for the renewable electricity that was sold to the grid (MWh)

0

Certificates issued and retired for self-consumption for the renewable electricity that was sold to the grid (MWh)

0

Type of energy attribute certificate

Total self-generation counted towards RE100 target (MWh) [Auto-calculated]

3.052

Comment

Facility capacity (MW) : we do not report this figure because there are a multitude of self-generation points distributed throughout the country.

Country/area of generation

Chile

Renewable electricity technology type

Solar

Facility capacity (MW)

Total renewable electricity generated by this facility in the reporting year (MWh)

894

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were not issued (MWh)

894

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were issued and retired (MWh)

0

Renewable electricity sold to the grid in the reporting year (MWh)

0

Certificates issued for the renewable electricity that was sold to the grid (MWh)

0

Certificates issued and retired for self-consumption for the renewable electricity that was sold to the grid (MWh)

0

Type of energy attribute certificate

Total self-generation counted towards RE100 target (MWh) [Auto-calculated]

894

Comment

Facility capacity (MW) : we do not report this figure because there are a multitude of self-generation points distributed throughout the country.

Country/area of generation

Argentina

Renewable electricity technology type

Solar

Facility capacity (MW)

Total renewable electricity generated by this facility in the reporting year (MWh)

169

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were not issued (MWh)

169

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were issued and retired (MWh)

0

Renewable electricity sold to the grid in the reporting year (MWh)

0

Certificates issued for the renewable electricity that was sold to the grid (MWh)

0

Certificates issued and retired for self-consumption for the renewable electricity that was sold to the grid (MWh)

0

Type of energy attribute certificate

Total self-generation counted towards RE100 target (MWh) [Auto-calculated]

169

Comment

Facility capacity (MW) : we do not report this figure because there are a multitude of self-generation points distributed throughout the country.

Country/area of generation

Mexico

Renewable electricity technology type

Solar

Facility capacity (MW)

Total renewable electricity generated by this facility in the reporting year (MWh)

15

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were not issued (MWh)

15

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were issued and retired (MWh)

0

Renewable electricity sold to the grid in the reporting year (MWh)

0

Certificates issued for the renewable electricity that was sold to the grid (MWh)

0

Certificates issued and retired for self-consumption for the renewable electricity that was sold to the grid (MWh)

0

Type of energy attribute certificate

Total self-generation counted towards RE100 target (MWh) [Auto-calculated]

15

Comment

Facility capacity (MW) : we do not report this figure because there are a multitude of self-generation points distributed throughout the country.

Country/area of generation

Spain

Renewable electricity technology type

Solar

Facility capacity (MW)

Total renewable electricity generated by this facility in the reporting year (MWh)

3.254

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were not issued (MWh)

633

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were issued and retired (MWh)

0

Renewable electricity sold to the grid in the reporting year (MWh)

2.621

Certificates issued for the renewable electricity that was sold to the grid (MWh)

0

Certificates issued and retired for self-consumption for the renewable electricity that was sold to the grid (MWh)

0

Type of energy attribute certificate

Total self-generation counted towards RE100 target (MWh) [Auto-calculated]

633

Comment

Facility capacity (MW) : we do not report this figure because there are a multitude of self-generation points distributed throughout the country.

Country/area of generation

Uruguay

Renewable electricity technology type

Solar

Facility capacity (MW)

Total renewable electricity generated by this facility in the reporting year (MWh)

1.819

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were not issued (MWh)

828

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were issued and retired (MWh)

0

Renewable electricity sold to the grid in the reporting year (MWh)

991,2

Certificates issued for the renewable electricity that was sold to the grid (MWh)

0

Certificates issued and retired for self-consumption for the renewable electricity that was sold to the grid (MWh)

0

Type of energy attribute certificate

Total self-generation counted towards RE100 target (MWh) [Auto-calculated]

828

Comment

Facility capacity (MW) : we do not report this figure because there are a multitude of self-generation points distributed throughout the country.

C8.2k

(C8.2k) Describe how your organization's renewable electricity sourcing strategy directly or indirectly contributes to bringing new capacity into the grid in the countries/areas in which you operate.

Telefonica recognizes, within the social context, the importance of environmental aspects and long-term sustainability. Since 2015, the organization has articulated efforts to shift towards renewable energies across its value chain. This transition adds up to the global fight against climate change throughout decarbonization and circularity as well as promotes solutions for environmental issues at a local level. Telefonica's Renewable Energy Plan includes all kinds of solutions such as: -self-generation, purchase of renewable energy with a guarantee of origin and long-term agreements (Power Purchase Agreements - PPA)- and prioritization of non-conventional renewable energy sources (direct impacts) as well as the purchase of Unbundled

Energy Attribute Certificate (EAC) in the markets where we operate, because almost the 3rd part of renewable energy comes from this mechanism (indirect impact), for example, GO in Germany, iRECs in Peru nd part of the consumption in Brazil. The objective is to go beyond 100% renewable energy in the main markets, that is, to contribute to increasing the renewable energy mix through self-generation or facilitating the construction of new parks through a commitment to medium and long-term consumption.

For example, in 2021, 79.4% of the total electricity consumption on our own facilities came from renewable sources. In addition, the ambitious distributed generation project in Brazil will allow the generation of more that 700GWh per year by adding 83 new renewable energy plants starting on 2022. This will reduce Telefonica Brazil reliance on iREC guarantees of origin. In Spain, four new long-term renewable energy PPAs were signed for the period 2022-2031. This will cover 30% of the country's total consumption, equivalent to 482 GWh per year for 10 years. These new agreements made it possible to reach a total of 582 GWh of renewable electricity covered by PPA in Telefonica's operations in Spain (added to the PPA signed in 2020 of 100 GWh), covering 50% of the consumption of technical buildings.

In addition, thanks to the extension of the guarantee of origin programs, countries such as Chile, Colombia and Peru certified 34%, 67% and 100% of the electricity consumed in own facilities is renewable, respectively. In Germany, Brazil and Peru, 100% of the electricity consumption at third-party sites was also certified as renewable.

The objective of Telefonica, as part of the RE100 initiative, is to source completely all electrical consumption of global operations from renewable energy in 2030 (in own facilities).

Regarding self-generation, the number of base stations in the mobile network that work with renewable energies is being progressively increased, reaching up to 854. This also avoids the use of fuel-powered generators in isolated base stations, achieving a reduction in consumption between 70% and 100%. In Uruguay, due to more favourable regulations for the development of this type of systems, 3% of the energy consumed by the operator's mobile network was self-generated through photovoltaic solar energy. In Spain, photovoltaic self-generation systems were also implemented in several buildings, using solar production for self-sufficiency (without sending surpluses to the grid) under two models, the first with its own CapEx and the second under a service model where it was paid for electricity generated at a lower rate than the market rate, obtaining OpEx savings. Telefonica's Renewable Energy Plan focuses on continuing to sign long-term Power Purchase Agreements (PPA) and self-generation, in order to progressively reduce the purchase of certificates of renewable origin and increase savings in OpEx for electricity.
In this way, Telefonica promotes the use of renewable energy in all the countries where it operates, contributing directly to the energy mix of each country, while serving as an example for other local companies in the sector in terms of innovation, adaptation, and sustainability by the use of renewable energies.

C8.2l

(C8.2l) In the reporting year, has your organization faced any challenges to sourcing renewable electricity?

	Challenges to sourcing renewable electricity
Row 1	Yes, in specific countries/areas in which we operate

C8.2m

(C8.2m) Provide details of the country-specific challenges to sourcing renewable electricity faced by your organization in the reporting year.

Country/area	Reason(s) why it was challenging to source renewable electricity within selected country/area	Provide additional details of the barriers faced within this country/area
Argentina	Lack of electricity market structure supporting bilateral PPAs Limited supply of renewable electricity in the market	Telefónica is an organization committed to sustainability and the fight against climate change, which is the reason why the organization seeks to positively attribute to society through its decarbonization plan driven mainly by the use of renewable energy. However, there are different factors that prevent Telefónica from advancing as fast as it would like in the transition towards the use of clean energy in specific locations. For example, Argentina represents a challenge when it comes to supplying electricity from renewable sources (their electricity generated by renewable sources is 31.2%) because their energy mix as a country is mainly made up of non-renewable fossil sources, so there are specific locations where the only electricity supplier is the public grid, or there is no opportunity to choose a renewable source. Mexico represents an opportunity, because despite not having a high renewable energy mix, it is a country that allows Power Purchase Agreements due to its legislation, which represents a convenience for Telefónica.
Ecuador	Lack of electricity market structure supporting bilateral PPAs Limited supply of renewable electricity in the market	Ecuador represents a challenge as the market has not developed yet the purchase of Certificates of Origin.

C9. Additional metrics

C9.1

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

Description

Energy usage

Metric value

6.106.625

Metric numerator

MWh

Metric denominator (intensity metric only)

% change from previous year

2,6

Direction of change

Decreased

Please explain

In 2021, we undertook 188 energy efficiency and management initiatives in our networks and offices, achieving savings of 302 GWh. Total energy consumption was 6,107 GWh (21,983,852 GJ), 95% of which was electricity, while 5% was fuel.
Thanks to the implementation of energy efficiency projects, we have managed to reduce power consumption by 7.2%
since 2015 and 2.6% compared to previous year.

Description

Other, please specify

Energy Efficiency

Metric value

54

Metric numerator

MWh

Metric denominator (intensity metric only)

PB

% change from previous year

26

Direction of change

Decreased

Please explain

In 2021, . our energy consumption per traffic unit rate improved by 86% compared to 2015 and we saved €37.6 million through the implementation of energy efficiency and management projects.

Description

Other, please specify

Avoided emissions through our services

Metric value

8.700.000

Metric numerator

Avoided emisions in our clients thanks to our P&S.

Metric denominator (intensity metric only)

% change from previous year

8,4

Direction of change

Decreased

Please explain

In 2021, thanks to our services, Telefonica's business customers avoided the emission of 8.7 million tonnes of CO2.
This figure is lower than the figure for 2020 as there were fewer lockdown measures during 2021 and, therefore, although the percentage of people working from home was high, it was not as high as in 2020.

C10. Verification

C10.1

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

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

C10.1a

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

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

DECLARACION TELEFONICA GLOBAL EN 2021 DEF1 rev_signed.pdf

Page/ section reference

The attached document is the Verification Statement of AENOR for Telefónica on the Inventory of greenhouse gas emissions corresponding to the year 2021, so all the document is relevant, The specific data on Scope 1 emissions for 2021 are on page 6.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.1b

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

Scope 2 approach

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

DECLARACION TELEFONICA GLOBAL EN 2021 DEF1 rev_signed.pdf

Page/ section reference

The attached document is the Verification Statement of AENOR for Telefónica on the Inventory of greenhouse gas emissions corresponding to the year 2021, so all the document is relevant, The specific data on Scope 2 emissions for 2021 are on page 6.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

DECLARACION TELEFONICA GLOBAL EN 2021 DEF1 rev_signed.pdf

Page/ section reference

The attached document is the Verification Statement of AENOR for Telefónica on the Inventory of greenhouse gas emissions corresponding to the year 2021, so all the document is relevant, The specific data on Scope 3 emissions for 2021 are on page 6.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.1c

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

Scope 3 category

Scope 3: Purchased goods and services
Scope 3: Capital goods
Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
Scope 3: Business travel

Scope 3: Investments
Scope 3: Use of sold products

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement

DECLARACION TELEFONICA GLOBAL EN 2021 DEF1 rev_signed.pdf

Page/section reference
The attached document is the Verification Statement of AENOR for Telefónica on the Inventory of greenhouse gas emissions corresponding to the year 2021, so all the document is relevant, The specific data on Scope 3 emissions for 2021 are on page 6.

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?
Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Energy consumption	ISO14064-3	Energy Consumption, including RE consumption) is verified by a third-party. Please see page 7 of the attached verification statement. 1

C8. Energy	Emissions reduction activities	ISO14064-3	Directed actions related to emissions reduction are verified by a third-party. Please see pages 7 and 8 of the attached verification statement. 1
C8. Energy	Other, please specify % RE in own facilities	ISO14064-3	Energy Consumption is verified by a third-party., including % of RE in own facilities. Please see page 7 of the attached verification statement. 1
C5. Emissions performance	Year on year change in emissions (Scope 1 and 2)	ISAE 3000 (Revised)	PwC has verified emissions reduction under ISAE 3000 (Revised) standard Please see Table 2.17.9 - Compliance table of Spanish Law 11/2018 of 28 December - GRI Standards. Please refer to p. 266 (Reduction of GHG emissions.). PwC verification statement is in p. 287 of the Consolidated Report. 2
C5. Emissions performance	Year on year change in emissions (Scope 3)	ISAE 3000 (Revised)	PwC has verified emissions reduction under ISAE 3000 (Revised) standard Please see Table 2.17.9 - Compliance table of Spanish Law 11/2018 of 28 December - GRI Standards. Please refer to p. 266 (Reduction of GHG emissions.). PwC verification statement is in p. 287 of the Consolidated Report. 2
C4. Targets and performance	Progress against emissions reduction target	ISAE 3000 (Revised)	PwC has verified emissions reduction under ISAE 3000 (Revised) standard Please see Table 2.17.9 - Compliance table of Spanish Law 11/2018 of 28 December - GRI Standards. Please refer to p. 266 (Reduction of GHG emissions.). PwC verification statement is in p. 287 of the Consolidated Report. 2
C6. Emissions data	Year on year emissions intensity figure	ISAE 3000 (Revised)	PwC has verified emissions intensity figure (tCO2/€), included in p. 80, under ISAE 3000 (Revised) standard Please see Table 2.17.9 - Compliance table of Spanish Law 11/2018 of 28 December - GRI Standards. Please refer to p. 266 (Reduction of GHG

			emissions.). PwC verification statement is in p. 287 of the Consolidated Report. [2]

[1]DECLARACION TELEFONICA GLOBAL EN 2021 DEF1 rev_signed.pdf

[2]consolidated-management-report-2021.pdf

C11. Carbon pricing

C11.1

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

No, and we do not anticipate being regulated in the next three years

C11.2

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

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit purchase

Project type

Forests

Project identification

Project REDD+ Jari Pará/Amapá: Jari Valley covers several productive activities – from forest management to sustainable agriculture and extractivism – being a region of great social and environmental importance, and constantly threatened by human activity due to unplanned and illegal deforestation. Jari Group's properties are located in this context and have great regional importance. Aiming to curb the constant threats towards the area, the Amapá & Pará REDD+ Projects seek to promote qualification of the sustainable forest management and agroextractivism productions, promoting the well-being of the communities and turning them into partners for the maintenance of the forest resources.

Verified to which standard

VCS (Verified Carbon Standard)

Number of credits (metric tonnes CO2e)
35.676

Number of credits (metric tonnes CO2e): Risk adjusted volume
35.676

Credits cancelled
Yes

Purpose, e.g. compliance
Voluntary Offsetting

Credit origination or credit purchase
Credit purchase

Project type
Forests

Project identification
Cikel Brazilian Amazon REDD APD Project Avoiding Planned Deforestation: The CIKEL Brazilian Amazon REDD APD Project aims to avoid emissions from planned deforestation on a property in Paragominas Municipality, Para State, Brazil. The project has a positive social impact on the local community as it provides employment as well as schools and improved medical facilities.

Verified to which standard
VCS (Verified Carbon Standard)

Number of credits (metric tonnes CO2e)
21.582

Number of credits (metric tonnes CO2e): Risk adjusted volume
21.582

Credits cancelled
Yes

Purpose, e.g. compliance
Voluntary Offsetting

Credit origination or credit purchase
Credit purchase

Project type
Hydro

Project identification

BAESA Project: is a dam and hydroelectric power plant on the Pelotas River near Celso Ramos on the border of Santa Catarina and Rio Grande do Sul, Brazil. The power station has a 708 MW capacity and is supplied with water by a concrete face rock-fill embankment dam, the second tallest dam in Brazil. It produces a 30% equivalent of the demand in Santa Catarina or 20% of the total energy consumed in the state of Rio Grande do Sul.

Verified to which standard

VCS (Verified Carbon Standard)

Number of credits (metric tonnes CO2e)

2.560

Number of credits (metric tonnes CO2e): Risk adjusted volume

2.560

Credits cancelled

Yes

Purpose, e.g. compliance

Voluntary Offsetting

Credit origination or credit purchase

Credit purchase

Project type

Transport

Project identification

J.B. HUNT INTERMODAL TRANSPORTATION PROJECT, US: Pursuing Carbon Efficiency in transportation by increasing the amount of freight transported by intermodal instead of long-haul trucking. Rail transportation was found to generate only one third of the emissions generated by truck transportation. Hunt also implemented an Idling Bonus Program to monetarily reward drivers and their managers for reducing unnecessary engine idling.

Verified to which standard

Other, please specify

Canadian Standards Association (CSA) GHG CleanProjectsTM Registry

Number of credits (metric tonnes CO2e)

3.200

Number of credits (metric tonnes CO2e): Risk adjusted volume

3.200

Credits cancelled

Yes

Purpose, e.g. compliance

Voluntary Offsetting

C11.3

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

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

Drive energy efficiency
Drive low-carbon investment
Identify and seize low-carbon opportunities

GHG Scope

Scope 1
Scope 2

Application

Deriving from our commitment to reach net zero emissions by 2040 and our interim targets of reducing scope 1 and 2 emissions up to 80% in 2030 and neutralising scope 1 and 2 emissions in our main markets by 2025, we use an implicit carbon price based on the price of the carbon credits purchased in each region, which helps us to make investment based on a risk analysis and equipment purchase decisions so as to move towards being a net zero emissions company. In addition, in our Low Carbon Procurement Instruction, the category of products for which the Instruction applies has been extended and the associated calculation of the shadow price of carbon has been included. In this way, the Total Cost of Ownership (TCO) includes the cost of purchasing the equipment, the cost of the energy consumed (electricity or fuels) and the cost associated with the carbon emissions of the equipment (either through energy consumption and/or leakage of refrigerant gases).

Actual price(s) used (Currency /metric ton)

30

Variance of price(s) used

This is the second year that we have implemented an implicit carbon price. With regards to the new shadow carbon priced recently implemented, we define the variance of prices as "Uniform pricing" as it applies to all Operational Business we are present on and for the same kind of equipment purchased in every geography. It is expected that new internal carbon price instruments will be implemented in the following years, which will result in more accurate forecasts and follow up of our objectives and targets.

Type of internal carbon price

Shadow price
Implicit price

Impact & implication

Carbon pricing is one of the most effective ways to provide across-the-board incentives to conserve energy and switch to cleaner energy sources. Carbon pricing has come to the forefront of policy measures seen as ways to reduce emissions to a level consistent with the Paris Agreement target of less than 1.5-2 degrees Celsius of warming. In the specific case of Telefonica's line of business, carbon price is a key tool that allows the organization to make better informed decisions on capital expenditure and procurement, as well as to assess the efficiency of the operations with the carbon cost in mind.

[SITUATION] Telefónica's main objective when implementing an internal carbon price is to manage the risks and opportunities associated with its carbon footprint and thus internalize the costs derived from GHG emissions.
[TASK] Some of the opportunities identified in the implementation of an internal price of carbon are the support to Telefonica in:
• Align our investment strategy with our newly established Net Zero goals.
• Accelerate reduction of GHG emissions; drive investment in energy efficiency initiatives, renewable energy procurement, R&D of low-carbon products/services
• Generate revenue to re-invest in low-carbon activities
[ACTION] In this way, Telefónica's plan consists of implementing a shadow carbon price that helps them make better investment and equipment purchase decisions, i.e and ICP for decisions to purchase equipment that use electricity, fuel or fluorinated gases. Applying the Total Cost of Ownership (TCO) serves to include in the purchase decision the cost of energy consumption and GHG emission costs associated with its useful life.
[RESULT] An specific example is the pilot program in Brazil, although it is expected that in the future this mechanism will be implemented in all of the Telefonica´s geographies. The impact and result obtained so far are that Telefonica Brazil includes in the fleet contracting model the obligation to compensate through certified absorption projects the emissions generated by the use of rental vehicles. This, on the one hand, reflects a tangible result by making the fleet they put into operation less polluting (use of biofuels), and on the other, it is included as a criterion when the contract is awarded.

C12. Engagement

C12.1

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

Yes, our suppliers
Yes, our customers/clients

C12.1a

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

Type of engagement

Innovation & collaboration (changing markets)

Details of engagement

Run a campaign to encourage innovation to reduce climate impacts on products and services

% of suppliers by number

6,7

% total procurement spend (direct and indirect)

84

% of supplier-related Scope 3 emissions as reported in C6.5

90

Rationale for the coverage of your engagement

In 2021 within our Supplier Engagement Programme for key suppliers (created in 2018) we extended the number of suppliers in the program by using a well-known program that enable us to cover a bigger proportion of our suppliers and thus, more spend and more supply chain emissions. In 2021, we invited our most significant suppliers in terms of emissions to the CDP Supply Chain programme in order to understand the state of their climate strategies and help them set more ambitious emissions reduction targets. Our supplier engagement strategy is based on the Scope 3 component of our approved science-based target (SBTi). These suppliers have been selected based on the following criteria:
- % of their emissions contribution to our Scope 3 (category 1&2)
- % of spending
- Degree of maturity in its management of climate change
- Strategical importance for Telefónica

In 2021, a total number of 262 suppliers participated representing 89% of the supply chain emissions (Category 1&2). At the same time, they represented the 71% of the total procurement spend.

The emissions covered by the suppliers in this programme are included in our Scope 3 reduction targets - to reduce 56% our absolute emissions by 2030. From 2016 to 2021, value chain emissions (scope 3) have been decreased by 27.4%, compared to 2016, representing 783,385 tCO_2e less in 5 years.

Impact of engagement, including measures of success

Our supplier engagement programme has the objective of collecting primary information from our suppliers in order to understand the level of maturity of their sustainability strategies &help them move forward in their CC Mmgt &to set more ambitious emission reduction targets reducing climate impacts on products and services. In 2021, we extend the scope of suppliers and the collection of data was executed through CDP Supply Chain.

Having primary information from the supplier allowed us to improve our scope 3

calculation and to developed an accurate carbon maturity curve which classifies suppliers in 5 levels . Then areas of improvement are identified for each maturity level ensuring that engagement approach is tailored to the different stage of maturity. These areas of work are those considered in the pledges where our suppliers committed to taking actions to reduce climate impacts on products and services that include Renewable Energy purchase, Energy Efficiency Projects, Emissions Targets validations (SBT) and switch to lower emissions vehicles, amongst others. Thus, no supplier is left behind feeling they no longer need to act on their climate impact.

Also, within this program we have organized a workshop to educate suppliers on how to reduce climate impact, methodology to report this primary information and main Telefónica KPIs.

We measure the success of the engagement through the % supply chain emissions - Category 1&2- and the % of procurement spend covered. If the % of emissions reported is over 70% and % of procurement spend is over 65% we would consider this engagement to be successful. As we obtained a 89% of supply chain emissions - category 1&2 reported and 71% of procurement spend covered we consider this initiative to be a success.

In addition, in 2021 we continue to participate in initiatives such as 1.5°C Supply Chain Leaders to reduce CO2 emissions from small and medium-sized suppliers &we supported the launch in Spain of SME Climate Hub, which will allow SMEs to begin their journey towards decarbonisation.

Comment

Type of engagement

Other, please specify

Compliance & onboarding

Details of engagement

Other, please specify

1) Included climate change in supplier selection / management mechanism ; 2) Code of conduct featuring climate change KPIs; 3) Climate change is integrated into supplier evaluation processes

% of suppliers by number

100

% total procurement spend (direct and indirect)

100

% of supplier-related Scope 3 emissions as reported in C6.5

100

Rationale for the coverage of your engagement

Within our Global Supply Chain Sustainability Policy (SCSP), we have incorporated environmental, climate & circular economy criteria, such as the compulsory incorporation of preventive measures & LCAs when supplying products/services.

Any company that wishes to be our supplier must accept the minimum requirements established by the SCSP in the registration&renewal processes. If a supplier does not meet the required standards or is not able to provide the info we initiate the necessary processes to secure a commitment to implement improvement plans.

The minimum standards related with CC included in our SCSP are:
(i) CC: the supplier will minimize their impact on CC considering their entire supply chain (scopes 1,2&3). They should work to reduce its GHG emissions by setting reduction targets for the next 3 yrs, which should, as far as possible, be science-based. To this end, they will promote EE & RE initiatives in their own activities & will support any requests for data on emissions/energy relevant to the products & services they provide to Telefónica.
(ii) Consumption of materials, resources & atmospheric emissions: The supplier shall use eco-efficient criteria in the development of its activity, especially with respect to scarce resources such as water or non-renewable resources.
(iii) Cooling gases: The supplier shall not supply equipment containing ozone-depleting gases (such as CFC or HCFC), nor shall it refill it with these gases, unless expressly authorised by Telefónica. In the offers, gases with a lower Global Warming Potential (PCG or GWP) will always be prioritised. For maintenance works on cooling equipment, the leakage of these gases into the atmosphere must be prevented in all cases. The supplier must also have a record of the amount (in kgs) of each type of gas refilled. This information must be reported quarterly to us.
(iii) Other related issues like "Life cycle & preventive action" can be seen online. In the evaluation process we focus on those suppliers that are the most significant due to their level of risk & the impact they have on our business objectives, including CC.

On the other hand, climate change is integrated into supplier evaluation processes through two main tools: JAC (Joint Audit Cooperation) & ECOVADIS.

Impact of engagement, including measures of success

Sustainability in the supply chain has become a key issue in the telco sector, since companies share more & more parts of the value chain with our suppliers & outsourcers. When facing CC, we need to engage our supply chain from the very beginning & for that we have included the Minimum Responsible Business Criteria related with CC in our Supply Chain Sustainability Policy.

To ensure the CC minimum criteria, we conduct a 360° evaluation of our main high-risk suppliers based on 21 sustainability issues that cover among others, climate change aspects. If a supplier does not reach the required level —in EcoVadis or in the Dow Jones Risk & Compliance service— or is unable to provide the information requested, we require their commitment to implementing improvement plans to ensure compliance with our standards. In extreme cases, when this is not feasible, all additional business

with the supplier is blocked until they prove they have corrected the situation, as stated in the terms and conditions signed by both parties.

Our KPIs to measures of success are: % of suppliers accepting our minimum responsible business criteria; and % of suppliers evaluated via EcoVadis tool. Telefónica considers this initiative to be successful if the % of suppliers accepting our minimum responsible business criteria is 100% and % of suppliers evaluated via EcoVadis toolis over 70%

In 2021, 100% of our suppliers accepted to conduct their activities in line with ethical standards that are similar to ours, guaranteeing compliance with all human & fundamental labour rights, & fostering protection of the environment. The success of the engagement strategy is high, because all our suppliers have to meet our minimum environmental criteria included in our SCSP (e.g. GHG emission reduction targets). Moreover, suppliers accounting for 71% of the risk suppliers identified in our global risk analysis were evaluated via the EcoVadis tool which includes CC aspects in the evaluation process.

In addition, in 2021 we continued to lead the working group which is part of the JAC (Joint Audit Cooperation) initiative in order to drive climate action as a sector. In this line, in the Telco sector 60 direct suppliers were audited and 402 corrective action plans were carried out in their facilities within the JAC , which some of them were related to CC issues.

Comment

As previously stated, Telefónica has two main tools to evaluate high risk suppliers' performance on our purchasing platform: JAC (Joint Audit Cooperation) & EcoVadis .

EcoVadis performs a deep assessment based on 21 sustainability criteria that include environmental aspects. If a supplier does not reach the required level or it is unable to provide the information requested, we require their commitment to implementing improvement plans to ensure compliance with our standards.

This performance assessment is complemented by our annual audit plan to verify compliance with the critical aspects identified according to (i) type of supplier, (ii) service and product provided, and (iii) the risks of each region or country. The audits include improvement plans agreed with 100% of the suppliers who do not comply with any of the aspects that may have a negative environmental impact. To conduct these audits, we are supported by the JAC (Joint Audit Cooperation) initiative.

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement & Details of engagement

Education/information sharing
Share information about your products and relevant certification schemes (i.e. Energy STAR)

% of customers by number

100

% of customer - related Scope 3 emissions as reported in C6.5

63

Please explain the rationale for selecting this group of customers and scope of engagement

Telefónica works to make its customers aware of the climate change impact by providing information on this topic on our web, blog, social networks, etc. We have also in place specific campaigns focused on the products and services we offer to our customers. The most relevant for 2021 was the launching in all of our operations of the new Eco Rating (ER) system.

The ER system allows our customers to make informed purchasing decisions when buying new phones, taking environmental and climate change criteria into account. This initiative also allows us to work with our suppliers, since this information serves to encourage innovation and implementation of the most environmentally friendly practices throughout the production cycle and with our peers, to drive good practices across the industry.

This is an initiative that measures the environmental impact of mobile phones throughout the entire lifecycle of the handset (from the material extraction stage, production, transport and use, to disposal or recycling of the devices), assessing 13 environmental indicators, such as greenhouse gas emissions, resource use or energy consumption, and 6 material efficiency criteria, (such as recycled material content or ease of repair) to obtain a single score for each device.

The ER label shows the environmental impact of the handsets simply and clearly, through a score on a scale from 1 to 100 that evaluates how sustainable the handset is; the higher the score, the more environmentally friendly the handset. The label also shows additional information on durability, repairability, recyclability, climate efficiency and resource efficiency.

ER was already running in Spain, Germany and Brazil, and has been recently implemented to all of our countries in Latin America: Argentina, Colombia, Chile, Ecuador, Mexico, Peru, and Uruguay, with the exception of Venezuela, as it does not market devices. So the percentage of customers participating in ER is 100% where we sell mobile devices.

As a result, the ER system has enabled the evaluation of more than 250 mobile phones, with the participation of 17 telephone manufacturers.

Additionally for mobile devices, Telefónica offers its customers “tu.com”, the first website

for the sale of electronic devices in Spain that allows customers to offset the carbon footprint generated by these devices, thanks to blockchain technology

Impact of engagement, including measures of success

Measures of success: We inform our customers about the score of their devices on the Eco Rating (ER) scale and offer them the possibility of choosing a more sustainable option within their purchasing criteria. We use as a measure of success of the initiative the % of Telefónica's portfolio of devices that currently have an ER score and the average score of our devices' portfolio. We would consider the initiative to be successful if more than 40% of our portfolio had been rated and the average score is over 60.

Impact: We consider the success of the engagement strategy to be high due to the fact that, being the new version of the Eco Rating methodology launched only for around one year (in May 2021), we managed to obtain the Eco Rating seal for almost half of our devices' portfolio (44%) and in all our operations (100%), with an average score of 73 out of 100 (all above the threshold established by Telefonica as a success).

In 2021, we have provided information about the ER of our devices in all of our countries. This information serves to foster innovation and the implementation of the most favourable practices for the environment throughout the production cycle, and especially among our suppliers.

Also important to highlight is the fact that, among our competitors, Telefonica is the only telecommunications company that has implemented and promoted the ER system in Latin America, making our customers participate of this engagement initiative in these geographies.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

Yes, climate-related requirements are included in our supplier contracts

C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.

Climate-related requirement

Setting a science-based emissions reduction target

Description of this climate related requirement

Our Sustainability Supply Chain Management includes a Supply Chain Sustainability Policy (SCSP) that must be accepted by our suppliers. Any supplier that wishes to be considered as a Telefónica supplier must comply with the Minimum Standards for

Sustainable Business (MSSB) included in our SCSP. In that sense, the clause 4.4 Environmental Criteria specifies in terms of CC that the supplier will take action to minimize the impact of its activities on
climate change considering in its planning for such action the entire supply chain (scopes I, II, and III). It should work to reduce its greenhouse gas emissions by setting reduction targets for the next 3 years, which should, as far as possible, be based on science.

% suppliers by procurement spend that have to comply with this climate-related requirement

100

% suppliers by procurement spend in compliance with this climate-related requirement

34

Mechanisms for monitoring compliance with this climate-related requirement

Supplier self-assessment

Response to supplier non-compliance with this climate-related requirement

Retain and engage

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers
Yes, we engage indirectly through trade associations

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

EGDC - https://www.telefonica.com/en/communication-room/telefonica-founding-member-of-the-european-green-digital-coalition-egdc/
Our Environmental Policy, whcih is public, states that we commit [page 6] "e) To move towards a carbon-free company, de-coupling the growth of our business from emissions of greenhouse gases (GHG), and adapting the Company ever more to climate change, incorporating the transition and physical risks of climate change in the management of the Company."
Docu_politica_ambiental_ENG.pdf

ecdg_declaration_to_sign_.pdf

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy

In our Environmental Policy, we commit [page 6] "...i) To collaborate with other organisations in the promotion of a carbon-free and circular economy, promoting digitalisation to address the major environmental challenges of our time."

in this context, Telefónica becomes a founding member of the European Green Digital Coalition (EGDC) presented in Porto (Portugal) during Digital Day 2021, and framed in the Declaration "A green and digital transformation of the EU", signed by the EU Member States.

The EGDC is an initiative of the European Commission and leading European ICT companies committing to enable the EU's green transition by harnessing digitalisation. Companies, in order to be part of the coalition, must have science-based targets to reduce their GHG (Greenhouse Gas) emissions by 2030 and become net zero emissions by 2040 at the latest.

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Focus of policy, law, or regulation that may impact the climate

Mandatory climate-related reporting

Specify the policy, law, or regulation on which your organization is engaging with policy makers

European Taxonomy on Sustainable Finance

Policy, law, or regulation geographic coverage

Regional

Country/region the policy, law, or regulation applies to

Europe

Your organization's position on the policy, law, or regulation

Support with minor exceptions

Description of engagement with policy makers

Position on Taxonomy of Sustainable Finance regarding the propper inclusion of the telco sector as an enabler of Climate Change.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

Telefónica has released a document with their opinion on why telecommunication networks should be included within EU taxonomy as an activity contributing substantially to climate change mitigation and provides details about how networks work, the importance of energy efficiency from its design to operation and how they can enable emissions reductions in other sectors.
For this purpose, Telefónica has referred to internal information and substantially to the EU JRC publication on Best Environmental Management Practices (BEMPs) in the telecommunications and ICT services sector .
The opinion refers to several scientific papers, regarding energy consumption of telecommunication networks, its energy efficiency and future of networks, which are referenced in the document as well as several reports on the contribution of ICT services to carbon abatement.
In a nutshell, the ICT industry has been investing heavily in technologies that:
- Allow for the growing need for data traffic and the exponential growth of smart services and applications, while at the same time disconnecting this growth from the emissions generated by the required technological infrastructure;
- generate new services which contribute to climate change mitigation and adaptation.
It is crucial these efforts are supported by green financing mechanisms and solutions, particularly in an environment in which the pressure on the telecommunication industry to innovate and deploy networks in a faster and more efficient way is stronger than ever.
The project categories that we believe should be included in the EU Taxonomy for determining whether an activity is environmentally sustainable in the Telco sector are: (always complying with thresholds proposed in the document).
- Upgrading of telecommunication networks to new generations?
- Energy efficiency and management in existing telecommunication networks
- Renewable energy in telecommunication networks
- Digital solutions for the Environment, based on telecommunication networks, including financing of Internet of Things (IoT) technologies, Big Data and Artificial Intelligence (AI), which are expected to support energy efficiency and carbon emissions reduction innovations in a range of industrial and societal applications.

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Focus of policy, law, or regulation that may impact the climate

Other, please specify

Radio Spectrum Policy to Help Combat Climate Change

Specify the policy, law, or regulation on which your organization is engaging with policy makers

RSPG - Radio Spectrum Policy Group

Policy, law, or regulation geographic coverage

Regional

Country/region the policy, law, or regulation applies to

Europe

Your organization's position on the policy, law, or regulation

Support with minor exceptions

Description of engagement with policy makers

Contribution to RSPG on how Sprectrum Policies can help Climate Change.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

We particularly warn against spectrum policy initiatives that can potentially have a negative impact on the enablement effect that was discussed above. Spectrum scarcity and high spectrum prices negatively impact coverage and end user prices, jeopardising the digitalisation of customers and the potential for them to be more energy efficient.
Regarding energy efficiency in mobile networks themselves, there are in our view three main factors through which spectrum regulators can have an impact: restricting spectrum supply, inducing licensees to maintain legacy technologies running, and restricting network sharing.
Broadly speaking, mobile operators can expand network capacity by using more spectrum frequencies or by densifying and reusing the frequencies they already own. In general, it is more energy efficient to expand capacity by adding spectrum than y densifying the network with new sites, because increasing the number of sites raises overhead use of electricity and supply for mobile services can therefore result in higher energy use than necessary.

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.3b

(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Other, please specify

Spanish Green Growth Group (SGGG)

Is your organization's position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We publicly promote their current position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

In the Statutes of the GECV - Article 2. "Aims of the association", it is established that (among others):
1. The Association aims to support and promote environmental and climate protection from a business perspective, with the ultimate goal of ensuring that natural assets continue to provide the resources and environmental services on which our well-being depends. The Association also defends the role of the private sector in achieving these objectives, as well as the potential of the ecological transition to generate competitive advantages and opportunities for Spanish companies and the creation of quality employment.
2. Without limiting the generality with which paragraph 1 above is expressed, and in coherence with it, the Association has as specific purposes to support and promote:
a. In the setting of public environmental and climate objectives
b. In the design of public policies
c. In terms of the instruments used for the implementation of such policies
d. In the actions of the different public administrations

The GECV states that "one of the critical elements required to meet climate targets is to develop coherent long-term Climate Action Plans aligned with the Paris Agreement's objectives and considering the UN Sustainable Development Goals. Climate Action Plans should target net-zero greenhouse gas emissions by, or before, 2050 and clearly demonstrate how companies' and financial institutions' business models are compatible with a climate neutral economy." For more info visit: https://bit.ly/3EBpKdN

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

2.500

Describe the aim of your organization's funding

The funding is aimed to support the GECV initiatives to foster the collaboration between the private and public sectors to tackle the different environmental challenges together. The GEVC groups over 50 companies -making up most of the IBEX- as well as SMEs and innovative start-ups.
Telefonica is member of the Board of the GECV. This business association was created to promote a green development, facilitate public-private agreement and advance collaboration in environmental challenges we face today, mainly climate change.
The GECV comprises a group of companies in Spain which aim to convey to society and government their vision of an economic growth model that is compatible with the efficient use of natural resources. Social and environmental sustainability is essential to ensure the economic sustainability of the business, and it is something that our stakeholders (shareholders, clients and suppliers) are demanding. We understand that

the response to this demand must be shared with other players, particularly with the government. This approach inspires us to define a Green Growth model for Spain and identify our linked to climate change. The debate on climate change at a national and international level makes us keenly aware of the need to publicly position ourselves and to implement initiatives in our companies to analyse the climate footprint and adopt abatement and offsetting measures. Working together to achieve emission reduction targets must be perceived as a task shared by citizens, companies, and also the public administrations. The goal is to respond to the challenge of sustainable development, a concept that is currently the subject of discussion in many international forums, inspiring policies in developed and emerging countries. It is a concern that will lead to demand for new goods and services, in which public-private partnerships will be essential. The world must evolve towards a low carbon economy. In view of this challenge, the economies that lead the transformation will be the first to leverage the opportunities that green growth is already beginning to provide. Spain's business sector has an enormous opportunity to position itself and to lead the change in the growth model, in Spain and around the world. See the complete text of the statement: http://grupocrecimientoverde.org/wp-content/uploads/2016/05/declaracion_barcelona_vf_en.pdf

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify

GSMA (Groupe Special Mobile Association)

Is your organization's position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We publicly promote their current position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with almost 300 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers, and internet companies, as well as organisations in adjacent industry's sectors. The GSMA also produces industry-leading events such as Mobile World Congress. The GSMA plays an extremely important role in the development of the mobile industry, uniting the world behind a standard technology and ensuring seamless and interoperable mobile services for billions of consumers globally.

As the first industry to align itself to the SDGs; the GSMA is stating a clear intention to

contribute and advance the societies in which we operate. Industry Purpose works closely with the world's mobile operators who are all unified behind one common industry purpose: Connecting everyone and everything to a better future in achieving the Goals. GSMA Mobile for Development brings together our mobile operator members, tech innovators, the development community and governments, to prove the power of mobile in emerging markets. We identify opportunities and deliver innovations with socio-economic impact in financial services, health, agriculture, digital identity, energy, water, sanitation, disaster resilience, and gender equality.
In February 2019 the Board of the GSMA made a milestone commitment – to transform the mobile industry to reach net zero carbon emissions by 2050, at the latest.
In 2021, teh GSMA launched the first evaluation of how the mobile industry is doing against this ambitious target.: Mobile Netz Zero report.
Telefónica is part of the GSMA climate action programme which aims to work on a path to achieve net-zero GHG emissions by 2050 for the ICT sector. One of the most remarkable results of this task force is the guide "Setting Climate Targets", This ICT sectoral target-setting approach was developed through a collaboration between the Global Enabling Sustainability Initiative (GeSI), the GSMA, the International Telecommunications Union (ITU), and the Science-Based Targets initiative (SBTi). The methodology currently applies to mobile network operators, fixed network operators, and data centre operators exclusively, with the ICT sub-sector for equipment manufacturers to be added later in 2020. Overall, Telefónica is a key contributor to the GSMA: developing standards, leveraging ecosystems, engaging governments or other bodies.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

973.746

Describe the aim of your organization's funding

Telefónica is actively involved with the GSMA, our CEO is the chairman of the organization. The GSMA represents the interests of mobile operators worldwide, uniting more than 750 operators with nearly 400 companies from the broader mobile ecosystem, including handset and device manufacturers, software companies, equipment vendors and Internet companies, as well as organizations from adjacent industry sectors.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify

ETNO (European Telecommunications Network Operators' Association)

Is your organization's position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We publicly promote their current position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

The European Telecommunication Network Operators' Association (ETNO) welcomes the content and the ambition of the European Commission's strategy to advance the European Green Deal, which has the potential to make Europe the global leader in the fight against climate change. With the aim to make Europe the world's first climate neutral continent by 2050, we believe that the Green Deal can really make a difference in terms of tackling global warming, empowering a greener economic model and, ultimately, building a smarter and more sustainable society. The Green Deal is closely linked to the European Commission's broader Strategy "Shaping Europe's digital future", as it addresses the twin challenge of the green transition and the digital transformation by recognising their complementarity. Digital technologies are a critical pre-requisite for achieving the EU Green Deal's sustainability goals across different sectors of the economy and society.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

256.964

Describe the aim of your organization's funding

Telefonica participates globally with an annual membership fee in the European Telecommunication
Network Operator's (etno) has been the voice of Europe's telecommunications network operators since 1992 and has
become the leading policy group for European electronic communications network operators. Its 40 members and observers from Europe and beyond are the backbone of Europe's digital progress.
They are the main drivers of broadband and are committed to its continued growth in Europe.
ETNO members are pan-European operators who also hold newfound positions outside their home markets. ETNO brings together leading investors in innovative and high quality electronic communications platforms and services, representing 70% of total investment in the sector.
ETNO contributes closely to creating the best regulatory and commercial environment for its members to continue to deploy innovative and high quality services and platforms for the benefit of European consumers and businesses.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports, incorporating the TCFD recommendations

Status

Complete

Attach the document

consolidated-management-report-2021.pdf

Page/Section reference

Chapter 2 - Building a greener future
Pages 66-103

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics
Other, please specify
Table of Climate-related Financial Disclosures (TCFD)

Comment

Find attached the integrated report,
You can find this document in the following link: https://www.telefonica.com/en/wp-content/uploads/sites/5/2022/03/consolidated-management-report-2021.pd

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues
Row 1	No, but we plan to have both within the next two years

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Adoption of the mitigation hierarchy approach Commitment to respect legally designated protected areas	SDG Other, please specify 1t.org

C15.3

(C15.3) Does your organization assess the impact of its value chain on biodiversity?

	Does your organization assess the impact of its value chain on biodiversity?
Row 1	No, but we plan to assess biodiversity-related impacts within the next two years

C15.4

(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Other, please specify B.practices optimise land occupation: noise insulation&infrastructure sharing; Telefónica Forest in Spain; carbon removal credits of NBS; Volunteering: Tree-planting; Circular economy: no waste to landfill &avoid soil contam.; Rcl/FSC/PEFC paper

C15.5

(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	Other, please specify A Geographic Information System: analyse our infrastructures (INFRA) impact on BIO, using IUCN protected areas&species data. Results: No., size &INFRA location in&adjacent to high

		BIO areas, BIO value of the affected habitats &INFRA impact on BIO

C15.6

(C15.6) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments Impacts on biodiversity Details on biodiversity indicators	The information related to biodiversity can be found in the following document: "Consolidated Management Report 2021". Pages 70, 75, 76 , 1

[1]consolidated-management-report-2021.pdf

C16. Signoff

C-FI

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

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Director Chief Corporate Affairs & Sustainability Officer	Director on board