Welcome to your CDP Climate Change Questionnaire 2023

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 2022, we operated in 12 countries, with a presence in 38 countries, and had a customer base that surpasses **383** 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 around 69% 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 1.1 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 **39,993** million euros, Telefónica obtained a net income of €2,319 million in 2022. The number of Telefónica employees on 31 December 2022 totalled 103,638.

We delivered on all our financial targets for 2022, and not only continued to report organic growth but now also started growing in euro terms. We executed our strategy to build a stronger, future proof Telefónica and focused our investments on next generation networks, while maintaining a disciplined capital allocation framework. At the same time, we embraced the industry wide transformation and actively support the transition to a fairer regulatory environment.

More information at: https://www.telefonica.com/en/wp-content/uploads/sites/5/2023/02/Consolidated-Annual-Accounts-2022.pdf (pages 7-14).

C0.2

(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.

Reporting year

Start date

January 1, 2022

End date

December 31, 2022

Indicate if you are providing emissions data for past reporting years

Yes

Select the number of past reporting years you will be providing Scope 1 emissions data for

3 years

Select the number of past reporting years you will be providing Scope 2 emissions data for

3 years

Select the number of past reporting years you will be providing Scope 3 emissions data for

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 Kingdom of Great Britain and Northern Ireland
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 or committee	Responsibilities for climate-related issues
Board-level committee	The Board of Directors (BOD) is the highest responsible for the company's Climate Change Strategy (CCS), as part of the Company's Global Responsible Business Plan. The BOD has six Committees (the Executive Commission and five Advisory Committees), and delegates some climate-related responsibilities as follows: (1) The Sustainability and Quality Committee is the Committee of the BOD in charge of sustainability and CCS. 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 and all other climate-related issues. The Committee is made up of six Directors. The Senior Managers who report to this committee on the CCS are the CSO (Chief Sustainability Officer) and the CTIO (Chief Technology & Information Officer) to the extent that this strategy affects their responsibilities.

	(2) The Nominating, Compensation and Corporate Governance Committee is responsible, among others, for evaluating the skills, knowledge and experience of the BOD, oversees the variable compensation system and approves the variable remuneration of all employees including the Board members. (3) In addition, the BOD 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. In 2021, one of the climate-related decisions made by the BOD was to increase the weighting of the emissions reduction target to up to 5% of the short-term variable remuneration. Furthermore, 10% of the long-term variable remuneration of executive directors and others senior executives is linked to the reduction and offsetting/neutralization of GHG emissions in order to meet Telefónica's interim target by 2025, establishing a minimum threshold of 90% compliance. The BOD approves the Climate Action Plan, prior analysis by the Sustainability and Quality Committee: our publicly available, time-bound transition plan to keep Telefonica´s business on the pathway to 1.5ºC. The plan includes our short, medium, and long-term targets approved by SBTi, our carbon footprint performance, risks and opportunities and the strategy in different business models (operations, value chain, commercial, financial and governance) to guarantee the achievement of objectives. In addition, in January 2022, the BOD approved the Energy Management Policy, which replaced the 2016 policy to adapt it to the renewed energy and CCS.

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 annual budgets Overseeing and guiding employee incentives Reviewing and guiding strategy Overseeing and guiding the development of a transition plan	The Sustainability & Quality Committee (SQC) is in charge of the Sustainability CC Strategy (CCS), responsible for the organization's sustainability strategy and monitoring of the Global Responsible Business Plan, including climate-related KPIs such as emissions, renewable energy (RE) & energy efficiency (EE) targets. This Committee also monitors the actions planned in the main programs related to climate-related issues such as the RE and EE Plans. To ensure that the CCS is engrained in the company's operations, the BOD incorporates climate change

	Monitoring the implementation of a transition plan Overseeing and guiding scenario analysis Overseeing the setting of corporate targets Monitoring progress towards corporate targets Overseeing and guiding public policy engagement Overseeing value chain engagement Reviewing and guiding the risk management process	aspects to all levels of governance, as well as in the strategic indicators and key targets of the company. They are included in our 3-yearly strategic business plan. For example, the BOD approves our public Climate Action Plan and delegates its monitoring to the SQC, who in turn receives information from the Energy & Climate Change Office, which oversees the development and implementation of the plan as well as target setting. The plan also includes targets and actions in our financial model to align our business with the company's ambition of limiting the global temperature rise to 1.5ºC. This includes the implementation of new internal carbon pricing instruments (completed in 2022, one year before the target year) & publicly report the impact of CC on the company's financial statements from 2025. Additionally, we set a new target for financing linked to sustainability to represent between 30-35% over the total in 2024.The environmental projects that will benefit from this funding framework are those focused on reinforcing our CC commitment & the achievement of our decarbonisation target to become a net zero emissions company by 2040. The Audit & Control Committee has an important supervisory role regarding sustainability, as it supervises the compliance area, the risk analysis, management process, & the Company's reporting processes. The Committee meets about 12 times/year, and periodically is specifically informed of climate-related issues. The Senior Managers who report to these committees are the Chief Sustainability Officer (CSO), the Global CTIO & the Chief Risks Officer (CRO), to the extent that this strategy affects their responsibilities. The CSO oversees employee incentives (proposed by the Energy and Climate Change Office) & present the short-term variable remuneration objectives to the Nominating, Compensation & Corporate Governance Committee. The long-term variable remuneration is proposed by the BOD & approved in the Shareholders meeting. The CTIO is in charge to review & guide annual budgets on climate change mitigation actions, which is therefore managed by the regional CEO (OBs), as part of the approval of the strategic business plan. Finally, the evaluation and management of climate change risks and opportunities lies within the CRO. The CRO

		oversees the risks area, which in turn is responsible for the quarterly evaluation & reporting of the company's risks, in which CC is included.

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 is 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 BOD 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 Telefónica's core business and strategy, our Responsible Business Plan, & Telefónica's commitments against CC & carbon reduction targets (SBTs), including our climate action plan, which summarizes our main sources of emissions, our emission reduction strategy, the pathway to Net-Zero, climate-related risks & opportunities and the emissions offsetting and neutralisation strategy & our action towards preservation & protection of biodiversity. - 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 2022 Telefónica continued conducting formative sessions on sustainability & ESG for the BOD. The session held in 2022 was focused on the European Taxonomy for Sustainable activities, covering the implications of taxonomy disclosure, KPI timeline, technical screening criteria, and the life cycle assessment (LCA) process for Telefonica`s connectivity solutions, carried out during the year. Further

		sessions will be held in 2023 exclusively related to climate change topics.

C1.2

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

Position or committee

Chief Sustainability Officer (CSO)

Climate-related responsibilities of this position

Providing climate-related employee incentives
Developing a climate transition plan
Implementing a climate transition plan
Integrating climate-related issues into the strategy
Conducting climate-related scenario analysis
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Managing public policy engagement that may impact the climate
Managing value chain engagement on climate-related issues
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities

Reporting line

Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line

Quarterly

Please explain

The Global Sustainability Direction, lead by the CSO, is responsible for:
• Monitoring the achievement of Climate Change targets from an emissions reduction perspective.
• Coordinate and manage the ESG strategy incorporating climate related issues.
• Manage public policy and value chain engagement (as stated in C12).
• Assess and manage climate related risks and opportunities based on climate scenarios.
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, as mentioned before, reported at a global level to the Sustainability and Quality Committee.
The CSO reports to the Sustainability and Quality Committee and is in charge of

reviewing and reporting the information regarding Energy and Climate Change KPIs, jointly responsible with the CTIO and CPO for the achievement of climate change targets.

The CSO leads the Responsible Business Office and the Environment Department, which lies within the Global Energy and Climate Change Office (E&CCO).
The E&CCO has the following responsibilities:
• Oversees employee incentives (proposed by the Energy and Climate Change Office) & present the short-term variable remuneration objectives, as well as long-term objectives to the Nominating, Compensation and Corporate Governance Committee.
• Prepare, update, supervise and coordinate the implementation and oversees the development of the Climate Action Plan, including energy efficiency projects, target setting, renewable energy and in general, any action to reduce emissions, including the value chain.
• Assess and monitor Telefónica's environmental KPIs such as energy and fuel consumption, percentage of renewable electricity, scope 1,2 and 3 emissions, etc.
• 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.
• Definition of the global policy of responsibility with the client, the monitoring of indicators of client satisfaction and the training and awareness of employees in terms of sustainability.
• Permanently monitor possible climate-related regulatory aspects which may affect the company's operations.

The Responsible Business Office, which brings together (four times a year) the heads of the areas of Global Sustainability, Compliance & DPO, Internal Audit, Procurement, Data & Analytics, Global Consumer, Technology and Information, Legal Services, Strategy, Finance, among others, monitors the Responsible Business Plan.

Position or committee

Chief Technology Officer (CTO)

Climate-related responsibilities of this position

Managing annual budgets for climate mitigation activities
Developing a climate transition plan
Implementing a climate transition plan
Integrating climate-related issues into the strategy
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities

Reporting line

Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line

Quarterly

Please explain

The Chief Technology & Information Officer -CTIO-(Director on Board) is responsible to the design and development of networks and systems, assisting the operational businesses in the selection and implementation of technologies, management of main suppliers. In this sense, is also responsible 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. In this context, the CTIO is also in charge to review and guide annual budgets on climate change mitigation actions, which is therefore managed by the regional CEO (OBs), as part of the approval of the strategic business plan.
The CTIO leads the Global Operations Department which, jointly with the Global Environment Department, lies within the Global Climate Change and Energy Efficiency Office (CC&EEO).

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	Since 2019, reduction of CO2 emissions at TEFis one of the non-financial KPIs to be considered in the calculation of the annual variable remuneration of all our employees, including the BOD, the Executive Chairman and the Chief Operating Officer (COO). In 2021, the BOD 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. A significant part of the variable remuneration scheme of all company employees, including the Management Committee, is linked to the achievement of operational, financial & sustainability targets. 20% of the short-term variable remuneration includes sustainability targets, including GHG emission reductions. Furthermore, 10% of the long-term incentive of executive directors is linked to the reduction&offsetting of GHG

		emissions in order to meet Telefónica's interim target by 2025, establishing a minimum threshold of 90% compliance.

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

Corporate executive team

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary
Shares

Performance indicator(s)

Achievement of climate transition plan KPI
Progress towards a climate-related target
Achievement of a climate-related target

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

• The short-term variable remuneration (VR) on objectives are approved by the BOD at the beginning of each fiscal year.
The BOD has selected the quantifiable and measurable metrics that best reflect the Telefónica Group's value creation levers: 80% of the objectives are operational & financial & the remaining 20% is linked to sustainability (ESG) targets, aligned with the company's Corporate Plan, including GHG emissions reduction (5% of the short-term VR).
The maximum level of the Short-Term Variable Remuneration in 2023 is set at 125% of target in the case of the maximum achievement of the pre-determined targets. For the purpose of calculating the payment coefficient obtained for each level of objective performance, a performance scale is determined for each metric, which includes a minimum threshold below which no incentive is paid. In the case of 100% objective performance, the target Short-Term Variable Remuneration will be paid &, in case of maximum objective performance the maximum Short-Term Variable Remuneration will be received. The Executive Directors therefore may not receive any variable remuneration in the event that the minimum performance thresholds are not met.
• The long-term incentive plan (2021-2026) applies to executives, board members, C-suite & other Directive members of the company and is linked to the reduction/neutralisation of CO2 emissions (scopes 1+2 in 2025), with 10% weight of the long-term remuneration. The Plan consists of the possibility that the executives of the

Telefónica Group invited to participate in it receive a certain number of shares of Telefónica after a period of 3 years, through the prior allocation of a certain number of theoretical shares, which will serve as the basis for determining the number of ordinary shares that may be delivered under the Plan as variable remuneration & based on compliance with the objectives established for each of the cycles into which the Plan is divided.
For each cycle, the BOD determines a performance scale that includes a minimum threshold of 90% achievement, below which no incentive is paid & the achievement of which implies 5% of the theoretical shares granted being delivered, & a maximum level of 100% achievement, which implies 10% of the theoretical shares granted being delivered. In addition, achieving a minimum level of emission reductions of S1 + 2, in line with the 1.5°C scenario of the Paris Agreement, will be necessary for this part of the incentive to be paid.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

Telefónica has set ambitious targets and strategic levers to be aligned with a 1.5ºC pathway and achievement of zero emissions: our ambition is to achieve net zero emissions by 2040, including value chain emissions and neutralizing the residual emissions of these scopes through nature-based solutions. One of the levers to reach our targets is to include our climate change objectives in the variable remuneration system.
• The Corporate executive team's short-term 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, which is linked, in the short-term, to the reduction of absolute emissions.
In our Climate Action Plan, interim targets validated by the SBTi are set, such as reducing Scope 1 and 2 emissions by 90% in the main markets (Spain, Germany and Brazil) by 2025– , 80% reduction for our other markets by 2030 and a 56% reduction for our Scope 3 by 2030. The incentives are tied to specific KPIs related to our short and medium-term objectives. The KPIs used to assess performance are annual CO2 emissions reduction. Thus, the incentive helps the achievement of reduction targets and reach net zero emissions by 2040.

• In the long-term, Telefónica's commitment is to achieve net zero emissions from its operations and value chain globally by 2040, with an interim target of neutralising the impact of its Scope 1 and 2 unabated emissions from Spain, Germany and Brazil as from 2025, removing these emissions from the atmosphere and permanently storing them. The long-term incentive, applicable only to the Executive team is directly linked to our target to reach net zero emissions by 2040, and implies the annual neutralization of unabated emissions (10% of the total carbon footprint). To assess the achievement of our goal, the KPI used to evaluate performance is the amount of CO2 emissions neutralized through nature-based solutions.

Within this context, the short and long-term variable remuneration scheme of the Corporate Executive team and directives is linked to the achievement of KPI in our

climate transition plan and contributes to the implementation of our commitments, as stated in Telefonica's Climate Action Plan.

Entitled to incentive

Chief Financial Officer (CFO)

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary
Shares

Performance indicator(s)

Progress towards a climate-related target
Achievement of a climate-related target
Reduction in absolute emissions

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

The Chief Financial Officer, as part of the Executive team, is included in the short and long-term variable remuneration scheme:

• The short-term variable remuneration is approved at the beginning of each fiscal year and is linked to the reduction of absolute emissions and progress towards our climate target. 5% of the short-term variable remuneration is aligned with the ESG objective to reduce GHG emissions.

• The long-term variable remuneration (2021-2026) is allocated and paid in the form of shares. The Plan consists of the possibility that the executives of Telefónica Group invited to participate in it, receive a certain number of shares of Telefónica after a period of 3 years, through the prior allocation of a certain number of theoretical shares, which will serve as the basis for determining the number of ordinary shares that may be delivered under the Plan as variable remuneration & based on compliance with the neutralization objectives (with 10% weight of the long-term remuneration) established for each of the cycles into which the Plan is divided.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

The Chief Financial Officer is the maximum responsible for the Global Purchase Area and the Chief Procurement Officer (CPO), as part of this area, is responsible for ensuring that the Total Cost of Ownership (TCO) concept is incorporated in the procedures of the purchasing division as well as ensuring renewable energy purchases take place. The TCO makes it possible for us to reduce the Company's energy expenditure and, therefore, to reduce the associated carbon emissions as it allows us to

purchase more efficient equipment.

In Telefónica's Climate Action Plan, one of our lines of action is low-carbon purchasing, mainly through renewable energy purchase, the implementation of the TCO, and CO2 consideration when purchasing refrigerant gases. For equipment with high energy consumption, we incorporate the concept of TCO in the acquisition process, thus considering the amount of energy that the equipment will consume during its lifetime and not only the cost of purchase.

Low carbon purchasing is therefore one of the levers to reach our short and long-term climate targets, and including these objectives in the variable remuneration system is crucial to reach Telefonica's goal.

The CFO and CPO roles are directly linked with Telefónica's Energy Efficiency and Renewable Energy Plans and hence, with our global goals of Energy and Climate Change.

Entitled to incentive

All employees

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Performance indicator(s)

Achievement of a climate-related target

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

The variable remuneration, which is designed to incentivize achievement of the company's short-and long-term objectives, is one of the fundamental pillars of this system. The scheme, applicable to employees with variable remuneration, is in line with the interests of our stakeholders, such that variable remuneration is linked to both financial and shareholder return objectives as well as non-financial objectives, including ESG objectives.

• All the employees with a variable remuneration bonus (as % of the fixed salary) are included in the short-term variable remuneration scheme, which is linked to the reduction of absolute emissions and progress towards our climate targets.

5% of the short-term variable remuneration is aligned with the ESG objective to reduce GHG emissions, as stated in our publicly available climate action plan.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

At Telefónica we are committed with the Paris Agreement, and on the road to achieving Net Zero by 2040, Telefónica's decarbonisation plan considers short-, medium- and long-term targets that have been validated by the SBTi initiative.

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 ofTelefonica's GHG reduction targets, defined in our Climate Action Plan:

• 90% reduction of Scope 1 and 2 CO2 emissions for our main markets - Spain, Brazil, and Germany - by 2025.

• 80% reduction of scope 1 and 2 emissions for our other markets.

• Net-zero emissions by 2040, which implies a reduction of 90% of the total carbon footprint and the neutralization of 10% of unabated emissions.

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. Therefore, the Short-term variable remuneration scheme, applicable to all the employees with a variable bonus scheme, is considered as a lever to reach our targets, as it contributes to the implementation of key decarbonization actions, defined in our Climate Action Plan, to achieve our short and long-term commitments to reduce GHG emissions, aligned with a 1.5ºC pathway.

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	8	One of the main recommendations made by TCFD in its 2017 report revolves around the timeline that organizations have used to measure the potential impact of climate change both for physical and transition risks. In this sense, the timeframes we have used in the vulnerability analysis of climate-related risks are 2030 for short term, 2040 for medium term and 2050 for long term, 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.
Medium-term	8	18	One of the main recommendations made by TCFD in its 2017 report revolves around the timeline that organizations have used to measure the potential impact of climate change both for physical and transition risks. In this sense, the timeframes we have used in the vulnerability analysis of climate-related risks are 2030 for short term, 2040 for medium term and 2050 for long term, 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.
Long-term	18	28	One of the main recommendations made by TCFD in its 2017 report revolves around the timeline that organizations have used to measure the potential impact of climate change both for physical and transition risks. In this sense, the timeframes we have used in the vulnerability analysis of climate-related risks are 2030 for short term, 2040 for medium term and 2050 for long term, 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.

C2.1b

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

Telefonica continuously monitors the most significant risks that could affect its business model and ensures its correct identification, management and quantification. For this purpose, Telefonica has a global risk management model (GRM), based on the model established by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). On top of this, 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 relates the main risks to the Company's strategic objectives.

To ensure the proper operation of both risk control and management systems and the substantial financial or strategic impacts, Telefónica annually updates and identifies a threshold to determine if a risk has the potential to significantly affect the company and needs to be reported and based on the evolution of the main financial figures both for the Group as a whole and for the main Telefónica companies. 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 reputation, sustainability, compliance and corruption, a zero-tolerance level is established at Telefónica, therefore restricting any risks 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&3 emissions, that promote energy savings, improve energy efficiency and address climate change mitigation and adaptation will be considered as a positive strategic and financial impacts.

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 CS model (GRM) allows us to analyse exposure to potential short,medium&long term climate-related R&O. The GRM takes TEF's strategy and targets as a reference for the identification of the main risks that could affect its achievement. The frequency of the climate R&O identification and assessment exercise takes place biannually and the results obtained are integrated into the global RM matrix.
i. Risk identification&assessment
We assess risks considering both the factors that cause them as well as the effects that

they may have on the achievement of the climate targets, integrating them into the multi-disciplinary company-wide RM process. During the identification phase both risks associated with strategic planning as well as potential emerging risks are considered throughout the whole value chain of TEF, including direct, upstream, and downstream operations. The assessment of CC risks is done mainly through the global (Top-Down) approach&supported by specific office evaluation (Bottom-Up).
Global: Top-Down approach focuses on global R&O that may incur possible losses in value and results from events that affects us in corporate sustainability, markets, shareholders and investors or marketing management. These risks are defined as "Basic Risks"&are assessed& periodically reviewed by the relevant global operational areas. One of the Basic Risks analysed is CC, including both physical risks (PR) that affect our infrastructures/business lines due to chronic or extreme weather events and transition risks due to changes in CC regulation or lack of resources. Additionally, we perform the analysis under different climate scenarios (scn) and different time scales, in accordance with the TCFD's recomms&stakeholder demands.
To facilitate their evaluation and monitoring, each potential risk is assigned a Key Risk Indicator, which considers the following
•Probability and potential financial impact of each basic risk in each asset and for TEF
•Historical and future development trends per risk
•Self-evaluation regarding the level of control
•Potential reputational impact
•Exposure estimation for each basic risk based on the sum of the potential impact and probability of all the specific risks
Local: Local managers are responsible for identifying risks in their areas, prioritizing reporting, monitoring&determining their specific response to them. Local risk owners meet periodically to identify, evaluate&manage risks. Whenever possible, the risk will be measured against operational cash-flow. To minimise the impact of potential PRs 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, based on statistical calculations using the most updated software (RMS, EQCat, etc.) with historical climate-related events
3. Results&findings: results are disclosed 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. Finally, the objective of the risk assessment is to obtain a measure of the impact and likelihood of the occurrence of the identified risks, which will be compared against the Group's RRL
ii.RM and prioritization
This initial assessment allows us to prioritize risks and incorporate results into short, medium&long-term business decisions, minimizing risks and maximising opps. Decision making is based on the financial impact estimated during the risk analysis and its influence in operational efficiency, access to new markets, reputation, etc. The person responsible will update &report the degree of development of each risk using our RM

tool. Likewise, local risks will be prioritised to review their development and update their potential impact TEF. These risks are then supervised periodically by the Exec Committees at country level&reported to the Corporate Function of RM. This quantitative and qualitative methodology allows us to adapt to both physical&transition changes

•PRs: Out of the four scn presented by the 5th IPCC report, the most extreme climate scn have been selected for the analysis being RCP2.6 the most optimistic scn and RCP 8.5 the most pessimistic. Through this scn selection TEF addresses the full spectrum of scn proposed by the IPCC. The R&O evaluation using different projections and historical data demonstrated that the risk of op' interruption due to CC present low magnitude but high probability in the scn analysed. This was translated into mitigation actions via Emergency Committees & Business Continuity Plans at an asset level, aimed at re-establishing connectivity&reducing the risk of revenue and reputational losses associated to connectivity loss in case of a physical climatic event materialization

•TR: the selected scn are aligned with the reference list provided by CDP and were evaluated to identify which of the referenced scn meet TEF's needs. For TR, the theories of the IEA NZE 2050 scn were chosen and complemented with projections from the NZE 2050 scn of the NGFS. These scn served as the foundation for the establishment of our RE & EE Plans

iii. Opportunities management

Climate relates opps are also undertake an identification, assessment and management exercise since we believe an efficient&proactive management allows for the detection of new business opps in a low carbon economy. The opp analysis is based on the theories of the IEA NZE2050 scn were chosen and complemented with projections from the NZE2050 scn of the NGFS, in the same manner as with TR. The steps used to assess, &identify climate opps are the following

1. Identification of the relevant TEF opps, aligned with the transition opp proposed by the TCFD

2. Assessment of the identified opps, including the following steps

a. Evaluation of the current conditions and internal information available to TEF

b. Evaluation and processing of the opps forecasts linked to climate scn

c. Quantitative and qualitative estimation of the impact and probability of the identified risks

3. Management of identified opps in line with our climate objectives for a low-carbon economy.

TEF 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 TEF's operating costs, decrease GHG emissions&improve our CC positioning. From a product development perspective, our greatest contribution is increased digitalisation supported by a RE network. Through our services we can 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, there are risks that may influence the current dynamic context and the new synergies that have arisen among the risks, with an increasing relevance towards those risks related to intangibles and of global significance, such as Sustainability (ESG) aspects and Climate Change among other issues, such as the geopolitical environment, the Ukrainian conflict, supply chain problems, inflation and energy prices. In this context, the electricity consumption of our network is high, reaching 5,824,828 MWh in 2022, 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 and are still in force in 2022 with the same implications at a regulatory level. 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 2050. 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	TEF includes upcoming climate-related legislation into the risk assessment process, evaluating the magnitude, probability, and vulnerability to the impact. These risks are mainly related to the transition to a decarbonized economy due to the tightening of measures to limit GHG emissions to the atmosphere of adaptation to CC. TEF also considers the way in which CC can affect its Sch and works together with their most relevant suppliers and other Telcom companies to collaborate in the challenge of transitioning to a low-carbon economy. Since the EU parliament approved the CSRD, including among its points the need to analyse the R&O arising from CC, define emission reduction targets and define a transition plan aligned with science. Also, one of the main actions of the EU Sustainable Finance plan is the Taxonomy of sustainable economic activities, which includes application criteria such as adaptation and mitigation to CC, the

		transition to a circular economy and the protection and recovery of biodiversity. Together with this, in 2022 the US Securities and Exchange Commission (SEC) proposed new CC disclosure rules, which draw heavily on the “four pillar” disclosure framework developed by the TCFD. Whilst the implementation of a carbon tax is still in an initial phase in some of the countries in which TEF operates, some 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 CC 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. Finally, 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 TEF sets as the threshold of its significant risks.
Technology	Not relevant, included	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 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 and services and to achieve our reduction targets, TEF uses green bonds, &green &sustainable hybrid instruments to finance projects aimed at increasing the company’s energy efficiency through the process of installing fibre optic (85% more efficient) in Spain. In addition, TEF uses sustainable bank financing instruments such as loans &credits linked to sustainability objectives. TEF continues to lead the sector in sustainable financing, reaching 27% over TEF Group’s total financing. Also, TEF has set a new target for financing linked to sustainability to represent between 30% and 35% over the 2024 total. TEF sees future potential technology shifts as an opp as opposed to a risk. In fact, according to ETNO and BCG, the sector has the potential to reduce global CO2 emissions by as much as 15% resulting from full digitalisation. Other studies such as the Exponential Roadmap indicate that digital technologies can indirectly support a further reduction of up to 35% considering criteria like changing consumption habits over the

		coming years. TEF understands the future potential of technology as an opp, with digitalisation being a key instrument to tackle environmental challenges, which is why we are a founding member of the European Green Digital Coalition. TEF is developing new digital services based on broadband connectivity, Internet of Things (IoT), the cloud and big data, which have the potential to optimise our customers' energy consumption. In the climatic scn 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 CC 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 or the imposition of a fee on scope 1 and 2 emissions, 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. - The implementation of carbon pricing mechanisms such as carbon taxes or cap-and-trade systems to incentivize the reduction of GHG emissions. 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 to carry out our services. An increase in the electricity price could end up causing a notable impact on TEF’s total

		spending in terms of consumption. In 2022, our electricity consumption amounted to 5,824,828 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. 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 TEF 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. Together with this, a company that is not aligned with national and international climate objectives on the reduction of climate change effects can lead to reputational damage that may affect on the financial solvency of the company. To minimise this risk, TEF has launched an ambitious strategic plan to combat climate change, in order to be aligned with the most ambitious climate objectives and to position itself as a referent in the Telcom sector in climate change matters. A specific 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 2023, the firm noted that many clients seek to ensure that material sustainability risk factors that could impact long-term asset returns are incorporated into their investment decisions. Additionally, the letter also mentions that clients track the transition to lower carbon emissions just as they track any other driver of investment risk. In BlackRock’s 2030 net zero statement, it is stated that approximately 25% of BR assets under management with respect to corporate and sovereign issuers is invested for clients in issuers with science-based targets or equivalent. Additionally, BR anticipates that 75% of BR corporate and sovereign assets managed on behalf of clients will be invested in issuers with science-based targets or equivalent. This shift in their investment policy could potentially lead to a reduction in the perceived value of our company should TEF 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 TEF'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.
Acute physical	Relevant, always included	Acute physical climate(C) risks are considered in TEF's Global Risk Assessment (assmt) Process under the Basic Risk of CC and therefore are always included in the company's risks assmt &evaluation. In 2022, Telefónica continued undertaking the in-depth climate scenario analysis based on two different climate scenarios RCP8.5 and RCP2.6. On top of this, Telefónica updated its physical risk analysis with the requirements of the European taxonomy including in the universe of physical risks those listed in Appendix A of Annex 1 in addition to those that were already being contemplated. Based on the probability&impact that the different extreme climatic events could have on our I&O (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, no extreme climate events that could affect TEF materialized during 2022, but in 2021, 2 extreme 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 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. In 2022, Telefónica continued undertaking the in-depth climate scenario analysis based on two different climate scenarios one representing business as usual (RCP8.5), and one keeping temperatures in line with the Paris Agreement (RCP2.6). On top of this, Telefónica updated its physical risk analysis with the requirements of the European taxonomy and included in the universe of physical risks those listed in Appendix A of Annex 1 in addition to those that were already being contemplated. 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, such as: 1- Energy Efficiency (Optimization of refrigeration and air conditioning) 2- Resistance against corrosive environments 3- Impermeability inside the assets and their components 4- Impermeability to water outside (more enveloping infrastructures) 5- Resistance against fires The estimated economic impact of this risk to 2050 is lower than the 0.3% of the OIBDA at group 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.

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.

During 2022 the Climate Change Risk and Opportunities analysis (CCRO) was updated to reflect the current reality of Telefónica, and both to value the mitigation and/or adaptation measures already implemented and to identify, study and assess the risks derived from climate change to which the company is still exposed to.

This in-depth quantitative Climate Scenario Analysis highlighted temperature increase as 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 for our business model.

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 5,824,828 MWh in 2022. 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 95M 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, a single figure estimate

Potential financial impact figure (currency)

12.000.000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

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, 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:
• Countries' historical electricity consumption data,
• % of consumption by asset,
• Regression parameters
• Average temperature changes.
For the associated electricity price, the following parameters have been used:
• Annual consumption, % consumption by asset
• Increase in electricity prices associated to temperature
• Average temperature changes

Overall, financial impact comes from: Σ [ΔIT CAPEX(5%)+Δ IT OPEX(5%)+Δ ENERGY OPEX (90%)].

Cost of response to risk

6.535.000

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. In 2022 we continued modernising our network to increase its efficiency and therefore reduce Telefónica's exposure to costs in refrigeration needs.

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 Telefónica decided to run a pilot test with Submer's SmartPod XL+, which took place in Madrid, presenting the added circumstances of a record-breaking hot summer.

ACTION: The use of the SmartPod's high heat dissipation capability entails a method of cooling IT equipment of greater energy efficiency than traditional methods such as chillers, air conditioners, and refrigerant gases. TEF carried out thermal capacity tests to check that the Submer cooling system would maintain the temperature of the coolant in the SmratPod below the setpoint limit of 55ºC and under maximum load conditions.

As a RESULT, in 2022 immersion cooling has proved itself to be a solution which maintained conventional level of reliability, high efficiency, and improved hardware (HW) performance. The tests proved that Submer's immersion cooling technology kept the temperature of the coolant stable, even in extreme operation, below the maximum target temperature of 55º C, and with the maximum possible load of equipment inside, dissipating 50 thermal kW. The energy savings presented by the SmartPod XL+ could reduce non-IT electricity consumption by 75%, meaning a return on investment in less than 5 years.

TIMELINE: The pilot test with Submer's SmartPodXL+ took place over the course of October 2022 in Bellas Vistas, Madrid.

The final cost of management and response is associated to:
- The CAPEX involved in the implementation of EEP
- Costs related to the implementation & maintenance of EMS

Overall, the cost comes from: Σ [Energy Efficiency Projects CAPEX (98%)+ EMS (2%)] = 6.535.000

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

Company-specific description

An increase in severity and extreme weather events such as heavy precipitations, wildfires and floods can damage Telefónica's infrastructure. The two main financial impact drivers are the damages to our network assets and the income losses for services disruption due to electricity cuts and damages to our telecomunication equipment.

During 2022 the Climate Change Risk and Opportunities analysis (CCRO) was updated to reflect the current reality of Telefónica, and both to value the mitigation and/or adaptation measures already implemented and to identify, study and assess the risks derived from climate change to which the company is still exposed to.
This in-depth quantitative Climate Scenario Analysis 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 were 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.

In this context, no extreme climate events affecting TEF materialized during 2022. Nevertheless 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.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

44.000.000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

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. The impact 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 come from:
Σ [INCOME LOSSES&PENALTIES(20%) + ΔNETWORK OPEX (19%)+ Δ NETWORK CAPEX(60%) + Δ INSURANCE COSTS (1%))

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 telecom network assets.
TASK: To manage this risk, we have Global Business Continuity (GBC) Regulations included within our AP to prescribe preventive risk management, ensuring the maximum resilience of our operations in the face of any potential interruption. These include Business Continuity Plans in each country &Global Crisis Management System (GCMS) to manage high impact threats. The GCMS has a Global Crisis Committee (GCC), including specialists for each type event&acting in 4 phases:
i)alert of the crisis
ii)evaluation of the impact
iii)implementation of the action procedures
iv)return to normality
ACTION: As an example, the last reported events for which we followed this plan were in Chile due to wildfires in the north and south of the country and in Spain due to snowstorm Filomena, which sustained snowfalls for 36 hours in the centre of the country, respectively. In both cases, the GCC was activated to ensure service stability

and operation. For the wildfires in Chile, technical teams allowed the reinforcement of connectivity through mobile and satellite backups in the affected areas. Together with this, TEF activated the National Automatic Roaming Emergency system, allowing the sharing of networks between companies to extend connectivity among other key measures. In the snowstorm in Spain, TEF restored rapidly the service installing an emergency generator to power the affected plant.
RESULT: In both cases the operation returned to normality. To mitigate the more critical effects of acute risks, TEF'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).
TIMELINE: For wildfires in Chile, these events began to materialize at the end of Dec2021, while in the case of storm Filomena in Spain it occurred in Jan2021. In both cases and thanks to the GCMS TEF's operations returned to complete normality.

The final cost of management and response is associated to:
- Costs associated with the implementation of GBCS in all countries
- The average costs not covered by our insurance premium

Overall, the cost comes from:
Σ[Global Continuity Plan annual cost (1%)+ cost not covered by insurance premium (99%)] = 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 stable in the last few years, they have risen significantly in 2022 (€28.4 per 100 kWh) compared to 2021 (€23.5 per 100 kWh). This was the result of a combination of factors, including increased demand in the "post-pandemic" economic recovery, a rise in natural gas and coal prices, and a drop in renewable power generation due to low wind speeds and drought. The trend was further aggravated by Ukraine's situation in early 2022.

These prices affect significantly one of our main markets, Spain. The Telecom sector is not intense in terms of fossil fuels but is very dependent on the electricity consumption for its networks. In 2022 our total electricity consumption reached 5,824,828 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. In 2022, some 30 percent of gross electricity was generated using lignite and hard coal, considered the most polluting of energy sources. Natural gas contributed another 13 percent. Meanwhile, the combined share of renewables stood at roughly 44 percent.
(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.

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)

260.000.000

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 (based on the NZE 2050 scenario): electricity prices will increase substantially until 2030 as a result of usage of polluting energies, and will decrease from that year, as a result of the adoption of new sources of renewable energy.

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

Note: transition risks and opportunities have been analysed with projections from the IEA NZE 2050 scn and complemented with projections from the NZE 2050 scn of the NGFS

Cost of response to risk

1.800.000

Description of response and explanation of cost calculation

SITUATION: One of TEF's priorities within its CC strategy is to reduce emissions from its operations, decoupling greenhouse gas emissions from business growth. Keeping electricity consumption stable despite the increase in society's digitalization and network data traffic is one of TEF's greatest challenges, which has been successfully overcome through the years thanks to the EE and RE plans, which include multiple actions to minimize energy consumption, from self-generation to the renovation of power plants and climate equipment.

TASK: The transition towards a decarbonized economy requires companies to focus on improving operational efficiency, using as levers of change the efficient use of resources, renewable energies, and production efficiency.

ACTION: To manage this risk and reduce our exposure to rising energy prices, we have implemented two main plans:
a) An EE Plan, which allows us to consume less electricity through the implementation of set points at maximum and minimum temperatures, free cooling, automatic shutdown and monitoring systems, infrastructure modernization and more efficient base station planning among others.
b) A REP, which reduces our operating costs and makes us less dependent on fluctuations in electricity prices through long-term PPAs and self-generation of energy among others.

RESULT: In 2022 our EE and RE purchase initiatives saved us 118 and 845 ktCO2e respectively. Also, we implemented 128 initiatives leading to savings of 408 GWh. These efforts are reflected in a 10% improvement in our energy intensity ratios (MWh/PB) compared to 2021.
TIMELINE: The EEP began to be implemented in 2010, with 1,440 EE projects implemented over the years and achieving savings of more than 8,8 TWh & 1,266 M€ on energy. On the other hand, the REP projects potential savings in energy OPEX that could reach more than 25% in 2030, since TEF has committed on making EC 100% renewable in own facilities by 2030. Measures on both plans will continue to be

implemented to improve the decarbonization transition of our services in the upcoming years.

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 [PPA (2%) + GOO (90%) + REP Capex (8%)] = 1,800,000

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. High growth forecasts of these technologies and their usefulness in the fight against change climate, results in the main opportunity presented for Telefónica in a scenario transition to an emission-free economy.

In 2022, our efforts in contributing to climate change mitigation through the reduction of emissions and optimization of consumption allowed us to avoid the emission of 81,7 million tonnes of co2 thanks to services such as connectivity, the Internet of Things (IoT) and cloud. These products promote a more efficient use of resources and improve energy efficiency for our customers.

Along with this, in 2022 Telefónica Tech has developed a portfolio of over 100 products and services, 58% of which have been certified as sustainable under the Eco Smart label, encompassing cybersecurity, the cloud, Internet of Things (IoT), big data, artificial intelligence (AI) and blockchain.

High growth forecasts of these technologies and their usefulness in the fight against change climate, results in the main opportunity presented for Telefónica in a scenario transition to an emission-free economy.

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)

600.000.000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

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: In 2022, thanks to the efficiencies generated by our Eco Smart and connectivity services, our customers avoided the emission of 81.71 million tonnes of CO2. This demonstrates the capacity of new technologies to accelerate the transformation of the economy into a more sustainable model.
- Increased demand for technological solutions and development of new products and services will allow Telefónica to seize new business opportunities through our Eco Smart solutions and services which we will develop in the coming years based on innovative technologies such as 5G and artificial intelligence (AI).

The potential financial impact has thus been estimated based on:
- Telefónica's revenues associated to Digital Services in 2022, categorized by country
- Global growth projections for digital services. According to Market Research Future, nosiness growth in the Digital Services market is estimated to increase more than 80% by 2030 from a 2022 base year.

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

Note: transition risks and opportunities have been analysed with projections from the IEA NZE 2050 scn and complemented with projections from the NZE 2050 scn of the NGFS

Cost to realize opportunity

15.200.000

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 EU Green Digital Coalition. Thus TEF created LUCA, a Big Data (BD) services unit and a IoT business unit to promote the development and sale of new products based on Broadband Connectivity, IoT, Cloud&BD with positive impact on the adapt&mitig of CC.

SITUATION: The continuous advances in the technological products and services offer innovative opportunities to monitor, protect and care for the health of the planet.

TASK: The use of the cloud, artificial intelligence (AI), blockchain, IoT and other innovative tech are helping to use the digital revolution to leave a positive impact on the planet by combating CC, promoting global sustainability, and driving towards better environmental management.

ACTION: Since 2019, Telefónica Tech boosts the growth of digital services involving IoT/BD, 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. Some examples on how the use of these tech helps companies to be more sustainable are the use of drones, cloud and IoT for agriculture, the digitalization of sea

harbours, BD and IoT for intelligent waste mgmnt, cloud and IoT for the monitoring of monumental urban trees and certified sustainable construction.

As a RESULT, we foresee an increased demand for tech solutions from our customers to implement more sustainable processes. This will allow us to seize new business opp through our EcoSmart solutions and services which we will develop in the coming years based on innovative technologies such as 5G and AI. Additionally, according to estimates by Precedence Research the global green tech market will grow from $553 billion in 2021 to more than $690.3B in 2030.

TIMELINE: Telefónica Tech started in2019 and will continue to boost the growth of digital services in the upcoming years.

Overall, the cost corresponds to the proportion of the taxonomy-aligned CapEx associated with TEF digital services, as per CapEx defined in section '1.1.2. KPI related to capital expenditure' of the COMMISSION DELEGATED REGULATION (EU) 2021/2178. The reported Taxonomy figures have been verified by and external and independent third party: Σ [Taxonomy-aligned digital services/IOT Capex]= 15,2M€

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

TEF has an important opp associated to cost reduction coming from energy management. TEF's total average electricity consumption in recent yrs has been 5,824,828 MWh and 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.

TEF´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. The EEP promotes projects aimed at reducing energy consumption and cooling needs, such as free cooling, the renovation of power plants and AC, or the inclusion of technical specifications in the purchase of network equipment so that it can operate at higher temperatures.

Another example of projects that TEF has rolled out in this area are those developed under a new disruptive BM called Energy Savings as a Service (ESaaS). This is based on an agreement with a specialized supplier that designs the energy solution, invests, operates, maintains, and ensures the savings. The actions cover different initiatives such as the replacement of ACs, power supply systems, lights or electricity generation and the service is paid for by sharing the savings resulting from the measures implemented.

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)

195.000.000

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 considering energy efficiency measures.
- Company's energy consumption without taking into account energy efficiency measures
- Average cost of electricity based on the NZE scenario

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 (Δ Avg cost of electricity)]

Note: transition risks and opportunities have been analysed with projections from the IEA NZE 2050 scn and complemented with projections from the NZE 2050 scn of the NGFS

Cost to realize opportunity

6.535.000

Strategy to realize opportunity and explanation of cost calculation

On the agendas of governments around the world, energy efficiency has become a priority, as traditional energy sources are increasingly expensive, are intrinsically, generate a dependence on external markets and, also have a significant impact on the environment and the ecosystem.

SITUATION: In the last six years, Telefónica's worldwide energy consumption has fallen by more than 7.2%, while traffic has increased by up to 7.4 times. This progress is due to the implementation of more than 1,440 energy efficiency projects, including those focused on the activation of Power Savings Features in the mobile phones network.

TASK: In addition to being able to support new services with much more demanding requirements, sustainability and energy efficiency are also key attributes towards TEFs decarbonization, and it is important that Telefónica launches projects and initiatives to reduce its energy consumption while the demand for its services increases.

ACTION: In 2020, Telefónica began testing the first functionalities for the 5G network, and in 2021 the Artificial Intelligence and Machine Learning platforms, also in O2 Germany. In order to optimise energy consumption, these platforms automate the processes of threshold settings, shut down cells at off-peak hours and execute periodic quality checks so as not to affect network performance or the user experience.

RESULT: In 2022, we implemented 128 energy efficiency and management initiatives in our networks and offices, achieving savings of 408 GWh. Our energy consumption per traffic unit rate improved by 87% compared to 2015 and we saved €176 million through the implementation of energy efficiency and management projects.

Telefónica Deutschland Group o2 mobile communications network has achieved the biggest improvement in quality in all of the German network operators, also achieving a partial victory in the area of 5G, since according to connect, the O2 network has the largest share of "real 5G" in Germany.

TIMELINE: The EEP began to be implemented in 2010 and measures and actions will continue to be implemented to improve the decarbonization transition of our services in the upcoming years.

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 6,5M€.: Σ [Energy Efficiency Projects CAPEX (98%) + EMS (2%)] = 6,535,000

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

In 2022, our network electricity consumption was 5,824,828 MWh. Since the increase on price in fuels or a lower availability of water for hydroelectric generation taxes may incur high costs for TEF energy cost. As an example, an increase in the price of energy of 10% would mean an increase of 95M€ in TEF´s energy OPEX.

The REP includes all types of solutions: self-generation, purchase of renewable energy with GoO, distributed generation and long-term PPAs. The plan allows us not only to reduce our exposure to market variations but has enabled us to achieve considerable savings in electricity costs. In 2022, 82% of our total electricity consumption in our own facilities came from renewable sources. We continued the ambitious distributed generation project in Brazil, which allowed for the installation of 48 new renewable energy plants in 2022, out of a total of 85 planned. These plants will generate over 700 GWh per year for our operations. In addition, we increased the procurement of renewable energy through new long-term renewable power purchase agreements (PPAs).
In Germany we signed two PPA agreements. The first one for the period of 2025-2035, which will cover 54% of the total consumption of our operations, equivalent to 350 GWh per year, and a second one for the period of 2025-2040, which will cover around 33% of the consumption.

In Spain, the four long-term renewable power purchase agreements (PPAs) signed for the period 2022-2031 came into operation in 2022. They account for 30% of total consumption, equivalent to 482 GWh per year. In addition to these new agreements, we must also consider the one signed in 2020, enabling us to achieve a total of 582 GWh of renewable electricity coming from PPAs in our operations in Spain, covering 50% of the consumption of technical buildings. Also, thanks to the extension of GoO programs, countries such as Argentina and Ecuador certified 7% and 30%, respectively, of their electricity consumption in their own facilities as renewable for the first time, while

Colombia managed to increase it to 87%. In 2022 Chile achieved 100% of renewable electricity, joining Europe, Brazil and Peru. Furthermore, our operations in Germany, Spain, Brazil, Peru and Chile also certified 100% of electricity consumption at third-party sites as being renewable, enabling us to reach a figure of 61% globally.

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)

75.000.000

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 covered by PPA) x (Δ Savings in electricity price of each PPA)]

Note: transition risks and opportunities have been analysed with projections from the IEA NZE 2050 scn and complemented with projections from the NZE 2050 scn of the NGFS

Cost to realize opportunity

1.800.000

Strategy to realize opportunity and explanation of cost calculation

SITUATION: The electricity consumption of our network is high (5,824,828 MWh in 2022), 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: TEF´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.
ACTION: To achieve this strategic objective, in 2016 TEF established the RE Plan, considering all kinds of solutions: self-generation, purchasing RE with guarantees of origin, distributed generation &long-term PPAs. Our goal, as part of the RE100 initiative, is for the electricity we consume in all our operations to come entirely from renewable sources by 2030.
RESULT: In 2022 TEF has installed 485 systems installed (both in fixed network buildings and in mobile network base stations) that allow us, firstly, to improve renewable electricity consumption and, secondly, to avoid the use of fossil fuel generators in isolated (off-grid) base stations, reducing consumption by between 70% and 100%. A good example of this is the installation of 23 hybrid self-generation systems in Chile, which is estimated to save around 60,000 liters of fuel per year. In addition, in order to accelerate the implementation of renewable self-generation systems, we have signed several agreements in which we provide roof space for the installation of solar panels by a third party, so that the electricity generated is self-consumed on-site at a lower price than the commercial tariff (on-site PPA). We signed these agreements both in Spain for four major buildings and in Colombia, where 12 of these systems will generate approximately 1.4 GWh per year under this scheme
TIMELINE: The specific example mentioned above took place during 2022, but measures and actions will continue to be implemented to improve the decarbonization transition of our services in the upcoming years.
The cost of management considers the costs associated to:
- Purchase of RE Certificates (OPEX) in Argentina, Spain, Brazil, Colombia, Chile, Ecuador, Germany and Peru
- Energy consulting costs (OPEX)
- PPA consulting costs (OPEX)
- Self-generation project investment (CAPEX)

Overall, the cost of management comes from: Σ [PPA (2%) + GOO (90%) + REP Capex (8%)] = 1,800,000

Comment

Identifier

Opp4

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Markets

Primary climate-related opportunity driver

Other, please specify

Increased access to capital

Primary potential financial impact

Increased access to capital

Company-specific description

The need to shift towards a decarbonised and socially fair global economy is embodied today in greater regulatory pressures around ESG matters and an obligation to redirect capital flows in line with a sustainable growth model. Simply complying with the climate and energy targets set by the European Union requires an estimated annual investment of €275 billion between now and 2030.
The relevance of climate change is also reflected in the predisposition of investors when financing the debt of organizations. The issuance of corporate green bonds has exponentially increased in the recent years and has had an impact on the markets despite the current instability. For instance, despite market instability and a rise in interest rates across the board in the year, the total volume of sustainable issuances rose to $863 billion (USD) in 2022, according to Bloomberg.

On top of this, the positive performance of green debt instruments is observed in this context. The 'greenium' of these instruments may vary depending on the transaction, sector and market timing, but in general, have shown that the green effect can generate significant savings.

The European telecommunications sector is a major contributor to the fight against climate change. The sector is investing in greening its own operations and rolling out more energy-efficient next generation networks, which play an important enabling role for smart solutions, thus reducing the environmental impact across other sectors of the economy and society.

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)

16.500.000.000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The financial impact figure of this opportunity is approached quantitatively using the following variables:
• Sustainable financing balance sheet debt (accounted under current and non-current financial liabilities items), hybrids (accounted under current and non-current financial liabilities items), and undrawn committed credit lines.
• It is considered linked to ESG:
o use of proceeds allocation in the eligible category projects are those included in a Framework duly validated by a Second Party Opinion, like the corporate Telefónica's Sustainable Financing Framework, regularly updated in accordance with ICMA´s or other recognized standards.
o financing linked to the ESG performance supported by a Sustainable Financing Framework according to ICMA, LMA, or LSTA principles for ESG-linked instruments[1], duly validated by a Second Party Opinion.
o financing linked to ESG key performance indicators endorsed by the financial entities with which the operation is undertaken.

Cost to realize opportunity

300.000

Strategy to realize opportunity and explanation of cost calculation

Most relevant costs linked with this opp (<300k€) is having a qualified team in both areas of exp., finance&sustainability. These teams are responsible for identifying, assessing&accessing sustainable financial (SF) markets. TEF has had these teams in place for years. The cost of the opp also includes fees associated with maintaining&updating the SF frameworks&obtaining a 2nd party opinion, as well as costs associated with the process of reporting&auditing TEF's sustainable issuances.

SITUATION: TEF is making a major investment effort to advance in the roll-out of high-speed telco networks, more efficient in terms of energy consumption&environmental impact than legacy networks. Also, digitalization is a key lever to decarbonize the global economy, as reflected in the EU´s twin transition (green&digital). Access to SF is a key element in achieving this.

TASK: ESG criteria are an increasingly important factor in decision-making processes for investors& financial markets participants, therefore TEF must seek to strengthen its leadership in the field of sustainable finance. TEF ability to attract sustainable flows of capital reflects the impact&positive perception from investors of TEF's activity.

ACTION: In 2018, TEF published its SF framework last updated in 2021, endorsed by Sustainalytics' second party opinion, aligned with the ICMAs Green, Social&Sustainable

Principles. Funds obtained are allocated to finance/refinance the transformation of high speed fixed&mobile networks (green projects), improve mobile broadband coverage in rural areas&support entrepreneurship (social projects). In terms of bank financing, in 2022 TEF main syndicated loan (€5,500M) was refinanced the interest applied to which was linked corporate ESG KPIs.

RESULT: TEF lead the sector in SF, which reached 27% over TEF Group's total financing as of 2022. TEF was the 1st company in the sector to issue a green bond (€1bn) in 2019, the first green hybrid (€500M) in 2020, and the sector's first sustainable hybrid(€1bn) in 2021. So far, TEF has issued>€6bn in bonds&hybrids and has accessed >€10bn in loans&facilities

TIMELINE: To materialize this opp, TEF set a new target for financing linked to ESG to represent 30%-35% over the total by 2024. Previous targets on sustainable financing have been already successfully achieved before.

Comment

C3. Business Strategy

C3.1

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

Row 1

Climate transition plan

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

Publicly available climate transition plan

Yes

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

We have a different feedback mechanism in place

Description of feedback mechanism

Telefónica brings forward a feedback mechanism for all stakeholders regarding the Climate Action Plan, which allows Telefónica to be aware of their comments and views concerning the plan.
Telefónica discloses its climate strategy to all its stakeholders through the non-financial information disclosure to the Spanish Securities&Exchange Commission (CNMV) and to other international official bodies through the publication of this information in the Shareholders & Investors section of the corporate website. Telefónica has a "complaints and consultation channel" available to all stakeholders, which offers the possibility to make inquiries, requests, doubts or to suggest any aspect regarding the Responsible

Business Principles of the company, which include the Climate Strategy of the organization.
On the other hand, from the General Secretariat of the Company, and with the support of other areas like People, Sustainability and Investor Relations, permanent contact and communication is maintained with the proxy advisors, attending to their queries in relation to the Climate Action Plan and offering them the clarifications that they might deem relevant.
From the Shareholder's Office, Telefónica ensures transparent, agile and fluid communication with all its shareholders, facilitating a channel to meet their and providing a communication service, including emails and Telefónica's monthly newsletter "Acción Telefónica", which includes information of interest regarding the Climate Action Plan.

Frequency of feedback collection

More frequently than annually

Attach any relevant documents which detail your climate 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)

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 IEA NZE 2050	Company-wide		Parameters&assumptions: Projections taken from the IEA NZE 2050 & complemented with NGFS NZE 2050 projections & the SSP database, such as electricity or CO2 emissions price. We used a selection of hypotheses from the IEA NZE 2050 scn with support from the NGFS scn: since the IEA is not precise enough to differentiate between distinct regions of the EU & does not provide data for Brazil in some instances, the NGFS scn was used in these cases. NGFS datasets are updated more frequently & include a wider variety of variables, which can also prove an to be a benefit for this point. We used a series of common hypotheses for all the countries

			evaluated. i.e.: Increase in GHG emissions leading to a <2C increase in temp by 2100; Economic value of the impacts based on our historical business&country-specific data. Time Horizon (TH): the TH we have used in the vulnerability anlys of CC risks are 2030 for short term, 2040 for medium term&2050 for long term, since our infrastructures have an estimated lifetime of 20 to 30 years&risks related to CC are expected to have a greater impact in the medium & long terms Assets analyzed: telecommunication towers, tv-related programming&broadcasting actives, base stations, switch&data centres; Regions covered: The anlys focused on the countries which hold our greatest amount of activity, representing 74% of the Group's total asset value, with results being extrapolated to the entire organization to get an overall quantitative impact of our potential risks&opps. Analytical choices: We divided our SCN anlys in 5 phases: a)Probability ANLYS of the most relevant climate threats based on SCN projections for each region&yr evaluated b)Impact ANLYS in financial terms by SCN, TH &region for each risk based on 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 rm. Results: 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&EE &RE Plans. Our anlys using this scn was qualitative&quantitative.
Physical climate scenarios RCP 8.5	Company-wide		Parameters&assumptions: Projections are obtained from the RCP 8.5 dataset (extracted from the EU's Copernicus), such as temperature rising ot precipitations; our assets by location&value; historical data; based on the most pessimistic climate projections. We used a series of common hypotheses for RCP8.5 all the countries evaluated. i.e.: Increase in GHG emissions leading to a 4ºC increase in temperature by 2100; Economic value of the impacts based on TEF's historical business&country-specific data; anlys was extrapolated

			to the rest of our assets to get an overview of global impact. Time Horizon (TH): the TH we have used in the vulnerability anlys of climate-related risks are 2030 for short term, 2040 for medium term&2050 for long term, since our infrastructures have an estimated lifetime of 20 to 30 yrs&risks related to climate change are expected to have a greater impact in the medium&long term Assets analysed: telcom towers, tv programming&broadcasting actives, base stations, switch&data centres; Regions covered: The anlys focused on the countries which hold our greatest amount of activity, representing 74% of the Group's total asset value, with results being extrapolated to the entire org to get an overall quantitative impact of our potential risks&opps. Analytical choices: We divided our SCN anlys (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, TH&region for each risk based on 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 RM. 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 it represents for the Group. Largest potential costs: Increase in energy prices in countries very dependent on hydropower; Increase in network elect consumption due to greater AC needs, loss of income due to service disruptions. The ANLYS has influenced our strategy by creating lines of work that help increase our resilience to CC, such as: Business Continuity Plans&EEP&REP. Our anlys using this scn was quantitative.
Physical climate scenarios RCP 2.6	Company-wide		Parameters&assumptions: Climate variables projection are obtained from the RCP 2.6 dataset, such as temperature rising&precipitations; our assets by location &value; historical data; projections not based on the SCNs (undertaken by TEF or a 3rd party). 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 TEF's historical business&country-specific data; anlys has been extrapolated to the rest of our assets to get a global impact overview. Time Horizon (TH): the TH we have used in the vulnerability anlys of climate-related risks are 2030 for short term, 2040 for medium term&2050 for long term, since our infrastructures have an estimated lifetime of 20 to 30 yrs&risks related to climate change are expected to have a greater impact in the medium&long terms Assets analysed: telecommunication towers, tv-related programming&broadcasting actives, base stations, switch&data centres; Regions covered: The anlys focused on the countries which hold our greatest amount of activity, representing 74% 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. Analytical choices: We divided our SCN anlys (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, TH&region for each risk based on 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 RM. 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. The ANLYS has influenced our strategy by creating lines of work that help increase our resilience to CC, such as: Business Continuity Plans&EEP&REP. Our anlys using this scenario 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?
- What are the potential financial impacts that might affect Telefónica regarding risks and opportunities related to climate change?

Telefónica selected the IEA NZE 2050 and RCP 8.5 & RCP 2.6 of the IPCC (UN Intergovernmental Panel for Climate Change) scenarios, disclosed in C3.2a to address these focal questions.

The IEA NZE 2050 scenario, aligned with the Paris Agreement, describes the necessary efforts needed for decreasing GHG emissions and reaching net zero emissions by 2050 at the global scale. The IEA NZE 2050 was complemented with projections from the NGFS (Network for Greening the Financial System) scenario framework to achieve an exhaustive analysis of the climatic change - risks Telefonica finds itself at.

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 by 2°C by 2100.

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

Results of the climate-related scn anlys based on the most relevant R&O arising from CC are the following:

- The most relevant physical risks were identified in the long-term horizon, based on RCP8.5 SCN:

-R1:Acute physical risk: the most significant risk will be the increase of the frequency of extreme events, notably floods (estimated financial impact of € 44M by 2050). Flooding may cause both damage to infrastructure, costs in O&M from the reposition of damaged stock&the possibility of a decrease in revenue caused by service outages. Other extreme events TEF will be susceptible to are storms or wildfires.

-R2: 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&greater cooling needs for equipment (estimated financial impact of 12 million € by 2050).

- Transition SCNs based on the IEA NZE 2050 scn , are mainly related to the transition to a decarbonized economy (regulatory/legal, technological, market&reputational risks) e.g., due to the tightening of the measures to limit GHG emissions.

-R3: Market risk: the most relevant risk is a market risk, mainly due to the expected rise in consumption of electricity to carry out our services while electricity prices from GHG-emitting energy sources keep increasing through the TH (estimated financial impact of 260M€)
In all scn&THs (2030,2040&2050), the region with the highest exposure to climate risk is Brazil.
The most relevant identified opps are the following, based on the IEA NZE 2050 SCN:
-Opp 1: Increased revenues resulting from increased dem& of our digital solutions desiged to help our customers decarbonize their activities (with al estimated financial impact of 600M€).
-Opp 2&3: Reduced operating costs associated with a more efficient use of energy&a use of lower emission sources (with an estimated impact of 195M€&75M€ respectively)
Opp4: Linked to an increased access to capital due to TEFs sustainable financing frameworks&strategy (with an estimated financial impact of 17B€)
In all scn&THs assessed (2030, 2040 &2050), the region with the greatest opps is Spain. Based on our SCN anlys, our strategy includes managing energy&CC, by aligning mitigation, adaptation&opps with the business&stakeholders. In this sense, our CC&energy strategy is included in our Responsible Business Plan&in our Climate Action Plan (CAP).
As an example on how the results have informed a decision or action, our CAP includes action measures focused on all identified R&O. Regarding R3&Opp2&3 two main measures have been implemented, de EEP&the REP.
-EEP: 1.569 EE projects have been implemented since 2010, which have generated savings of more than €1,714M, 11,050 GWh&3.3 MtCO2e avoided.
-REP: 100% renewable electricity consumption in the European, Brazil, Peru&Chile markets&82% globally. The signing of PPAs in Spain&Germany to guarantee the electricity supply of renewable origin for 10 years

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	TEF includes the R&O derived from CC regarding products and services (opp-1 C2.4a) in its CS through its business model. TEF understands the products and services that the company offers as a climate opportunity, since it helps its customers to decarbonize their activity through the DT and connectivity as key levers to use resources efficiently and drive sustainability. As a case study: [SITUATION]The continuous advances in the technological

		products and services offer innovative opportunities to monitor, protect and care for the health of the planet. [TASK]To develop P&S that help our clients progress towards decarbonization and a more digital and sustainable world. [ACTION]EcoSmart is an initiative developed by TEF aimed at identifying the environmental benefits of our P&S, for example in terms of energy consumption. These Eco Smart services are s based on connectivity, the Internet of Things (IoT), the cloud, big data and 5G. These solutions provide not only operational and cost-saving benefits, but also environmental benefits. To identify them, at Telefónica we use the Eco Smart label. These services are externally verified by AENOR. [RESULT]In 2022, thanks to the efficiencies generated by our Eco Smart and connectivity services, our customers avoided the emission of 81.71 million tonnes of CO2., since 54% of our solutions are verified as Eco Smart [TIMELINE]The mentioned results in the point above were developed during 2022. Most substantial business decisions: TEF launched Telefónica Tech 2019 to lead the DT towards a low carbon world. This unit was born to further increase the revenues of these new DS& boost the growth of DS 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 DT. Telefónica Tech helps our corporate customers to digitally transform, and reduce their emissions. As our business strategy is committed to the decarbonization potential of these digital services, we strive to avoid the emission of 12MtCO2 through our products and services by 2025. However, since the emissions avoided for our customers in 2022 are higher than this target due to the increase of the scope of our current calculations, we are working on the definition of a new long-term target, aligned with the European Green Digital Coalition.
Supply chain and/or value chain	Yes	TEF has collaborated with its suppliers&other telcom companies that share the same challenges to reduce their emission in their supply &/or value chain in its carbon strategy (CS). [SITUATION] Our pathway to NZ Emissions involves reducing our own emissions (Scope 1&2)&those of our value chain (Scope 3)&neutralising the unabated emissions, which cannot be reduced. TEFs targets, validated by SBTi, seek to reduce emissions consistent with the 1.5ºC scn across our entire operation, including the value chain. TEFs ultimate long-term

		goal is to reach NZ emissions by 2040.To reinforce TEFs commitment to combat climate change, TEF has ratified a series of global energy&carbon emission targets aimed at achieving carbon neutrality, improving energy efficiency (MWh/PB),& assuring 100% renewable electricity consumption. [TASK] The emissions of our value chain (Scope 3) are the largest in our entire carbon footprint. [ACTION] To achieve the objective of reducing scope 3 emissions, TEF promoted the incorporation of EE principles in the main purchases of products that require high energy consumption (electricity&fuels) through the progressive incorporation of criteria for internalizing the cost of energy&carbon, through the Total Cost of Ownership (TCO). The TCO incorporates in the contract award process the cost of energy&carbon of the equipment throughout its useful life. In this way, sufficient information is available to select the best option economically&in terms of energy consumption&GHG emissions. [RESULT] In 2022, TEF's CO2 emissions from our value chain were reduced by 32% compared to 2016, with emissions from our supply chain being the most significant of our Scope 3 emissions (64%). [TIMELINE] TEFs TCO was approved in 2022&monitoring of implemented measures will be carried out in a regular basis. Most substantial business decisions: In 2022, we continued our Supplier Engagement Program (SEP),&invited our most emissions-significant suppliers to join the CDP SCh program. In 2022, a total of 218 suppliers participated, accounting for 97% of our supply chain emissions. In addition, we are working on a new Carbon Reduction Program, together with our strategic suppliers, on the anlys&reduction of emissions at the product level.
Investment in R&D	Yes	We understand innovation as the ability to anticipate the future, to understand the needs&challenges of society&customers&to be able to build an organization that drives transformation&entrepreneurship. Innovation is a strategic building block that allows us to both develop solutions&products that tackle E&S challenges&to transform ourselves to become a company that has a greater positive impact.

		[SITUATION] TEF has been recognized from the outset as being an innovative company. We understand innovation as the ability to anticipate the future, to understand the needs&challenges of society&customers. [TASK] By developing new knowledge, technologies, innovation&digital solutions TEF will be able to address existing challenges, in addition to ensuring the future sustainability of our organization [ACTION] TEFs open innovation strategy (OIS) seeks to attract talent, tech&new businesses. We promote the innovation that comes from startups&scaleups, under a venture capital model, with a triple aim: •Generate additional revenue by incorporating the tech/products developed by these startups into our range of digital services •Seize growth opp beyond the telecoms sector by investing in game changers •Obtain a financial return by increasing the value of the startups we have invested in.- [RESULT] Out of the more than 1,000 enterprises in which we have invested, 300 have ended up working with TEF, generating 500M€ for TEF&enabling us to take their innovative solutions to our customers to help them in their digital transformation&use them internally to generate efficiencies [TIMELINE] The Open Innovation main flagship program Wayra started in 2011,&other initiatives have been implemented throughout the years to promote investment in R&D. Most substantial business decisions: To develop solutions&products that tackle E&S challenges we have adopted two working models. One is based on incremental innovation, with continuous improvements of existing technologies & the second model focuses on disruptive innovation with the development of new products or business models that transform or alter the market&contribute to having a positive E&S impact. In 2022, we have invested 3,721M€ in R&D and these models are reflected on the activity developed transversally into the organization by the Core Innovation unit, commercial business units or the network&IT areas.
Operations	Yes	The telcom sector is not fossil-fuel intensive but is highly dependent on electricity consumption for its networks & operations therefore an increase in electricity may have a relevant impact on our energy OpEx. SITUATION: The electric consumption of our network is high, reaching 5,824,828 MWh, which accounted to €973M in OPEX. We expect energy prices to increase in the medium&long-term

		due to taxes on energy generated using fossil fuels, drops in renewable power generation due to low wind speeds & drought etc. TASK:The transition towards a decarbonized economy requires companies to focus on improving operational efficiency through the efficient use of resources, renewable energies, & production efficiency. TEF has implemented the following actions aimed at mitigating this risk through our EE & RE plans. ACTION: To manage this risk & reduce our exposure to rising energy prices, we have implemented two main plans: a)EE Plan, which allows us to consume less electricity through the implementation of set points at maximum & minimum temperatures, free cooling, automatic shutdown & monitoring systems & more efficient base station planning among others. b)REP, which reduces our operating costs & makes us less dependent on fluctuations in electricity prices through long-term PPAs & self-generation of energy among others. RESULT: In 2022 our EE and RE purchase initiatives saved us 118 and 845 ktCO2e respectively. Also, we implemented 128 initiatives leading to savings of 408 GWh. These efforts are reflected in an 10% improvement in our energy intensity ratios (MWh/PB) compared to 2021. TIMELINE: The EEP began to be implemented in 2010, with 1,440 EE projects implemented over the years & achieving savings of more than 8,8 TWh&1,266 M€ on energy&REP projects potential savings in energy OPEX that could reach more than 25% in 2030, since TEF has committed on making EC 100% renewable in own facilities by 2030. Measures on both plans will continue to be implemented to improve the decarbonization transition of our services in the upcoming years. Most substantial business decisions: To manage this risk & reduce our exposure to rising energy prices, we have implemented two main plans: EEP, which allows us to consume less electricity&REP, which reduces operating costs & makes us less dependent on fluctuations in electricity prices through long-term PPAs.

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 CC Strategy 2015-2040, TEF commits to reduce scope 1&2 emissions 80% by 2030 (90% in main markets -Brazil, Germany and Spain- by 2025) and achieve NZ emissions by 2040. To ensure compliance with TEF's short, medium and long-term objectives, the Climate Action Plan is integrated into TEF's governance model and includes the quantification of emissions, the implementation of actions with verifiable KPIs and the definition of responsibilities and accountability in the organization. The plan includes an operational and commercial strategy, commitment to customers, supply chain and society, actions focused on the TEF's financial strategy to achieve the objectives. Within this financial strategy, TEF is carrying out actions to take advantage of the financial opps that the transition to a decarbonized economy might offer. To accomplish these objectives, a series of key actions have been established focused TEF's main objectives: 1. Financial analysis of CC CC has influenced our financial planning and capital allocation. CC has a double impact on a company's financial management. Companies must be aware of the investment they need to make to secure access to finance to ensure business continuity in a GHG neutral economy, mitigating risks derived from CC and seizing market opps and on how CC will impact their financial statements, knowing the cost linked to it and the benefits and/or savings obtained through proper management of climate opps. Based on the results of our Climate R&O assessment, the source of our energy consumption might enable TEF to reduce operating costs. This opp is aligned with TEF's Renewable Energy Plan (REP) and Energy Efficiency Plan (EEP). Following the REP, in 2022 82% of our total electricity consumption in our own facilities came from renewable sources. In Germany we signed two PPA agreements. The first one for the period of 2025-2035, which will cover 54% of the total consumption of our operations, equivalent to 350 GWh per year, and the second one for the period of 2025-2040, which will cover around 33% of the consumption, equivalent to 200 GWh per year. In Spain, the four long-term renewable PPAs signed for the period 2022-2031 came into operation in 2022. They account for 30% of total consumption, equivalent to 482 GWh per year for 10 years. Along with this and thanks to the extension of GO programs, countries such as Argentina and Ecuador certified 7% and 30%, respectively, of their electricity consumption in their own facilities as renewable for the first time, while Colombia managed to increase it to 87% and Chile achieved 100% of renewable

		electricity. All the above, along with the implementation of EEP, has allowed us to reduce power consumption by 7,2% since 2015, even though data traffic through our networks has increased 7.4 times over. 2. Sustainable financing strategy TEF seek to strengthen its leadership in the field of sustainable finance to move forward on its business transformation, which combines environmental and social sustainability with financial sustainability so that TEF can meet its commitments to society and the planet. In 2023, TEF has set a new target to achieve 30-35% of total financing linked to sustainability by 2024. TEF's sustainable finance strategy to reach the targe is focused on: • Use debt as a financial instrument to support the sustainability strategy of the business: since 2019, Telefonica uses green instruments as a financing tool to achieve its reduction targets&contribute to a digital low-carbon transition. The company is one of the largest issuers in the sector, both in terms of volume&diversification of instruments. TEF uses other sustainable bank financing instruments such as loans&facilities linked to TEF's ESG performance, which enable it to make progress in achieving corporate objectives emission reduction. • Proactively position Telefónica to attract investors that promote investment strategies and styles that are in line with ESG criteria, according to emerging regulation. As a result by the end of 2022, TEF surpassed 27% of sustainable financing and as of May-23 TEF has raised close to €7bn in bonds, hybrids, loans and facilities Some examples of latest operations: i) Jan-23, TEF Group issued a €1bn green hybrid bond; ii) bank financing, in Jan-22, the Telefónica Group's main syndicated loan (€5,5 bn) was refinanced linking the interest applied to compliance with sustainability targets; iii) Committed lines&bilateral financing operations linked to ESG amounted a total volume of 3,864M€ at the close of 2022. Also, in terms of regulatory compliance with regard to sustainable financing, in 2022 TEF has identified and reported the alignment of revenues, CapEx and OpEx for TEF's eligible activities according the EU Taxonomy Regulations. This analysis consider those activities that have the potential to pose a substantial contribution to CC mitigation&adaptation objectives. Carbon pricing The establishment of an internal carbon price (ICP) is one of the most effective tools that companies have to manage the R&O associated with their carbon footprint&thus internalize the costs derived from GHG emissions, allowing efficient financing of their transition to a low carbon economy. Establishing an ICP consists of internalizing the cost of GHG

		emissions by assigning a monetary value to each ton emitted, so that companies can identify what the cost of GHG emissions is for their business model. From this perspective, TEF is working on the evaluation of different financing tools within the Group that allow internalizing an ICP as a lever to help on the path towards NZ emissions.

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition	Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy
Row 1	Yes, we identify alignment with both our climate transition plan and a sustainable finance taxonomy	At both the company and activity level

C3.5a

(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's climate transition.

Financial Metric

Revenue/Turnover

Type of alignment being reported for this financial metric

Alignment with a sustainable finance taxonomy

Taxonomy under which information is being reported

EU Taxonomy for Sustainable Activities

Objective under which alignment is being reported

Climate change mitigation

Amount of selected financial metric that is aligned in the reporting year (unit currency as selected in C0.4)

515.000.000

Percentage share of selected financial metric aligned in the reporting year (%)

1,3

Percentage share of selected financial metric planned to align in 2025 (%)

1,8

Percentage share of selected financial metric planned to align in 2030 (%)

2,2

Describe the methodology used to identify spending/revenue that is aligned

To carry out the calculation of the Revenue KPI in accordance with the EU Regulation, in 2022, Telefónica used as a basis the information corresponding to the various business units, with a high level of granularity, that contribute to the aggregation of the information at consolidation level for the Group (bottom up). Data for Telefónica United Kingdom was excluded from the calculation because of the changes in the Group's scope of consolidation. Intragroup transactions were excluded from the calculations.
Throughout the entire process, due care was taken to avoid double counting:
a. Reconciliation with accounting information, which ensures appropriate consideration of eliminations and adjustments on consolidation.
b. Use of consistent information sources, which prevents considering the same item in two different KPIs or twice in the same KPI.
c. Verification of the completeness and accuracy of the data
This financial metric shows the relative weight of turnover derived from products or services associated with economic activities covered by the Taxonomy over total turnover. For the economic activities to be Taxonomy aligned, they also meet the related technical screening criteria, do not significant harm requirements and social minimum safeguards. Telefónica has analyzed the various items included in its revenue model, enabling it to identify revenue items considered Taxonomy-eligible and then differentiate between those that comply with the technical screening criteria described in the previous section (Taxonomy aligned items) and those that are not covered by the Taxonomy.
In this case, the Revenues from Taxonomy aligned activities correspond to a total sum of 515 million euros and were obtained from the revenues associated to digital services/solutions linked to the collection, transmission and analysis of data that reduce emissions associated to other activities (activity 8.2).
Telefónica analyzed many of the connectivity and digital solutions that it offers both to customers in the business sector and to private customers that are associated with emission reductions and quantified those reductions. Some examples of these services associated to taxonomy-aligned revenue are: Smart Working Solutions, Mobility Solutions, Energy Efficiency Solutions, Solutions for smart cities, among others. These are considered ICT solutions among Telefonica's portfolio predominantly used for the provision of data and analytics enabling GHG emission reductions.

• Revenues from Taxonomy-eligible and not Taxonomy-aligned revenues (3,153 million euros)
Revenues derived from the production, programming and broadcast of video and television content not strictly aimed at increasing the level of resilience to third-party physical climate risks (2,448 million euros) (activities 8.3/13.3) and revenues derived from cloud services provided to users over Internet, allowing user data to be stored in data centres (705 million euros) (activity 8.1).
• Revenues derived from Taxonomy-non-eligible activities (36,325 million euros)
Revenues derived from connectivity solutions through state-of-the-art data transmission networks (10,579 million euros) and rest of networks13 (6,163 million euros) and revenue from voice services, handset sales and digital services/solutions that do not reduce emissions associated with other activities.
Telefónica obtained third party verification/assurance for this revenue KPI alignment

information.
To calculate the percentage share of selected financial metric planned to align for 2025 and 2030, internal growth projections have been estimated, mainly based in the growth potential of the digital services market and other related activities. Projections have only been undertaken for activity 8.2. Figures will be updated when alignment is undertaken for other activities as well.

Financial Metric

CAPEX

Type of alignment being reported for this financial metric

Alignment with a sustainable finance taxonomy

Taxonomy under which information is being reported

EU Taxonomy for Sustainable Activities

Objective under which alignment is being reported

Climate change mitigation

Amount of selected financial metric that is aligned in the reporting year (unit currency as selected in C0.4)

50.000.000

Percentage share of selected financial metric aligned in the reporting year (%)

0,6

Percentage share of selected financial metric planned to align in 2025 (%)

0,9

Percentage share of selected financial metric planned to align in 2030 (%)

1,1

Describe the methodology used to identify spending/revenue that is aligned

For CapEx KPI calc. in accordance with EU Reg., in 2022, TEF used as a basis the info. corresponding to various business units, with high granularity level, that contribute to the agg. of the info. at consolidation level for the Group (bottom up). Data for TEF UK was excluded from calc. because of changes in the Group's scope of consolidation. Intragroup transactions were excluded from the calc. Throughout the entire process, due care was taken to avoid double counting:
a.Reconciliation with accounting info., which ensures appropriate consideration of eliminations&adjustments on consolidation.
b.Use of consistent info. sources, which prevents considering the same item in two different KPIs or twice in the same KPI.
c. Verification of the completeness&accuracy of data
This financial metric shows the proportion of capital CapEx associated with assets or processes associated with economic actv. covered by Taxonomy. For the economic actv. to be Taxonomy aligned, they also meet related technical screening criteria, do not significant harm requirements&social minimum safeguards.

The denominator of this KPI includes additions to property, plant&equipment&intangible assets (equal to CapEx as defined in financial info. reported by the Group). The definition of CapEx associated with taxonomy also includes additions of right-of-use assets recognized in accordance with IFRS 16, as well as additions of property, plant&equipment, intangible assets or right-of-use assets arising from business combinations.
In this case, the Capex from Taxonomy aligned actv. correspond to a total sum of 50 M€ and were obtained from Investments directly&exclusively related to digital services/solutions&some specific measures applied to telecom networks that improve their energy efficiency(42M€)(actv.8.2). Investments in some energy saving measures on equipment(6M€)b&uildings(2M€) are also included (actv.7.3&7.5).
Initiatives identified by TEF considered for actv.7.3 alignment are mainly related to modernization of air conditioning&free cooling in buildings. TEF includes EER purchase criteria identifying minimum performance, in line with its energy efficiency strategy. Equipment that meets the minimum criteria of high EE was considered Taxonomy-aligned.
Initiatives identified by TEF considered for actv.7.5 alignment are mainly related to installation, maintenance&repair of instruments&devices for measuring, regulation and controlling energy performance of buildings. Initiatives identified by TEF correspond to the implementation of electronic devices to improve energy management of buildings.
• Investments in Taxonomy-eligible&not Taxonomy-aligned actv.(225 M€)
Investments related to production, programming&broadcasting of video&television content not strictly aimed at increasing level of resilience to third-party physical climate risks(125M€) (actv.8.3/13.3)&investments linked to cloud services that are made available to users via Internet, facilitating the storage of user data in data centers (38M€) (actv.8.1). This item also includes additions related to fleet management (3 M€) (actv.6.5), acquisition &ownership of buildings (55 M€)(actv.7.7), some specific energy saving measures(3M€)(actv.7.3)&a specific solution applied to improve telecom network efficiency(2M€)(actv.8.2).
• Investments in Taxonomy-non-eligible actv.(7,992M€)
Investments associated with next-generation data transmission networks (access, infrastructure, transmission, core&capitalized expenditure related to labor)(4,527M€)&other networks(1,120M€) as well as other CapEx concepts (non-eligible right-of-use additions, systems, etc.)
To calculate percentage share of selected financial metric planned to align for 2025&2030, internal growth projections have been estimated, mainly based in growth potential of digital services market&other related activities. Projections have only been undertaken for activity 8.2. Figures will be updated when alignment is undertaken for other actv. as well.

Financial Metric

OPEX

Type of alignment being reported for this financial metric

Alignment with a sustainable finance taxonomy

Taxonomy under which information is being reported

EU Taxonomy for Sustainable Activities

Objective under which alignment is being reported

Amount of selected financial metric that is aligned in the reporting year (unit currency as selected in C0.4)

100.000

Percentage share of selected financial metric aligned in the reporting year (%)

0

Percentage share of selected financial metric planned to align in 2025 (%)

0

Percentage share of selected financial metric planned to align in 2030 (%)

0

Describe the methodology used to identify spending/revenue that is aligned

To carry out the calculation of the OpEx KPIs in accordance with the EU Regulation, in 2022, Telefónica used as a basis the information corresponding to the various business units, with higher granularity, that contribute to the aggregation of the information at consolidation level for the Group (bottom up). Data for Telefónica United Kingdom was excluded from the calculation because of the changes in the Group's scope of consolidation. Intragroup transactions were excluded from the calculations. Throughout the entire process, due care was taken to avoid double counting:

a. Reconciliation with accounting information, which ensures appropriate consideration of eliminations and adjustments on consolidation.

b. Use of consistent information sources, which prevents considering the same item in two different KPIs or twice in the same KPI.

c. Verification of the completeness and accuracy of the data

This indicator shows the proportion of operating expenditure (OpEx) associated with the economic activities covered by the taxonomy. The denominator includes direct non-capitalised costs related to short-term leases, maintenance and repairs, and any other direct expenditures relating to the day-to-day servicing of assets of property, plant and equipment that are necessary to ensure the continued and effective functioning of such assets. Telefónica analysed the different items included in its OpEx model, obtaining a Taxonomy-eligible result of approximately 0% in 2022, in accordance with the definition of operating expenses contemplated in the Regulation. Non taxonomy-eligible OpEx amounts to 2,833 million euros.

The estimated growth in the percentage share of selected financial metric to align in 2025 and 2030 is expected to remain close to 0%, while doubts regarding the definition of the indicator remain open an unclear.

C3.5b

(C3.5b) Quantify the percentage share of your spending/revenue that was associated with eligible and aligned activities under the sustainable finance taxonomy in the reporting year.

Economic activity

Data-driven solutions for GHG emissions reductions

Taxonomy under which information is being reported

EU Taxonomy for Sustainable Activities

Taxonomy Alignment

Taxonomy-aligned

Financial metric(s)

Turnover
CAPEX
OPEX

Taxonomy-aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)

515.000.000

Taxonomy-aligned turnover from this activity as % of total turnover in the reporting year

1,3

Taxonomy-aligned turnover from this activity that substantially contributed to climate change mitigation as a % of total turnover in the reporting year

1,3

Taxonomy-aligned turnover from this activity that substantially contributed to climate change adaptation as a % of total turnover in the reporting year

0

Taxonomy-eligible but not aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-eligible but not aligned turnover from this activity as % of total turnover in the reporting year

Taxonomy-aligned CAPEX from this activity in the reporting year (unit currency as selected in C0.4)

42.000.000

Taxonomy-aligned CAPEX from this activity as % of total CAPEX in the reporting year

0,5

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change mitigation as a % of total CAPEX in the reporting year

0,5

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change adaptation as a % of total CAPEX in the reporting year

0

Taxonomy-eligible but not aligned CAPEX associated with this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-eligible but not aligned CAPEX associated with this activity as % of total CAPEX in the reporting year

Taxonomy-aligned OPEX from this activity in the reporting year (unit currency as selected in C0.4)

0

Taxonomy-aligned OPEX from this activity as % of total OPEX in the reporting year

0

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change mitigation as a % of total OPEX in the reporting year

0

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change adaptation as a % of total OPEX in the reporting year

0

Taxonomy-eligible but not aligned OPEX associated with this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-eligible but not aligned OPEX associated with this activity as % total OPEX in the reporting year

Type(s) of substantial contribution

Activity enabling mitigation

Calculation methodology and supporting information

To carry out the calculation of the revenues, CapEx and OpEx KPIs in accordance with the EU Regulation, in 2022, TEF used as a basis the information corresponding to the

various business units, with a high granularity level, that contribute to the aggregation of the information at consolidation level for the Group (bottom up). Intragroup transactions were excluded from the calculations. Throughout the entire process, due care was taken to avoid double counting:
a. Reconciliation with accounting information, which ensures appropriate consideration of eliminations and adjustments on consolidation.
b. Use of consistent information sources, which prevents considering the same item in two different KPIs or twice in the same KPI.
c. Verification of the completeness and accuracy of the data
Taxonomy- aligned revenue (515 M€) from Activity 8.2 Data-driven solutions for GHG emissions reductions was obtained from the revenues associated to digital services/solutions linked to the collection, transmission and analysis of data that reduce emissions associated to other activities.
Taxonomy-aligned Capex (42M€) from Activity 8.2 Data-driven solutions for GHG emissions reductions was obtained from investments directly and exclusively related to digital services/solutions and some specific measures applied to telecommunications networks that improve their energy efficiency.

Technical screening criteria met

Yes

Details of technical screening criteria analysis

The substantial contribution to climate change mitigation of data-driven solutions is associated with the fulfilment of the following technical screening criteria:
1. ICT solutions predominantly used for the provision of data and analytics enabling GHG emission reductions.
Regarding technical criterion one, the use of solutions to reduce emissions, is demonstrated through a set of studies and methodologies that evaluate, identify, and often quantify the impacts of the digital solutions provided by Telefónica to its customers on the climate (Avoided emissions methodology, Eco Smart label, LCA). To address the technical screening criteria outlined in the Taxonomy, the solutions were grouped into 8 different categories, namely: solutions for smart cities, mobility solutions, industry 5.0 solutions, smart working solutions, energy efficiency solutions, agricultural management solutions, e-health solutions.
Additionally, a life cycle analysis was carried out even though this criterion is not considered applicable to the categories of solutions described by the EU Taxonomy, as there is no alternative solution on the market for the ICT solutions analyzed in Telefónica's portfolio. For example, all solutions based on the Internet of Things have as a baseline scenario that the devices are not connected, but there has been no development of intermediate technology. However, in 2022 and with the aim of analyzing the environmental impact of some of its digital services, Telefónica carried out different life cycle assessments to measure the impact in tCO2eq of providing these services on both fixed and mobile networks comparing its impact based on the use of old and new technologies being deployed in each of these networks. The results obtained showed how the climate impact was reduced when the digital services connectivity depended on fiber instead copper and 4G/5G instead 2G/3G. Moreover Telefónica carried out this LCA to compare the environmental impact of new

technologies with legacy technologies in its fixed and mobile networks. The results of the analysis show that fibre has 18 times less environmental impact than copper, and 4G/5G has seven times less impact than 2G/3G (in terms of PB). Telefónica analyses were carried out using the ETSI ES 203 199 standard and the results were verified by an independent third-party.

Do no significant harm requirements met

Yes

Details of do no significant harm analysis

The ‘do not significant harm to climate change adaptation’ principle for activity 8.2 requires the identification and assessment of physical climate risks associated with TEF’s data-driven solutions for GHG emissions reductions under different climate scenarios. The objective is to identify and apply adaptation solutions that significantly reduce the material risks identified. Risk identification is carried out in accordance with the Group's risk management approach, tailored to the cause underlying the climate risk assessment. For each risk, the probability of occurrence is estimated, along with the possible impact and economic value, to arrive at an expected level of exposure for each scenario analyzed. To this end, TEF assessed the physical risk of CC using climate projections covering both the RCP2.6 and RCP 8.5 climate scenarios and time horizons up to 2030, 2040 and 2050. In addition, TEF has developed an Adaptation Plan, which includes several lines of initiatives aimed at protecting the Company’s assets against any extreme weather events to reduce its exposure to the main physical risks identified and to adapt to the consequences of climate change.

DNSH to the transition to a circular economy: The maintenance of the network infrastructure is the main source of waste for TEF. Regarding the management of waste at the end of the useful life of electrical and electronic equipment, TEF maintains contractual agreements for the collection of waste and verifies that the waste manager is authorized and has adequate control over the waste. In addition, the appropriate documentation is in place to ensure compliance with the directives applicable to the equipment purchased and that are part of the Company's operations

Minimum safeguards compliance requirements met

Yes

Details of minimum safeguards compliance analysis

For an economic activity to qualify as environmentally sustainable, it must be carried out in accordance with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights. Telefónica’s compliance was assessed taking into account the Platform on Sustainable Finance’s Report on Minimum Safeguards published in October 2022. It is worth noting that, this Platform’s report was prepared for the sole purpose of guiding the European Commission in establishing formal criteria for assessing social issues. Telefónica considered it a good practice to anticipate potential future regulatory developments and analyzed the alignment with social safeguards based on the four areas identified in the report: human rights, corruption, taxation and fair competition.

Telefónica respects and promotes human rights throughout its entire value chain. For this reason, it has a due diligence system in place that includes policies, periodic

procedures to assess adverse impacts, management measures to prevent and mitigate identified potential impacts, monitoring and communication procedures, and complaint and remedy mechanisms. Likewise, it also has policies and procedures in place regarding competition, anti-corruption, responsible business, conflicts of interest, and fiscal responsibility, among others, to reinforce the Group's commitment to social rights and sustainable growth.
Based on the issues addressed in the previous sections, Telefónica is implementing all the requirements it needs to comply with the three levels of technical screening criteria associated with the climate change mitigation and adaptation objectives for activities reported by Telefónica.

Economic activity

Data processing, hosting and related activities

Taxonomy under which information is being reported

EU Taxonomy for Sustainable Activities

Taxonomy Alignment

Taxonomy-eligible but not aligned

Financial metric(s)

Turnover
CAPEX

Taxonomy-aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-aligned turnover from this activity as % of total turnover in the reporting year

Taxonomy-aligned turnover from this activity that substantially contributed to climate change mitigation as a % of total turnover in the reporting year

Taxonomy-aligned turnover from this activity that substantially contributed to climate change adaptation as a % of total turnover in the reporting year

Taxonomy-eligible but not aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)

705.000.000

Taxonomy-eligible but not aligned turnover from this activity as % of total turnover in the reporting year

1,8

Taxonomy-aligned CAPEX from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-aligned CAPEX from this activity as % of total CAPEX in the reporting year

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change mitigation as a % of total CAPEX in the reporting year

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change adaptation as a % of total CAPEX in the reporting year

Taxonomy-eligible but not aligned CAPEX associated with this activity in the reporting year (unit currency as selected in C0.4)

38.000.000

Taxonomy-eligible but not aligned CAPEX associated with this activity as % of total CAPEX in the reporting year

0,5

Taxonomy-aligned OPEX from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-aligned OPEX from this activity as % of total OPEX in the reporting year

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change mitigation as a % of total OPEX in the reporting year

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change adaptation as a % of total OPEX in the reporting year

Taxonomy-eligible but not aligned OPEX associated with this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-eligible but not aligned OPEX associated with this activity as % total OPEX in the reporting year

Type(s) of substantial contribution

Calculation methodology and supporting information

To carry out the calculation of the revenues and Capex KPIs in accordance with the EU Regulation, in 2022, Telefónica used as a basis the information corresponding to the various business units, with higher granularity, that contribute to the aggregation of the information at consolidation level for the Group (bottom up). Intragroup transactions were excluded from the calculations. Throughout the entire process, due care was taken to avoid double counting:

a. Reconciliation with accounting information, which ensures appropriate consideration of eliminations and adjustments on consolidation.

b. Use of consistent information sources, which prevents considering the same item in two different KPIs or twice in the same KPI.

c. Verification of the completeness and accuracy of the data

Taxonomy-elegible but not aligned revenues (705M€) from Activity 8.1 Data processing, hosting and related activities was obtained from revenues derived from cloud services provided to users over Internet, allowing user data to be stored in data centres (705 million euros). Taxonomy-elegible but not aligned CapEx (38M€) from Activity 8.1, were obtained fom investments linked to cloud services that are made available to users via Internet, facilitating the storage of user data in data centers.

Technical screening criteria met

No

Details of technical screening criteria analysis

The substantial contribution to climate change mitigation of data processing, hosting and relative activities requires compliance with two main technical criteria:

• Implement all relevant practices listed in the most recent version of the EU Code of Conduct for Energy Efficiency in Data Centres and third-party assurance at least every three years.

• Use of refrigerants in the data centre cooling system which global warming potential (GWP) do not exceed 675.

In its draft of FAQs, disclosed in December 2022, the European Commission includes certain clarifications about this activity, specifically about the criteria for compliance and verification of compliance with the Code of Conduct. The response states that in early 2023 the Code of Conduct will be completed with an assessment framework for external verification of compliance with the practices set out in that Code of Conduct. Telefónica has participated in the ICT Council's working group, providing feedback on the proposal for establishing this assessment framework to verify compliance with the Code of Conduct in order to make it auditable. Since the framework is still not available, it was not possible to report alignment with these technical criteria in 2022.

Do no significant harm requirements met

Yes

Details of do no significant harm analysis

Although activity 8.1 was not considered to be aligned, the DNSH fulfillment process was undertaken. The 'do not significant harm to climate change adaptation' principle for activity 8.1 requires the identification and assessment of physical climate risks associated with TEF's data processing, hosting and related activities under different

climate scenarios. The objective is to identify and apply adaptation solutions that significantly reduce the material risks identified. Risk identification is carried out in accordance with the Group's risk management approach, tailored to the cause underlying the climate risk assessment. For each risk, the probability of occurrence is estimated, along with the possible impact and economic value, to arrive at an expected level of exposure for each scenario analyzed. To this end, TEF assessed the physical risk of climate change using climate projections covering both the RCP2.6 and RCP 8.5 climate scenarios and time horizons up to 2030, 2040 and 2050. In addition, TEF has developed an Adaptation Plan, which includes several lines of initiatives aimed at protecting the Company’s assets against any extreme weather events to reduce its exposure to the main physical risks identified and to adapt to the consequences of climate change.

DNSH to sustainable use and protection of water and marine resources: TEF's water consumption is mainly due to sanitary use, and to a lesser extent to its use in cooling. Aware of this, TEF takes several measures to use water more efficiently, especially in areas of high-water stress (765 million of liters in 2022). Water consumption of data centers is undertaken through a closed cooling system, so there are no discharges to freshwater streams or seawater that could cause harm or have a material adverse impact. Of the 3,194 million of liters of water we consumed in 2022, the vast majority was for sanitary uses of the Group's employees.

DNSH to the transition to a circular economy: The maintenance of the network infrastructure is the main source of waste for TEF. Regarding the management of waste at the end of the useful life of electrical and electronic equipment, TEF maintains contractual agreements for the collection of waste and verifies that the waste manager is authorized and has adequate control over the waste. In addition, the appropriate documentation is in place to ensure compliance with the directives applicable to the equipment purchased and that are part of the Company's operations

Minimum safeguards compliance requirements met

Yes

Details of minimum safeguards compliance analysis

Although activity 8.1 was not considered to be aligned, the SMS fulfillment process was undertaken.

Telefonica’s compliance with this set of criteria is made on a company-level and not by activity level. For an economic activity to qualify as environmentally sustainable, it must be carried out in accordance with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights. Telefónica’s compliance was assessed taking into account the Platform on Sustainable Finance’s Report on Minimum Safeguards published in October 2022. It is worth noting that, this Platform report was prepared for the sole purpose of guiding the European Commission in establishing formal criteria for assessing social issues, Telefónica considered it a good practice to anticipate potential future regulatory developments and analyzed the alignment with social safeguards based on the four areas identified in the report: human rights, corruption, taxation and fair competition.

Telefónica respects and promotes human rights throughout its entire value chain. For this reason, it has a due diligence system in place that includes policies, periodic

procedures to assess adverse impacts, management measures to prevent and mitigate identified potential impacts, monitoring and communication procedures, and complaint and remedy mechanisms. Likewise, it also has policies and procedures in place regarding competition, anti-corruption, responsible business, conflicts of interest, and fiscal responsibility, among others, to reinforce the Group's commitment to social rights and sustainable growth.
Based on the issues addressed in the previous sections, Telefónica is implementing all the requirements it needs to comply with the three levels of technical screening criteria associated with the climate change mitigation and adaptation objectives for activities reported by Telefónica.

Economic activity

Programming and broadcasting activities

Taxonomy under which information is being reported

EU Taxonomy for Sustainable Activities

Taxonomy Alignment

Taxonomy-eligible but not aligned

Financial metric(s)

Turnover
CAPEX

Taxonomy-aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-aligned turnover from this activity as % of total turnover in the reporting year

Taxonomy-aligned turnover from this activity that substantially contributed to climate change mitigation as a % of total turnover in the reporting year

Taxonomy-aligned turnover from this activity that substantially contributed to climate change adaptation as a % of total turnover in the reporting year

Taxonomy-eligible but not aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)

1.538.000.000

Taxonomy-eligible but not aligned turnover from this activity as % of total turnover in the reporting year

3,8

Taxonomy-aligned CAPEX from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-aligned CAPEX from this activity as % of total CAPEX in the reporting year

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change mitigation as a % of total CAPEX in the reporting year

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change adaptation as a % of total CAPEX in the reporting year

Taxonomy-eligible but not aligned CAPEX associated with this activity in the reporting year (unit currency as selected in C0.4)

86.000.000

Taxonomy-eligible but not aligned CAPEX associated with this activity as % of total CAPEX in the reporting year

1

Taxonomy-aligned OPEX from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-aligned OPEX from this activity as % of total OPEX in the reporting year

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change mitigation as a % of total OPEX in the reporting year

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change adaptation as a % of total OPEX in the reporting year

Taxonomy-eligible but not aligned OPEX associated with this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-eligible but not aligned OPEX associated with this activity as % total OPEX in the reporting year

Type(s) of substantial contribution

Calculation methodology and supporting information

To carry out the calculation of the revenues, CapEx and OpEx KPIs in accordance with the EU Regulation, in 2022, Telefónica used as a basis the information corresponding to the various business units, with higher granularity, that contribute to the aggregation of the information at consolidation level for the Group (bottom up). This enabled it to fine-tune the calculation of the KPIs and restate the figures corresponding reported for previous period to show comparability with the current period. Intragroup transactions were excluded from the calculations. Throughout the entire process, due care was taken to avoid double counting:

a. Reconciliation with accounting information, which ensures appropriate consideration of eliminations and adjustments on consolidation.

b. Use of consistent information sources, which prevents considering the same item in two different KPIs or twice in the same KPI.

c. Verification of the completeness and accuracy of the data.

Taxonomy-elegible but not aligned revenues (1,538M€) from Activity 8.3 Programming and broadcasting activities was obtained from revenues derived from own content or acquisition of rights to broadcast programmes (e.g. sports, culture, entertainment, children and/or music programmes).

Taxonomy-elegible but not aligned Capex (86M€) from Activity 8.3 Programming and broadcasting activities was obtained from investments related to own content or acquisition of broadcasting rights for cinematographic productions, whether fictional or non-fictional (including films, short films, series and documentaries, etc.).

Technical screening criteria met

No

Details of technical screening criteria analysis

Telefónica identified the audiovisual content broadcast on its Movistar Plus platform and identified own content or acquisition of rights to broadcast programmes (e.g. sports, culture, entertainment, children and/or music programmes) related to the activity 8.3.

To substantially contribute to climate change adaptation, the Regulation states that activities 8.3 must provide a technology, product, service, information, or practice to increase the level of resilience of third parties to physical climate risks.

In alignment with the TSC, Telefónica assessed the physical risk of climate change using climate projections covering both the RCP2.6 (global temperature increase by the end of the century of no more than 2ºC) and RCP 8.5 (global temperatures increase by the end of the century of around 4ºC) climate scenarios and time horizons up to 2030, 2040 and 2050. In addition, Telefónica has developed an Adaptation Plan containing, which includes several lines of initiatives aimed at protecting the Company's assets against any extreme weather event (e.g. extreme wind, fires or sea level rise) to reduce its exposure to the main physical risks identified and to adapt to the consequences of climate change.

However, for this activity, it was not possible to fully justify the technical alignment criteria. Nevertheless, it should be noted that, in Spain alone, the viewing of this content reached a total of almost 6 million hours in 2022, considering only Movistar Plus's own channels.

Do no significant harm requirements met

Yes

Details of do no significant harm analysis

No DNSH criterion have been defined for activity 8.3 in the legal text of the EU Taxonomy Delegated Act 2021/2139 and it was therefore not needed to comply with any specific requirements regarding this point.

Minimum safeguards compliance requirements met

Yes

Details of minimum safeguards compliance analysis

Although activity 8.3 was not considered to be aligned, the SMS fulfillment process was undertaken.

Telefonica's compliance with this set of criteria is made on a company-level and not by activity level. For an economic activity to qualify as environmentally sustainable, it must be carried out in accordance with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights. Telefónica's compliance was assessed taking into account the Platform on Sustainable Finance's Report on Minimum Safeguards published in October 2022. It is worth noting that, this Platform report was prepared for the sole purpose of guiding the European Commission in establishing formal criteria for assessing social issues, Telefónica considered it a good practice to anticipate potential future regulatory developments and analyzed the alignment with social safeguards based on the four areas identified in the report: human rights, corruption, taxation and fair competition.

Telefónica respects and promotes human rights throughout its entire value chain. For this reason, it has a due diligence system in place that includes policies, periodic procedures to assess adverse impacts, management measures to prevent and mitigate identified potential impacts, monitoring and communication procedures, and complaint and remedy mechanisms. Likewise, it also has policies and procedures in place regarding competition, anti-corruption, responsible business, conflicts of interest, and fiscal responsibility, among others, to reinforce the Group's commitment to social rights and sustainable growth.

Based on the issues addressed in the previous sections, Telefónica is implementing all the requirements it needs to comply with the three levels of technical screening criteria associated with the climate change mitigation and adaptation objectives for activities reported by Telefónica.

Economic activity

Motion picture, video and television program production, sound recording and music publishing activities

Taxonomy under which information is being reported

EU Taxonomy for Sustainable Activities

Taxonomy Alignment

Taxonomy-eligible but not aligned

Financial metric(s)

Turnover

CAPEX

Taxonomy-aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-aligned turnover from this activity as % of total turnover in the reporting year

Taxonomy-aligned turnover from this activity that substantially contributed to climate change mitigation as a % of total turnover in the reporting year

Taxonomy-aligned turnover from this activity that substantially contributed to climate change adaptation as a % of total turnover in the reporting year

Taxonomy-eligible but not aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)

910.000.000

Taxonomy-eligible but not aligned turnover from this activity as % of total turnover in the reporting year

2,3

Taxonomy-aligned CAPEX from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-aligned CAPEX from this activity as % of total CAPEX in the reporting year

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change mitigation as a % of total CAPEX in the reporting year

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change adaptation as a % of total CAPEX in the reporting year

Taxonomy-eligible but not aligned CAPEX associated with this activity in the reporting year (unit currency as selected in C0.4)

39.000.000

Taxonomy-eligible but not aligned CAPEX associated with this activity as % of total CAPEX in the reporting year

0,5

Taxonomy-aligned OPEX from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-aligned OPEX from this activity as % of total OPEX in the reporting year

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change mitigation as a % of total OPEX in the reporting year

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change adaptation as a % of total OPEX in the reporting year

Taxonomy-eligible but not aligned OPEX associated with this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-eligible but not aligned OPEX associated with this activity as % total OPEX in the reporting year

Type(s) of substantial contribution

Calculation methodology and supporting information

To carry out the calculation of the revenues and Capex KPIs in accordance with the EU Regulation, in 2022, Telefónica used as a basis the information corresponding to the various business units, with a high level of granularity, that contribute to the aggregation of the information at consolidation level for the Group (bottom up). Intragroup transactions were excluded from the calculations. Throughout the entire process, due care was taken to avoid double counting:

a. Reconciliation with accounting information, which ensures appropriate consideration of eliminations and adjustments on consolidation.

b. Use of consistent information sources, which prevents considering the same item in two different KPIs or twice in the same KPI.

c. Verification of the completeness and accuracy of the data

Taxonomy-elegible but not aligned revenues (910 M€) from Activity 13.3 was obtained from revenues related to own content or acquisition of broadcasting rights for cinematographic productions, whether fictional or non-fictional (including films, short films, series and documentaries, etc.).

Taxonomy-elegible but not aligned Capex (39M€) from Activity 13.3 was obtained from investments from investments related to own content or acquisition of broadcasting rights for cinematographic productions, whether fictional or non-fictional (including films, short films, series and documentaries, etc.

Technical screening criteria met

No

Details of technical screening criteria analysis

Telefónica identified the audiovisual content broadcast on its Movistar Plus platform and identified own content or acquisition of broadcasting rights for cinematographic productions, whether fictional or non-fictional (including films, short films, series and documentaries, etc.) related to the activity 13.3.

To substantially contribute to climate change adaptation, the Regulation states that activity 13.3 must provide a technology, product, service, information, or practice to increase the level of resilience of third parties to physical climate risks. Telefónica broadcasts content related to the environment and climate change, mainly through the broadcasting of documentaries (activity 13.3).

For this activity, it was not possible to fully justify the technical alignment criteria. However, it should be noted that, in Spain alone, the viewing of this content reached a total of almost 6 million hours in 2022, considering only Movistar Plus's own channels.

Do no significant harm requirements met

Yes

Details of do no significant harm analysis

No DNSH criterion have been defined for activity 13.3 in the legal text of the EU Taxonomy Delegated Act 2021/2139 and it was therefore not needed to comply with any specific requirements regarding this point.

Minimum safeguards compliance requirements met

Yes

Details of minimum safeguards compliance analysis

Although activity 8.13 was not considered to be aligned, the SMS fulfillment process was undertaken.

Telefonica's compliance with this set of criteria is made on a company-level and not by activity level. For an economic activity to qualify as environmentally sustainable, it must be carried out in accordance with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights. Telefónica's compliance was assessed considering the Platform on Sustainable Finance's Report on Minimum Safeguards published in October 2022. It is worth noting that, this Platform report was prepared for the sole purpose of guiding the European Commission in establishing formal criteria for assessing social issues, Telefónica considered it a good practice to anticipate potential future regulatory developments and analyzed the alignment with social safeguards based on the four areas identified in the report: human rights, corruption, taxation and fair competition.

Telefónica respects and promotes human rights throughout its entire value chain. For this reason, it has a due diligence system in place that includes policies, periodic procedures to assess adverse impacts, management measures to prevent and mitigate identified potential impacts, monitoring and communication procedures, and complaint and remedy mechanisms. Likewise, it also has policies and procedures in place regarding competition, anti-corruption, responsible business, conflicts of interest, and

fiscal responsibility, among others, to reinforce the Group's commitment to social rights and sustainable growth.
Based on the issues addressed in the previous sections, Telefónica is implementing all the requirements it needs to comply with the three levels of technical screening criteria associated with the climate change mitigation and adaptation objectives for activities reported by Telefónica.

Economic activity

Data-driven solutions for GHG emissions reductions

Taxonomy under which information is being reported

EU Taxonomy for Sustainable Activities

Taxonomy Alignment

Taxonomy-eligible but not aligned

Financial metric(s)

CAPEX
OPEX

Taxonomy-aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-aligned turnover from this activity as % of total turnover in the reporting year

Taxonomy-aligned turnover from this activity that substantially contributed to climate change mitigation as a % of total turnover in the reporting year

Taxonomy-aligned turnover from this activity that substantially contributed to climate change adaptation as a % of total turnover in the reporting year

Taxonomy-eligible but not aligned turnover from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-eligible but not aligned turnover from this activity as % of total turnover in the reporting year

Taxonomy-aligned CAPEX from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-aligned CAPEX from this activity as % of total CAPEX in the reporting year

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change mitigation as a % of total CAPEX in the reporting year

Taxonomy-aligned CAPEX from this activity that substantially contributed to climate change adaptation as a % of total CAPEX in the reporting year

Taxonomy-eligible but not aligned CAPEX associated with this activity in the reporting year (unit currency as selected in C0.4)

2.000.000

Taxonomy-eligible but not aligned CAPEX associated with this activity as % of total CAPEX in the reporting year

0,02

Taxonomy-aligned OPEX from this activity in the reporting year (unit currency as selected in C0.4)

Taxonomy-aligned OPEX from this activity as % of total OPEX in the reporting year

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change mitigation as a % of total OPEX in the reporting year

Taxonomy-aligned OPEX from this activity that substantially contributed to climate change adaptation as a % of total OPEX in the reporting year

Taxonomy-eligible but not aligned OPEX associated with this activity in the reporting year (unit currency as selected in C0.4)

100.000

Taxonomy-eligible but not aligned OPEX associated with this activity as % total OPEX in the reporting year

0

Type(s) of substantial contribution

Calculation methodology and supporting information

To carry out the calculation of the revenues, CapEx and OpEx KPIs in accordance with the EU Regulation, in 2022, TEF used as a basis the information corresponding to the

various business units, with a high granularity level, that contribute to the aggregation of the information at consolidation level for the Group (bottom up). Intragroup transactions were excluded from the calculations. Throughout the entire process, due care was taken to avoid double counting:
a. Reconciliation with accounting information, which ensures appropriate consideration of eliminations and adjustments on consolidation.
b. Use of consistent information sources, which prevents considering the same item in two different KPIs or twice in the same KPI.
c. Verification of the completeness and accuracy of the data
Taxonomy-elegible but not aligned Capex (2M€) from Activity 8.2 Data-driven solutions for GHG emissions reductions was obtained from investments related to an specific solution applied to improve the telecommunications network efficiency.
Taxonomy-elegible but not aligned Opex (100K€) from Activity 8.2 Data-driven solutions for GHG emissions reductions shows the proportion of operating expenditure (OpEx) associated with the economic activities covered by the taxonomy. TEF analyzed the different items included in its OpEx model, obtaining a Taxonomy-eligible result of approximately 0% in 2022, in accordance with the definition of operating expenses contemplated in the Regulation.

Technical screening criteria met

No

Details of technical screening criteria analysis

It was not possible to comply with the technical screening criteria requirements for these 2M€ of Capex and 100K of Opex. Efforts will be made internally to try to align such capex with the specific requirements of the TSC of this activity in the upcoming years.

Do no significant harm requirements met

Yes

Details of do no significant harm analysis

The ‘do not significant harm to climate change adaptation’ principle for activity 8.2 requires the identification and assessment of physical climate risks associated with TEF’s data-driven solutions for GHG emissions reductions under different climate scenarios. The objective is to identify and apply adaptation solutions that significantly reduce the material risks identified. Risk identification is carried out in accordance with the Group's risk management approach, tailored to the cause underlying the climate risk assessment. For each risk, the probability of occurrence is estimated, along with the possible impact and economic value, to arrive at an expected level of exposure for each scenario analyzed. To this end, TEF assessed the physical risk of CC using climate projections covering both the RCP2.6 and RCP 8.5 climate scenarios and time horizons up to 2030, 2040 and 2050. In addition, TEF has developed an Adaptation Plan, which includes several lines of initiatives aimed at protecting the Company’s assets against any extreme weather events to reduce its exposure to the main physical risks identified and to adapt to the consequences of climate change.
DNSH to the transition to a circular economy: The maintenance of the network

infrastructure is the main source of waste for TEF. Regarding the management of waste at the end of the useful life of electrical and electronic equipment, TEF maintains contractual agreements for the collection of waste and verifies that the waste manager is authorized and has adequate control over the waste. In addition, the appropriate documentation is in place to ensure compliance with the directives applicable to the equipment purchased and that are part of the Company's operations

Minimum safeguards compliance requirements met

Yes

Details of minimum safeguards compliance analysis

For an economic activity to qualify as environmentally sustainable, it must be carried out in accordance with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights. Telefónica's compliance was assessed taking into account the Platform on Sustainable Finance's Report on Minimum Safeguards published in October 2022. It is worth noting that, this Platform's report was prepared for the sole purpose of guiding the European Commission in establishing formal criteria for assessing social issues. Telefónica considered it a good practice to anticipate potential future regulatory developments and analyzed the alignment with social safeguards based on the four areas identified in the report: human rights, corruption, taxation and fair competition.

Telefónica respects and promotes human rights throughout its entire value chain. For this reason, it has a due diligence system in place that includes policies, periodic procedures to assess adverse impacts, management measures to prevent and mitigate identified potential impacts, monitoring and communication procedures, and complaint and remedy mechanisms. Likewise, it also has policies and procedures in place regarding competition, anti-corruption, responsible business, conflicts of interest, and fiscal responsibility, among others, to reinforce the Group's commitment to social rights and sustainable growth.

Based on the issues addressed in the previous sections, Telefónica is implementing all the requirements it needs to comply with the three levels of technical screening criteria associated with the climate change mitigation and adaptation objectives for activities reported by Telefónica.

C3.5c

(C3.5c) Provide any additional contextual and/or verification/assurance information relevant to your organization's taxonomy alignment.

The scope of application of the EU Taxonomy Regulation consists of the activity of Telefónica, S.A. and all Group subsidiaries. Telefónica offers connectivity solutions and digital services that connect people by deploying E&S efficient telecommunication networks. Sustainability is embedded into Telefónica's strategy to the extent that:

• Telefónica has set Scope 1 and 2 emission reduction (SBT approved objectives) by 80% by 2030 and achieving net-zero emissions by 2040.

• It deploys state-of-the-art networks (optic fiber, 5G) that are much more efficient than their forerunners, e.g., 85% in the case of fiber compared to copper and 90% for 5G compared to 4G, in terms of energy consumption and, therefore, their CF.
• Telefónica also strives to be a key supplier that helps its customers reduce their climate impact, avoiding 81.7 MtCO2 by our customers in 2022, thanks to Eco Smart.
• The company promotes the transition to a more sustainable circular economy based on eco-design, re-use, and recycling, 98% of its waste was recycled in 2022.
• Telefónica carries out its business based on digitalization, offering connectivity solutions using the most efficient technologies available on the market, and promoting services such as cloud, the Internet of Things (IoT), big data and e-Health.
Taking into account all of these actions and initiatives. in 2022, Telefónica used detailed information from its business units to calculate revenues, CapEx, and OpEx KPis, following regulations and a bottom-up approach for data consolidation.
After assessing each of the three indicators, the following were identified as the main Taxonomy-eligible economic activities:
• Activities that can make a substantial contribution to CC mitigation:
– Activity 8.1. Data processing, hosting, and related activities
– Activity 8.2. Data-driven solutions for GHG emissions reductions
• Activities that can make a substantial contribution to CC adaptation:
– Activity 8.3. Programming and broadcasting activities
– Activity 13.3. Motion picture, video and television program production, sound recording and music publishing activities
Furthermore, in accordance with the Regulations, Telefónica identified other secondary activities that, although they are not part of the company's business activity, contribute to the reduction of GHG. The Taxonomy Regulation identifies these actions as individual measures that are mainly related to energy efficiency and sustainable mobility. These activities are:
– Activity 6.5. Transport by motorbikes, passenger cars and light commercial vehicles.
– Activity 7.3. Installation, maintenance, and repair of energy efficiency equipment.
– Activity 7.5. Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings.
– Activity 7.7. Acquisition and ownership of buildings.
The most relevant Taxonomy financial KPIs obtained for the company were:
• Eligible revenue: 9,2%
• Aligned revenue: 1,3%
• Eligible CapEx: 3,3%
• Aligned CapEx: 0,6%
Furthermore, the following aspects must be considered for a better understanding of the information reported for 2022 financial year and comparison with the 2021 financial year.
Telefónica opted in 2021 to report, in the eligibility exercise, a minimum and maximum percentage of eligibility of its economic activities, to provide greater transparency in the assessment performed. The difference between the two numbers is due to the consideration of telecommunications networks as connectivity solutions, which depend on the interpretation of the description of activity 8.2. The minimum value reported in the calculation of the three KPIs (revenues, CapEx and OpEx) only factors in the development or use of digital services, without including the telecommunications network required for data transmission. The maximum value included, in addition to the data transmission phase, the use of technologies such as fibre or 5G.

Both interpretations arose from the complexity in applying the regulatory framework, mostly because there is a certain level of ambiguity in the items and descriptions of the activity and the technical screening criteria of Delegated Regulation (EU) 2021/2139. The Platform on Sustainable Finance, in its document published in October 2022 entitled Platform Recommendations on Data and Usability of the EU Taxonomy10, proposed providing more technical guidance on compliance with criteria for substantial contribution and DNSH (Do no significant harm) regarding activity 8.2, among others.
However, as there is no formally approved explanatory document, this year reported of KPI has been based on the interpretation provided in the draft of FAQs of December 2022 which that focuses exclusively on the substantial contribution of digital services to climate change mitigation.

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

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

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

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 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)

131.809

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

221.537

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

353.346

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

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

100,6132136675

Target status in reporting year

Achieved

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 2030, and 2040, aligned with the 1.5ºC scenario of the Paris Agreement and validated by the Science-Based Targets initiative (SBTi). In 2022, in order to align with the latest Net Zero Standard published by the SBTi, Telefónica succesfully validated its targets under the new standard.

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 80% by 2030, and achieving net-zero emissions by 2040.

To date, we have achieved our 2030 target by 2022. We are working to redefine this target in order to adjust it more appropriately. However, we are cautious when assessing this achievement because this target is not only related to our performance as a company but also to the variation of the year-on-year emission factors.

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 2022 we reduced our total Scope 1&2 emissions by 80% 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 2022 we achieved 87% improvement of our energy-intensive ratios (MWh/Traffic PB)
- Under the REP in 2022 we achieved a renewable-sourced electricity consumption of 82% at a global level.
We continued the ambitious distributed generation (DG) project in Brazil, which allowed for the installation of 48 new renewable energy plants in 2022, out of a total of 85

planned. These plants will generate over 700 GWh per year for our operations, thereby reducing dependence on renewable energy certificates or iRECs.

In Spain, the four long-term renewable power purchase agreements (PPAs) signed for the period 2022-2031 came into operation in 2022. They account for 30% of total consumption, equivalent to 482 GWh per year for 10 years. In addition to these new agreements we have to consider also the one signed in 2020, enabling us to achieve a total of 582 GWh of renewable electricity coming from PPAs in our operations in Spain, covering 50% of the consumption of technical buildings.

In addition, thanks to the extension of guarantee of origin programmes, countries such as Argentina and Ecuador certified 7% and 30%, respectively, of their electricity consumption in their own facilities as renewable for the first time, while Colombia managed to increase it to 87%. We should mention that in 2022 Chile achieved 100% of renewable electricity, joining Europe, Brazil and Peru, operations where electricity consumption at our own facilities is 100% renewable.

On the other hand, 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

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

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

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 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)

131.809

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

221.537

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

353.346

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

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

89,4339677045

Target status in reporting year

Underway

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 2030, and 2040, aligned with the 1.5ºC scenario of the Paris Agreement and validated by the Science-Based Targets initiative (SBTi). In 2022, in order to align with the latest Net Zero Standard published by the SBTi, Telefónica succesfully validated its targets under the new standard.

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

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

In 2022 we reduced our total Scope 1&2 emissions by 80% 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 2022 we achieved 87% improvement of our energy-intensive ratios (MWh/Traffic PB)
- Under the REP in 2022 we achieved a renewable-sourced electricity consumption of 82% at a global level.

In addition, we increased the procurement of renewable energy through new long-term renewable power purchase agreements (PPAs). In Germany we signed two PPA agreements. The first one for the period of 2025-2035, which will cover 54% of the total consumption of our operations, equivalent to 350 GWh per year, and a second one for the period of 2025-2040, which will cover around 33% of the consumption, equivalent to 200 GWh per year.

In Spain, the four long-term renewable power purchase agreements (PPAs) signed for the period 2022-2031 came into operation in 2022. They account for 30% of total consumption, equivalent to 482 GWh per year for 10 years. In addition to these new agreements we have to consider also the one signed in 2020, enabling us to achieve a

total of 582 GWh of renewable electricity coming from PPAs in our operations in Spain, covering 50% of the consumption of technical buildings.

In addition, thanks to the extension of guarantee of origin programmes, countries such as Argentina and Ecuador certified 7% and 30%, respectively, of their electricity consumption in their own facilities as renewable for the first time, while Colombia managed to increase it to 87%. We should mention that in 2022 Chile achieved 100% of renewable electricity, joining Europe, Brazil and Peru, operations where electricity consumption at our own facilities is 100% renewable.

On the other hand, 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

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

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, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)

1.373.189

Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)

448.342

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)

244.512

Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)

93.640

Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)

695.861

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)

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

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

Base year total 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, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)

100

Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)

100

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

100

Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)

Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)

100

Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)

Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)

Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)

100

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)

Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)

Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)

Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)

Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)

Base year total 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, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)

1.012.294

Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)

225.991

Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)

120.194

Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)

21.149

Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)

550.423

Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)

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

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

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

1.930.051

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

1.930.051

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

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

57,8756997416

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

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

In 2022, 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 85% of the total generated by Telefónica. Of these emissions, 52% come from the purchases to our supply chain. (“Category 1. Purchased goods and services”) and 29% from the use of products we sell to our customers (“Category 11. Use of sold products”).

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. Other relevant categories include “Category 2. Capital goods” and “Category 3. Fuel- and energy-related activities”, which account for over 18% of total value chain emissions. In addition, we calculate and report other emissions that we consider strategic to our business such as “Category 15. Investments”, which in 2022 resulted in the emission of 43,982 tCO2e). This category includes emissions from Virgin Media O2, the joint venture created in the UK in 2021 (we have a 50% ownership but without operational control).

In 2022, our Scope 3 emissions fell by 32% compared to 2016 (base year), which represents 925 ktCO2 fewer in seven years.

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, about 85% 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 2022, we continued to lead the climate change working group within the Joint Alliance for CSR (JAC) initiative to boost the decarbonisation of the sector. Over the course of the year, the climate supplier management of all JAC members was assessed to define and implement common emission reduction actions in the sector's supply chain (members account for over 60% of the industry's revenues).

To accelerate the decarbonisation process of our supply chain, in 2022 we added a new climate change requirement in the procurement process, requiring our key suppliers (which account for 90% of our supply chain emissions) to establish in the short term a decarbonisation plan for their activity, aligned with the Science-Based Targets (SBTi) initiative. We continued our Supplier Engagement Programme and invited our most emissions-significant suppliers to join the CDP Supply Chain programme.

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 label, 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 4

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

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, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)

1.373.189

Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)

448.342

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)

244.512

Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)

93.640

Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)

695.861

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)

Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)

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

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

Base year total 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, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)

100

Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)

100

Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

100

Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)

Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)

Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)

100

Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)

Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)

Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)

Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)

Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)

100

Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)

Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)

Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)

Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)

Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)

Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)

Base year total 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, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)

1.012.294

Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)

225.991

Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)

120.194

Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)

21.149

Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)

550.423

Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)

Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)

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

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

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

1.930.051

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

1.930.051

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

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

36,0115465059

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

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

In 2022, 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 85% of the total generated by Telefónica. Of these emissions, 52% come from the purchases to our supply chain. (“Category 1. Purchased goods and services”) and 29% from the use of products we sell to our customers (“Category 11. Use of sold products”).

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. Other relevant categories include “Category 2. Capital goods” and “Category 3. Fuel- and energy-related activities”, which account for over 18% of total value chain emissions. In addition, we calculate and report other emissions that we consider strategic to our business such as “Category 15. Investments”, which in 2022 resulted in the emission of 43,982 tCO2e). This category includes emissions from Virgin Media O2, the joint venture created in the UK in 2021 (we have a 50% ownership but without operational control).

In 2022, our Scope 3 emissions fell by 32% compared to 2016 (base year), which represents 925 ktCO2 fewer in seven years.

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 about 85% 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.

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 2022, we continued to lead the climate change working group within the Joint Alliance for CSR (JAC) initiative to boost the decarbonisation of the sector. Over the course of the year, the climate supplier management of all JAC members was assessed to define and implement common emission reduction actions in the sector's supply chain (members account for over 60% of the industry's revenues).

To accelerate the decarbonisation process of our supply chain, in 2022 we added a new climate change requirement in the procurement process, requiring our key suppliers (which account for 90% of our supply chain emissions) to establish in the short term a decarbonisation plan for their activity, aligned with the Science-Based Targets (SBTi) initiative. We continued our Supplier Engagement Programme and invited our most emissions-significant suppliers to join the CDP Supply Chain programme.

2021 was 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 2022, a total of 218 suppliers were involved, accounting for 97% of our supply chain emissions. The information reported enables us to understand their degree of maturity in handling their carbon footprints and identify potential areas for collaboration.
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

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

2030

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

100

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

82

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

78,2608695652

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 and Abs 2.

In 2022, the Renewable Energy Plan has allowed us to reduce our Scope 2 emissions by the equivalent of 132 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. With the interim target of reducing by 90% emissions (scope 1+2) in our main markets (Spain, Brazil and Germany) in 2025 and neutralise residual emissions through nature-based solutions.

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 2022 we achieved a renewable-sourced electricity consumption of 82%.

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 2022, 82% of electricity generation from renewable sources has been achieved globally, and 100% renewable energy has been achieved at facilities in Europe, Brazil,Peru and Chile. Some of the actions in place to achieve this target are:

- With regard to self-generation of electricity, we have 485 systems installed (both in fixed network buildings and in mobile network base stations) that allow us, firstly, to improve renewable electricity consumption and, secondly, to avoid the use of fossil fuel generators in isolated (off-grid) base stations, reducing consumption by between 70% and 100%. A good example of this is the installation of 23 hybrid self-generation systems in Chile, which is estimated to save around 60,000 litres of fuel per year.

- 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 Argentina and Ecuador certified 7% and 30%. Respectively, oh their electricity consumption in their own facilities as renewable for the first time, while Colombia manged to increase it to 87%. We should mention that in 2022 Chile achieved 100% of renewable electricity, joining Europe, Brazil and Peru, operations where electricity consumption at our own facilities is 100% 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

2030

Figure or percentage in target year

80

Figure or percentage in reporting year

71

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

74,2857142857

Target status in reporting year

Underway

Is this target part of an emissions target?

Yes, it is part of Abs 3

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.

We are also part of the GSMA working group which, in collaboration with the GeSI (Global Enabling Sustainability Initiative) and the ITU (International Telecommunication Union), is helping to draft a specific Scope 3 guidance for telecom operators. The Guide is intended to help telecommunications operators to harmonize the methods for calculating Scope 3 emissions, to increase reporting coverage and to encourage greater transparency in the reporting of these emissions.

On the other hand, we continue to support initiatives such as the 1.5°C Supply Chain Leaders, which advocates for the reduction of emissions by small and medium-sized enterprises (SME), and the SME Climate Hub, which promotes decarbonisation amongst SMEs, and invites them to sign the 'SME Climate Commitment' as well as supporting them with specialised tools, knowledge and best practice for implementing a robust climate strategy. In 2022, these two initiatives launched a pilot programme focused on SMEs where eleven of our suppliers were invited. Furthermore, we are also partnering with the We Mean Business association at the local level to implement the Hub in Spain.

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 . In this sense, we work on the management of emissions in the supply chain, both globally and at a local level.

To accelerate the decarbonisation process of our supply chain, in 2022 we added a new climate change requirement in the procurement process, requiring our key suppliers (which account for 90% of our supply chain emissions) to establish in the short term a decarbonisation plan for their activity, aligned with the Science-Based Targets (SBTi) initiative.
We continued our Supplier Engagement Programme and invited our most emissions-significant suppliers to join the CDP Supply Chain programme. In 2022, a total of 218 suppliers were involved, accounting for 97% of our supply chain emissions. The information reported enables us to understand their degree of maturity in handling their carbon footprints and identify potential areas for collaboration.

In 2022, we continued to lead the climate change working group within the Joint Alliance for CSR (JAC) initiative to boost the decarbonisation of the sector. Over the course of the year, the climate supplier management of all JAC members was assessed to define and implement common emission reduction actions in the sector's supply chain (members account for over 60% of the industry's revenues).

We also worked on reducing emissions associated with the use of customer premises equipment, mainly linked to electricity consumption by routers and set-top boxes, thanks to increasingly energy-efficient equipment. In 2022, we updated the corporate instruction on low carbon procurement, which considers the internal carbon pricing to guide purchasing decisions towards energy-efficient equipment with a lower carbon footprint. To reinforce internal awareness, five training sessions were held for over 500 employees from operations, procurement and sustainability.

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

49

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

97,1181556196

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 and Abs 2.

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 2022, we implemented 128 energy efficiency and management initiatives in our networks and offices, achieving savings of 408 GWh. Our total energy consumption was 6,106 GWh (21,982,519 GJ), 95% of which was electricity, while 5% was fuel. Our energy consumption per traffic unit rate improved by 87% compared to 2015 and we saved €176 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, even though data traffic through our networks has increased 7.4 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 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 2022, we undertook 128 energy efficiency and management initiatives in our networks and offices, achieving savings of 302 GWh. Total energy consumption was 6,106 GWh (21,982,519 GJ), 95% of which was electricity, while 5% was fuel. Our energy consumption per traffic unit rate improved by 87% compared to 2015 and we saved €176 million through the implementation of energy efficiency and management projects.

As part of our energy efficiency projects, we promoted network transformation initiatives,

which are responsible for 78% of our energy savings. We also continue to shut down legacy infrastructure, such as 2G and 3G networks, as well as copper networks. In Spain, in line with the 2024 copper closure plan, 788 plants were closed in 2022 (2,236 since 2014) and in Hispanoamerica progress was made with multi-layer and 2G shutdowns.. 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 the use of power saving features (PSFs) during periods of low traffic and we used artificial intelligence (AI) tools, machine learning and automatic traffic prediction. In 2022, we implemented 17 new PSF functionalities in our 4G and 5G networks, enabling us to reduce energy consumption in off-peak hours by up to 30%, without compromising on quality.

In 2022, we also completed the immersion liquid cooling project at the Bellas Vistas power plant in Madrid (Spain). This pilot delivered savings of up to 75% in non-IT energy consumption and eliminated refrigerant gas use while maintaining traditional (Tier III) reliability levels. This type of solution uses an electrically non-conductive, non-toxic and biodegradable liquid. This technology, which enables high-capacity servers to be cooled by immersion (much more efficiently than by air), will help us support the growing demand for data in edge computing and 5G.

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

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 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 2022, we achieved 82% of electricity consumption from renewable sources in our own facilities, 100% in our main markets Peru and Chile, and reduced carbon emissions (scopes 1+2) by 80% compared to 2015 and also reduces our value chain (Scope 3) emissions by 32% vs 2016

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.
The forecast for this 10% of residual emissions is about 400 ktCO2e/year from 2040 and about 80 ktCO2e/year from 2025 (related with main markets).

>We will neutralise our unabated emissions by purchasing carbon removal credits or by investing in developing our own carbon removal projects, both must meet the following criteria:
• Carbon sequestration initiatives, preferably nature based, like reforestation, afforestation or ecosystem restoration, using native plant species.
• Demonstration of additionality and long-term impact.
• Projects with environmental and social co-benefits, contributing as much as possible to the achievement of the SDGs.
• Projects certified to nationally/internationallyrecognised standards and verified by an accredited third party.
• Preferably located in areas where Telefónica is present.

We have been offsetting the impact of our emissions for several years through nature-based projects that generate high quality carbon credits. Also in 2022 we closed a global purchase agreement of carbon credits to ensure its availability until 2026 for Spain, Brazil and Germany. For example:
- In Spain we offset 5% of our operational emissions (Scope 1 + 2) thanks to the Telefónica Forest and the acquisition of carbon credits under the global carbon credit agreement.
- In Brazil we continued to offset 100% of Scope 1 + 2 emissions through the purchase of carbon credits.
- In Germany we neutralised 40% of our operational emissions, as well as those from business travel through a reforestation project in Colombia.

Finally, Telefónica uses green bonds and green and sustainable hybrid instruments to finance projects with a positive environmental impact as defined in its sustainable financing framework, for example improving energy efficiency by transforming the copper network to fibre optics (85% more efficient).

In addition, Telefónica uses other sustainable bank financing instruments, such as loans and credit facilities linked to sustainability targets, which allow it to make progress towards achieving corporate targets linked to emissions reductions.

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, in the near and medium term, and always on a temporary basis (before 2025 for Scope 1 and 2 emissions from main markets and before 2040 for Scope 3 emissions and those from Hispanoamerica), we will also invest in carbon credits to reduce emissions from deforestation and degradation, with the aim of contributing to halt deforestation in certain regions where Telefónica has operations.

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 addition, introducing an internal carbon pricing helps us make better investment and equipment procurement decisions. When procuring energy-consumption intensive equipment, we take into account the Total Cost of Ownership (TCO). This enables us to bear in mind not just the purchase price, but also the price of the energy consumed, and the emissions generated during its useful life, and thereby to select more efficient equipment.

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*	41	37.854
Implementation commenced*	4	4.129
Implemented*	129	251.036
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 others

Estimated annual CO2e savings (metric tonnes CO2e)

119.067

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)
63.723.197

Investment required (unit currency – as specified in C0.4)
6.531.765

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 2022, we implemented 128 energy efficiency and management initiatives in our networks and offices, achieving savings of 408 GWh. Our total energy consumption was 6,106 GWh (21,982,519 GJ), 95% of which was electricity, while 5% was fuel. Our energy consumption per traffic unit rate improved by 87% compared to 2015 and we saved €176 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 7.4 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)
131.969

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)

104.918.146

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

1.788.061

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

In 2016 we established the Telefónica Renewable Energy Plan(REP). 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(RS)
Our RNP 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 RS
In 2022, 82 % of our total electricity consumption in own facilities came from RS. We continued the ambitious distributed generation(DG) project in Brazil, which allowed for the installation of 48 new renewable energy plants in 2022, out of a total of 85 planned. These plants will generate over 700 GWh per year for our operations, thereby reducing dependence on renewable energy certificates or iRECs. In Spain, the four long-term renewable(PPAs) signed for the period 2022-2031 came into operation in 2022. They account for 30% of total consumption, equivalent to 482 GWh per year for 10 years. In addition, we also have to consider the one signed in 2020, enabling us to achieve a total of 582 GWh of renewable electricity coming from PPAs in our operations in Spain, covering 50% of the consumption of technical buildings
In addition, we signed two PPA agreements in Germany(2025-2035 and 2025-2040). The first one will cover 54% of total consumption(350 GWh per year); and the second one will cover 33% of total consumption(200 GWh per year)

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 2022 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. In Spain, we awarded contracts to modernise 40 power plants under the Energy Savings as a Service (ESaaS) model, which will allow us to improve the infrastructure of these buildings and at the same time save energy, all with investment from a third party 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. We also completed the immersion liquid cooling project at the Bellas Vistas power plant in Madrid (Spain). This pilot delivered savings of up to 75% in non-IT energy consumption and eliminated refrigerant gas use while maintaining traditional (Tier III) reliability levels. This type of solution uses an electrically non-conductive, non-toxic and biodegradable liquid. This technology, which enables high-capacity servers to be cooled by immersion (much more efficiently than by air), will help us support the growing demand for data in edge computing and 5G. With regard to efficient management of network capacity, we increased the use of power saving features (PSFs) during periods of low traffic and we used artificial intelligence (AI) tools, machine learning and automatic traffic prediction. In 2022, we implemented 17 new PSF functionalities in our 4G and 5G networks, enabling us to reduce energy consumption in off-peak hours by up to 30%, without compromising on quality.

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-aligned economic activity 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, improve traffic planning and air quality in cities, promote circular economy, and adopt more environmentally friendly behaviours, 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.

We offer digital solutions such as broadband, fiber, mobile connectivity , cloud, IoT and Big Data solutions.

1)Our broadband and mobile connectivity services allow our customers in the residential segment use applications or online services that allow them to transform many of their daily actions into more environmentally friendly ones (e.g., remote working, videoconferencing, online shopping, online banking, car sharing, accommodation apps…).

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 B2C mobile connections (for remote working, videoconferencing, online shopping, etc.) 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 prior the use of the digital solution.For example:
1)For broadband and mobile B2C services it depends on the use (going to the office vs remote working, business trip vs using videocalls apps...)
2)For Cloud solutions it 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

0,5051

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) Broadband and mobile B2C connectivity services: The volume factor is either the number of fixed line home connections, or the number of B2C mobile connections.

As an example, the methodologies used for calculating the avoided emissions for Video Conferencing (avoided travel) are as follows: ∑ [(% of people who access videoconferencing) x (number of people with a Telefónica connection)] × (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. They are as follows: (No. M2M connections x daily 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 the impact.

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

1,3

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?

No

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?

Row 1	No

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

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

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

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

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

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

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 relevant 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 relevant 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

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 relevant 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

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 relevant 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

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)

The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard

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)

131.809

Start date

enero 1, 2022

End date

diciembre 31, 2022

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 air conditioning units in our network.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

183.231

Start date

enero 1, 2021

End date

diciembre 31, 2021

Comment

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)

207.872

Start date

enero 1, 2020

End date

diciembre 31, 2020

Comment

Past year 3

Gross global Scope 1 emissions (metric tons CO2e)

229.296

Start date

enero 1, 2019

End date

diciembre 31, 2019

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, whereby 100% of our electricity in Europe, Brazil, Peru and Chile and 82% worldwide comes from zero-emissions sources.

As a result in 2022, 82% of our electricity consumption is renewably sourced. This, added to our energy efficiency projects, has allowed us to reduce our Scope 2 emissions by 132k 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. 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 2022, we continued the ambitious distributed generation (DG) project in Brazil, which allowed for the installation of 48 new renewable energy plants in 2022, out of a total of 85 planned. These plants will generate over 700 GWh per year for our operations, thereby reducing dependence on renewable energy certificates or iRECs. In Spain, the four long-term renewable power purchase agreements (PPAs) signed for the period 2022-2031 came into operation in 2022. They account for 30% of total consumption, equivalent to 482 GWh per year for 10 years. In addition to these new agreements we have to consider also the one signed in 2020, enabling us to achieve a total of 582 GWh of renewable electricity coming from PPAs in our operations in Spain, covering 50% of the consumption of technical buildings.
In addition, thanks to the extension of guarantee of origin programmes, countries such as Argentina and Ecuador certified 7% and 30%, respectively, of their electricity consumption in their own facilities as renewable for the first time, while Colombia

managed to increase it to 87%. We should mention that in 2022 Chile achieved 100% of renewable electricity, joining Europe, Brazil and Peru operations .

C6.3

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

Reporting year

Scope 2, location-based

1.002.189

Scope 2, market-based (if applicable)

221.537

Start date

enero 1, 2022

End date

diciembre 31, 2022

Comment

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

Past year 1

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

Past year 2

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 3

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

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 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)

1.012.294

Emissions calculation methodology

Supplier-specific method

Hybrid method

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

57,6

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 companies in all the geographies. This has allowed us to identify the most relevant categories of our activity.
Purchased goods and services is one of the most relevant categories, representing around 52% of our scope 3 emissions in 2022. It considers the total purchase volume of Telefónica, covering five of the six global procurement categories in which Telefónica's purchases are classified by the Corporate Procurement Department, i.e. B2B/B2C, Advertising and Marketing, Services, IT and Mobility. The purchases of the sixth procurement category (Network) are used for calculating category 2 emissions. Expenditures classified as “Services”, “B2B/B2C”, “IT” and “Advertising and Marketing” are used together with supplier-specific data of scope 1&2 and 3 upstream emissions to calculate emissions from Category 1. This calculation follows the hybrid method (according to GHG Protocol), which multiplies the supplier’s emission intensity (e.g., t CO2e/€ of revenue) by the amount spent on the supplier (e.g., €).

Every spend data from these categories is classified into "equipment" or "services". For purchases classified as “equipment” scopes 1, 2 and scope 3 (only upstream categories) emissions of the supplier are taken into account for calculating the specific purchased emissions intensity. For purchases classified as “service”, only scopes 1 & 2 emissions of the supplier are considered for calculating the specific purchased emissions intensity.

For the procurement category "Mobility", the supplier-specific method is used, by multiplying the units of mobile devices (i.e. mobile phones, tablets, and other devices such as computers or audio devices) purchased by the specific Life Cycle Assessment (LCA) emissions of each type of purchased device (e.g., kg CO2e/unit). The data sources of mobile devices product emissions are publicly available LCA studies from the suppliers or data from the Eco Rating Initiative, where information is also provided by suppliers. For models without publicly available PCFs, LCA or Eco Rating data, the manufacture stage and product stage emissions are calculated based on average emissions of other models.

Capital goods

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

225.991

Emissions calculation methodology

Hybrid method

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

72,4

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 companies in all the geographies. This has allowed us to identify the most relevant categories of our activity.

Capital goods is one of the most relevant categories, representing around 11% of our scope 3 emissions in 2022.

Expenditures classified as “Network” are used together with supplier-specific data of scope 1&2 and 3 upstream emissions to calculate emissions from Category 2. This calculation follows the hybrid method (according to GHG Protocol), which multiplies the supplier’s emission intensity (e.g., t CO2e/€ of revenue) by the amount spent on the supplier (e.g., €). This is the same methodology explained in category 1 - Purchased Goods and Services. All expenditure with suppliers classified as “Network” is classified as Capital Goods automatically by the model.

Every spend data from the "Network" category is classified into "equipment" or "services". For purchases classified as “equipment” scopes 1, 2 and scope 3 (only upstream categories) emissions of the supplier are taken into account for calculating the specific purchased emissions intensity. For purchases classified as “service”, only scopes 1 & 2 emissions of the supplier are considered for calculating the specific purchased emissions intensity.
(a) For TOP suppliers, the supplier’s emission intensity is obtained dividing Scope 1, 2 (for all purchases) and scope 3 upstream emissions (only for equipment purchases) obtained from CDP Supply Chain, CDP or the supplier's annual reports, by the total revenue of the supplier, reviewing that these data have been verified by an independent third-party and prioritising the use of Scope 2 Market-Based.
(b) For other suppliers (non-TOP suppliers), when no emission data is available, the supplier’s emission intensity is obtained using the average intensity of suppliers in the same global procurement category 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)

120.194

Emissions calculation methodology

Other, please specify

Consumption of fuel and energy

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 to have a comprehensive view of the total Scope 3 emissions related to its business companies in all the geographies. This has allowed us to identify the most relevant categories of our activity.

Fuel-and-energy-related activities is one of the relevant categories, representing 6% of our scope 3 emissions in 2022.

It includes emissions from extraction, production and transportation of 100% of fuels and energy purchased and acquired by Telefónica, not already accounted for in scope 1 or scope 2, including:
a) Upstream emissions of purchased fuels (extraction, production, and transportation of fuels consumed by Telefónica).
b) Upstream emissions of purchased electricity (extraction, production, and transportation of fuels consumed in the generation of electricity and district heating consumed by Telefónica).
c) Transmission and distribution (T&D) losses (generation of electricity and district heating that is consumed (i.e., lost) in a T&D system) and its upstream (well-to-tank) emissions.
d) Generation of purchased electricity that is sold to end users. This is not deemed relevant for Telefonica Group as it does not operate as an energy retailer.

Upstream fuel and energy emissions are calculated in Telefónica by multiplying the fuel electricity and district heating used in the reporting year (e.g., kWh or l) by the relevant country-specific emission factors for upstream emissions per unit of consumption (e.g., kg CO2e/kWh or kg CO2e/l).

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 businesses companies 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 companies in all the geographies. This has allowed us to identify the most relevant categories for our activity.

We carried out an estimation of the emissions from third-party disposal and treatment of waste generated as part of Telefónica Group´s operations 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%).

Business travel

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

21.149

Emissions calculation methodology

Spend-based method
Distance-based method

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

98,9

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 companies 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. These category includes emissions from transportation of employees for business-related activities during the reporting year (in vehicles not owned or operated by Telefónica, but vehicles owned or operated by third parties, such as aircraft, trains, buses, and passenger cars.).

Telefónica uses both the distance-based method (for air travel, rail travel and bus travel) and the spend-based method (for travel in rental cars) for calculating category 6 emissions. Business travel emissions of buses, trains and planes are calculated in Telefónica by multiplying the distance travelled in each type/mode of transport (e.g., pkm) by an emission factor for the mode used, expressed in passenger-kilometre (e.g.,

tCO2e/pkm). Business travel emissions of rental cars are calculated in Telefónica by multiplying the amount spent by Telefónica on rental cars (e.g., €) by the relevant EEIO (Environmentally-Extended Input-Output) emission factor per unit of economic value (e.g., t CO2e/€).

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 companies in all the geographies. This has allowed us to identify the most relevant categories of our activity.

Category 7 emissions include emissions from the transportation of Telefónica's employees between their homes and their worksites during the reporting period. These trips are made in vehicles not owned or controlled by Telefónica. We carried out an assessment of these emissions and it is not relevant in terms of total emissions. (less than 5%).

Employee commuting emissions have been estimated using a distance-based method with different modes of transportation for each country. The model specifically incorporates, the average commute time by region, the percentage of work travels and the average distance in kms travelled by different modes of transportation.
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 companies in all the geographies. This has allowed us to identify the most relevant categories of our activity.

These emissions stem from downstream transportation and distribution 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)

550.423

Emissions calculation methodology

Hybrid method
Average product method

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

73,9

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 companies in all the geographies. This has allowed us to identify the most relevant categories of our activity.

Use of sold products is one of the most important categories, representing 28% of our scope 3 emissions in 2022. Category 11 includes emissions from end use of goods and services sold in the reporting year, such as mobile devices, as well as those installed in customer premises, such as routers and set up boxes (STBs).

Telefónica uses two different approaches for calculating category 11 emissions.

a) Emissions from the use of mobile devices such as smartphones, feature phones, laptops, tablets, smartwatches or audio devices are calculated in Telefónica by multiplying the number of sold mobile devices (units) (per device type, model, supplier and country) with the product emissions of the use life stage (e.g., t CO2e/unit) for each mobile device.

b) Emissions from use of Customer Premise Equipment such as routers/broadband and set-top boxes (STBs) are calculated in Telefónica by multiplying the number of sold products (e.g., units) by the annual energy use (e.g., kWh/year) associated with each model in each country, the equipment lifetime (e.g., year) and the country's emission factor for electricity (e.g., t CO2/kWh). 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.

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 companies in all the geographies. This has allowed us to identify the most relevant categories of our activity.

End-of-Life treatment of sold products includes emissions from the waste disposal and treatment of products sold by Telefónica (in the reporting year) at the end of their life. We carried out an assessment of these emissions 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 to have a comprehensive view of the total Scope 3 emissions related to its business companies in all the geographies. This has allowed us to identify the most relevant categories of 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 companies in all the geographies. This has allowed us to identify the most relevant categories of 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

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

43.982

Emissions calculation methodology

Average data method
Investment-specific method

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

91,1

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 companies in all the geographies. This has allowed us to identify the most relevant categories of our activity.

Telefónica uses both the investment-specific method and the average-data method for calculating emissions from investments.

For companies whose carbon emissions were publicly available, the equity investment emissions of Telefónica were calculated using the investment-specific method by multiplying scope 1 and scope 2 emissions of the investee company (e.g., t CO2e) by Telefónica's share of equity in the investee company (%).
For companies whose carbon emissions were not publicly available, the equity investment emissions of Telefónica were calculated using the average-data method, by

multiplying the revenue of the investee company (e.g., €) by the appropriate EEIO emission factor that is representative of the investee company's sector of the economy (e.g., t CO2e/€) and by Telefónica's share of equity in the investee company (%).

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, 2021

End date
diciembre 31, 2021

Scope 3: Purchased goods and services (metric tons CO2e)
1.153.315

Scope 3: Capital goods (metric tons CO2e)
174.729

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
138.675

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)
5.395

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)

550.423

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)

32.953

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

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

Comment

Past year 2

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)

0

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

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

Comment

Past year 3

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

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

0,000008835

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

353.346

Metric denominator

unit total revenue

Metric denominator: Unit total

39.993.000.000

Scope 2 figure used

Market-based

% change from previous year

39,7

Direction of change

Decreased

Reason(s) for change

Change in renewable energy consumption
Other emissions reduction activities

Please explain

In 2022, our revenue totalled 39,993 million euros (without the revenues from the UK operation, as this operation is not included in the boundary of scope 1+2 emissions calculations).
Our intensity figure has decreased 39.7% because our scope 1 and 2 emissions (numerator) have decreased 183.391 tCO2e, even that our revenues (denominator), has increased by 9.1%. The decrease of our emissions has been possible thanks to our

Energy Efficiency Plan. In 2022 under this plan we carried out 128 initiatives in our networks and offices reducing energy consumption by 408 GWh. These efforts are reflected in the 87% 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 2022, 82% of our electricity consumption is renewably sourced (considering electricity directly purchase, and consumed in own fAcilities). This has allowed us to reduce our Scope 2 emissions by 132k tonnes of CO2 equivalent.

Intensity figure

2,8

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

353.346

Metric denominator

Other, please specify

Unit of service provided petabyte (Traffic)

Metric denominator: Unit total

125.790

Scope 2 figure used

Market-based

% change from previous year

40,6

Direction of change

Decreased

Reason(s) for change

Change in renewable energy consumption
Other emissions reduction activities

Please explain

Our intensity figure has decreased 40,6% because our scopes 1 and 2 emissions have decreased 183.391 tCO2e but also because in 2022 traffic has increased 10,8% 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 2022 under this plan we carried out 128 initiatives in our networks and offices reducing energy consumption by 408 GWh. These efforts are reflected in the 87% 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 2022 82% 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 132k 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	54.494	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	230	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	248	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	76.837	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

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

Country/area/region	Scope 1 emissions (metric tons CO2e)
Germany	5.520
Spain	23.654
Brazil	32.769
United States of America	158
Mexico	5.408
Colombia	11.040
Peru	3.701
Ecuador	1.180
Venezuela (Bolivarian Republic of)	10.817
Chile	9.908
Argentina	27.012

Uruguay	408
Guatemala	75
Panama	0
Bolivia (Plurinational State of)	2
Puerto Rico	156
United Kingdom of Great Britain and Northern Ireland	0

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.	130.520
Infrastructure Business, it includes our telecom infrastructure business (Telxius) in all countries.	1.289

C7.5

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

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Germany	325.723	261
Spain	217.091	3.867
Brazil	75.018	0
United States of America	1.934	1.934
Mexico	55.916	47.927
Colombia	37.054	6.853
Peru	47.305	109
Ecuador	8.507	6.100
Venezuela (Bolivarian Republic of)	27.281	27.281
Chile	72.288	561
Argentina	129.513	122.225
Uruguay	2.470	2.470

Guatemala	566	0
Panama	194	194
Bolivia (Plurinational State of)	32	32
Puerto Rico	778	778
United Kingdom of Great Britain and Northern Ireland	521	946

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.	996.925	217.615
Infrastructure Business, it includes our telecom infrastructure business (Telxius) in all countries.	5.264	3.922

C7.7

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

Yes

C7.7a

(C7.7a) Break down your gross Scope 1 and Scope 2 emissions by subsidiary.

Subsidiary name

TELEFONICA ESPAÑA (Spain)

Primary activity

Telecommunications services

Select the unique identifier(s) you are able to provide for this subsidiary

ISIN code - equity

ISIN code – bond

ISIN code – equity

ES0178430E18

CUSIP number

Ticker symbol

SEDOL code

LEI number

Other unique identifier

Scope 1 emissions (metric tons CO2e)

20.679

Scope 2, location-based emissions (metric tons CO2e)

208.844

Scope 2, market-based emissions (metric tons CO2e)

0

Comment

Unique identifier per subsidiary:
Telefónica de España S.A.U -CIF: ESA28015865 (Código de Identificaión Fiscal)
Telefónica Móviles España S.A.U -CIF: ESA78923125 (Código de Identificaión Fiscal)
Telefónica Servicios Audiovisuales - CIF: ESESA80568645 (Código de Identificaión Fiscal)
Telefónica Soluciones de Informática y Comunicaciones de España - CIF: ESA78053147 (Código de Identificaión Fiscal)

Subsidiary name

TELEFÓNICA BRASIL S.A.

Primary activity

Telecommunications services

Select the unique identifier(s) you are able to provide for this subsidiary

ISIN code - equity

ISIN code – bond

ISIN code – equity
BRVIVTACNOR0

CUSIP number

Ticker symbol

SEDOL code

LEI number

Other unique identifier

Scope 1 emissions (metric tons CO2e)
32.190

Scope 2, location-based emissions (metric tons CO2e)
74.682

Scope 2, market-based emissions (metric tons CO2e)
0

Comment

Subsidiary name
TELEFONICA DEL PERU

Primary activity
Telecommunications services

Select the unique identifier(s) you are able to provide for this subsidiary
ISIN code - equity

ISIN code – bond

ISIN code – equity
PEP705001209

CUSIP number

Ticker symbol

SEDOL code

LEI number

Other unique identifier

Scope 1 emissions (metric tons CO2e)
3.621

Scope 2, location-based emissions (metric tons CO2e)
46.828

Scope 2, market-based emissions (metric tons CO2e)
0

Comment

Subsidiary name
TELEFONICA CHILE SA

Primary activity
Telecommunications services

Select the unique identifier(s) you are able to provide for this subsidiary
ISIN code - equity

ISIN code – bond

ISIN code – equity
CLP3058U1199

CUSIP number

Ticker symbol

SEDOL code

LEI number

Other unique identifier

Scope 1 emissions (metric tons CO2e)
9.736

Scope 2, location-based emissions (metric tons CO2e)
71.728

Scope 2, market-based emissions (metric tons CO2e)
0

Comment

Subsidiary name
TELEFONICA DE ARGENTINA S.A. (T.A.S.A)

Primary activity
Telecommunications services

Select the unique identifier(s) you are able to provide for this subsidiary
Another unique identifier, please specify
Clave Única de Identificación Tributaria

ISIN code – bond

ISIN code – equity

CUSIP number

Ticker symbol

SEDOL code

LEI number

Other unique identifier
AR30-63945397-5

Scope 1 emissions (metric tons CO2e)
26.995

Scope 2, location-based emissions (metric tons CO2e)
129.135

Scope 2, market-based emissions (metric tons CO2e)

121.847

Comment

Subsidiary name
Telefonica Deutschland Holding AG

Primary activity
Telecommunications services

Select the unique identifier(s) you are able to provide for this subsidiary
ISIN code - equity

ISIN code – bond

ISIN code – equity
DE000A1J5RX9

CUSIP number

Ticker symbol

SEDOL code

LEI number

Other unique identifier

Scope 1 emissions (metric tons CO2e)
5.520

Scope 2, location-based emissions (metric tons CO2e)
325.723

Scope 2, market-based emissions (metric tons CO2e)
261

Comment

Subsidiary name
TELXIUS TELECOM SA

Primary activity

Select the unique identifier(s) you are able to provide for this subsidiary

Another unique identifier, please specify

Código de Identificación Fiscal

ISIN code – bond

ISIN code – equity

CUSIP number

Ticker symbol

SEDOL code

LEI number

Other unique identifier

ESA86565926

Scope 1 emissions (metric tons CO2e)

1.289

Scope 2, location-based emissions (metric tons CO2e)

5.264

Scope 2, market-based emissions (metric tons CO2e)

3.922

Comment

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 in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	131.969	Decreased	24,6	Thanks to renewable energy Plan our renewable electricity consumption has increased by 339,647 MWh, this means an increase of 7.3% with respect to 2020, This results in a reduction of 131.969 tCO2e of our Scope 2 Market-based, Through these activities we reduced our emissions by 131,969 tCO2e, and our total S1 and S2 emissions in the previous year were 536.737 tCO2e, therefore we arrived at -24,6% through (-131.969/536.737) * 100 = -24.6%) (i,e, an 24.6%) decrease in emissions).
Other emissions reduction activities	51.422	Decreased	9,6	In 2022, 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 2022 we have implemented Energy Efficiency Projects aimed to reduce fuel consumption in operations and vehicles, that led us to a reduction of 8,257 MWh, This results in a reduction of 51,422 tCO2e of our Scope 1, Through these activities we reduced our emissions by 51.422 tCO2e, and our total S1 and S2 emissions in the previous year were 536.737 tCO2e, therefore we arrived at -9,6% through (-51.422 / 536.737) * 100 = -9,6%% (i,e, an 9,6%% 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	Yes

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)	48.848	226.266	275.115
Consumption of purchased or acquired electricity		4.529.993	1.290.518	5.820.511
Consumption of purchased or acquired heat		0	6.312	6.312
Consumption of purchased or acquired cooling		0	0	0
Consumption of self-generated non-fuel renewable energy		4.317		4.317
Total energy consumption		4.583.158	1.523.097	6.106.255

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

48.848

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

201.264

Comment

Motor Gasoline + Liquefied Petroleum Gas (LPG) + Diesel

Gas

Heating value

LHV

Total fuel MWh consumed by the organization

25.002

Comment

Natural Gas + Propane

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

275.115

Comment

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	4.317,1	4.317,1	4.317,1	4.317,1
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

Country/area

Germany

Consumption of purchased electricity (MWh)

774.908

Consumption of self-generated electricity (MWh)

59

Is this electricity consumption excluded from your RE100 commitment?

No

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

3.908

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

778.875

Country/area

Spain

Consumption of purchased electricity (MWh)

1.550.406

Consumption of self-generated electricity (MWh)

1.026

Is this electricity consumption excluded from your RE100 commitment?

No

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

2.404

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

1.553.836

Country/area

Brazil

Consumption of purchased electricity (MWh)

1.724.542

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

No

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

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

1.724.542

Country/area

United States of America

Consumption of purchased electricity (MWh)

5.258

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?
No

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

Consumption of self-generated heat, steam, and cooling (MWh)
0

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

5.258

Country/area
Mexico

Consumption of purchased electricity (MWh)
132.189

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
No

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

Consumption of self-generated heat, steam, and cooling (MWh)
0

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

132.189

Country/area
Colombia

Consumption of purchased electricity (MWh)
294.079

Consumption of self-generated electricity (MWh)
707

Is this electricity consumption excluded from your RE100 commitment?
No

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

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

294.786

Country/area

Peru

Consumption of purchased electricity (MWh)

272.101

Consumption of self-generated electricity (MWh)

1.553

Is this electricity consumption excluded from your RE100 commitment?

No

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

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

273.654

Country/area

Ecuador

Consumption of purchased electricity (MWh)

61.600

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

No

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

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

61.600

Country/area

Venezuela (Bolivarian Republic of)

Consumption of purchased electricity (MWh)

284.469

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

No

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

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

284.469

Country/area

Chile

Consumption of purchased electricity (MWh)

241.970

Consumption of self-generated electricity (MWh)

198

Is this electricity consumption excluded from your RE100 commitment?

No

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

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

242.168

Country/area
Argentina

Consumption of purchased electricity (MWh)
444.451

Consumption of self-generated electricity (MWh)
0

Is this electricity consumption excluded from your RE100 commitment?
No

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

Consumption of self-generated heat, steam, and cooling (MWh)
0

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

444.451

Country/area
Uruguay

Consumption of purchased electricity (MWh)
27.170

Consumption of self-generated electricity (MWh)
774

Is this electricity consumption excluded from your RE100 commitment?
No

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

Consumption of self-generated heat, steam, and cooling (MWh)
0

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

27.944

Country/area
Guatemala

Consumption of purchased electricity (MWh)

1.669

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

No

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

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

1.669

Country/area

Panama

Consumption of purchased electricity (MWh)

585

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

No

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

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

585

Country/area

Bolivia (Plurinational State of)

Consumption of purchased electricity (MWh)

105

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

No

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

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

105

Country/area

Puerto Rico

Consumption of purchased electricity (MWh)

2.316

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

No

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

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

2.316

Country/area

United Kingdom of Great Britain and Northern Ireland

Consumption of purchased electricity (MWh)

2.693

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

No

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

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

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

2.693

C8.2h

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

Country/area of consumption of purchased renewable electricity

Germany

Sourcing method

Unbundled procurement of Energy Attribute Certificates (EACs)

Renewable electricity technology type

Wind

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

898.723

Tracking instrument used

GO

Country/area of origin (generation) of purchased renewable electricity

Sweden

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

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

2001

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

2022

Supply arrangement start year

2022

Additional, voluntary label associated with purchased renewable electricity

No additional, voluntary label

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 consumption of purchased renewable electricity

Spain

Sourcing method

Retail supply contract with an electricity supplier (retail green electricity)

Renewable electricity technology type

Wind

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

1.038.664

Tracking instrument used

GO

Country/area of origin (generation) of purchased renewable electricity

Spain

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

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)

2022

Supply arrangement start year

2022

Additional, voluntary label associated with purchased renewable electricity

No additional, voluntary label

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 consumption of purchased renewable electricity

Brazil

Sourcing method

Retail supply contract with an electricity supplier (retail green electricity)

Renewable electricity technology type

Small hydropower (<25 MW)

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

573.904

Tracking instrument used

Contract

Country/area of origin (generation) of purchased renewable electricity

Brazil

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

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

2007

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

2022

Supply arrangement start year

2007

Additional, voluntary label associated with purchased renewable electricity

No additional, voluntary label

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 consumption of purchased renewable electricity

Spain

Sourcing method

Physical power purchase agreement (physical PPA) with a grid-connected generator

Renewable electricity technology type

Wind

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

511.212

Tracking instrument used

Contract

Country/area of origin (generation) of purchased renewable electricity

Spain

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

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)

2022

Supply arrangement start year

2020

Additional, voluntary label associated with purchased renewable electricity

No additional, voluntary label

Comment

Country/area of consumption of purchased renewable electricity

Mexico

Sourcing method

Physical power purchase agreement (physical PPA) with a grid-connected generator

Renewable electricity technology type

Solar

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

18.886

Tracking instrument used

Other, please specify

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

Country/area of origin (generation) of purchased renewable electricity

Mexico

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

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

2019

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

2022

Supply arrangement start year

2019

Additional, voluntary label associated with purchased renewable electricity

No additional, voluntary label

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 consumption of purchased renewable electricity

Brazil

Sourcing method

Unbundled procurement of Energy Attribute Certificates (EACs)

Renewable electricity technology type

Wind

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

969.882

Tracking instrument used

I-REC

Country/area of origin (generation) of purchased renewable electricity

Brazil

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

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

2017

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

2022

Supply arrangement start year

2022

Additional, voluntary label associated with purchased renewable electricity

No additional, voluntary label

Comment

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

Country/area of consumption of purchased renewable electricity

Brazil

Sourcing method

Physical power purchase agreement (physical PPA) with a grid-connected generator

Renewable electricity technology type

Solar

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

34.008

Tracking instrument used

Contract

Country/area of origin (generation) of purchased renewable electricity

Brazil

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

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

2020

Vintage of the renewable energy/attribute (i.e. year of generation)
2022

Supply arrangement start year
2021

Additional, voluntary label associated with purchased renewable electricity
No additional, voluntary label

Comment
Thanks to a 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 consumption of purchased renewable electricity
Colombia

Sourcing method
Unbundled procurement of Energy Attribute Certificates (EACs)

Renewable electricity technology type
Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)
239.693

Tracking instrument used
I-REC

Country/area of origin (generation) of purchased renewable electricity
Colombia

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
1975

Vintage of the renewable energy/attribute (i.e. year of generation)
2022

Supply arrangement start year
2022

Additional, voluntary label associated with purchased renewable electricity

No additional, voluntary label

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 consumption of purchased renewable electricity

Peru

Sourcing method

Unbundled procurement of Energy Attribute Certificates (EACs)

Renewable electricity technology type

Large hydropower (>25 MW)

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

271.717

Tracking instrument used

I-REC

Country/area of origin (generation) of purchased renewable electricity

Peru

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

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

2015

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

2022

Supply arrangement start year

2022

Additional, voluntary label associated with purchased renewable electricity

No additional, voluntary label

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 consumption of purchased renewable electricity
Ecuador

Sourcing method
Unbundled procurement of Energy Attribute Certificates (EACs)

Renewable electricity technology type
Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)
17.432

Tracking instrument used
I-REC

Country/area of origin (generation) of purchased renewable electricity
Peru

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2015

Vintage of the renewable energy/attribute (i.e. year of generation)
2022

Supply arrangement start year
2022

Additional, voluntary label associated with purchased renewable electricity
No additional, voluntary label

Comment

Country/area of consumption of purchased renewable electricity
Chile

Sourcing method
Unbundled procurement of Energy Attribute Certificates (EACs)

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)

266.026

Tracking instrument used

I-REC

Country/area of origin (generation) of purchased renewable electricity

Chile

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

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

2021

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

2022

Supply arrangement start year

2022

Additional, voluntary label associated with purchased renewable electricity

No additional, voluntary label

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 consumption of purchased renewable electricity

Argentina

Sourcing method

Unbundled procurement of Energy Attribute Certificates (EACs)

Renewable electricity technology type

Wind

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

25.010

Tracking instrument used

I-REC

Country/area of origin (generation) of purchased renewable electricity
Argentina

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2020

Vintage of the renewable energy/attribute (i.e. year of generation)
2022

Supply arrangement start year
2022

Additional, voluntary label associated with purchased renewable electricity
No additional, voluntary label

Comment

Country/area of consumption of purchased renewable electricity
Guatemala

Sourcing method
Unbundled procurement of Energy Attribute Certificates (EACs)

Renewable electricity technology type
Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)
1.846

Tracking instrument used
I-REC

Country/area of origin (generation) of purchased renewable electricity
Guatemala

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2003

Vintage of the renewable energy/attribute (i.e. year of generation)
2022

Supply arrangement start year
2021

Additional, voluntary label associated with purchased renewable electricity
No additional, voluntary label

Comment

Country/area of consumption of purchased renewable electricity
Brazil

Sourcing method
Physical power purchase agreement (physical PPA) with a grid-connected generator

Renewable electricity technology type
Small hydropower (<25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)
111.549

Tracking instrument used
Contract

Country/area of origin (generation) of purchased renewable electricity
Brazil

Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2018

Vintage of the renewable energy/attribute (i.e. year of generation)
2022

Supply arrangement start year
2018

Additional, voluntary label associated with purchased renewable electricity
No additional, voluntary label

Comment

Thanks to a 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 consumption of purchased renewable electricity

Brazil

Sourcing method

Physical power purchase agreement (physical PPA) with a grid-connected generator

Renewable electricity technology type

Sustainable Biomass

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

27.486

Tracking instrument used

Contract

Country/area of origin (generation) of purchased renewable electricity

Brazil

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

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

2020

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

2022

Supply arrangement start year

2021

Additional, voluntary label associated with purchased renewable electricity

No additional, voluntary label

Comment

Thanks to a 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).

C8.2i

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

Sourcing method

Heat/steam/cooling supply agreement

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

Spain

Energy carrier

Heat

Low-carbon technology type

Other, please specify

waste energy recovery

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

804,8

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.

Sourcing method

Heat/steam/cooling supply agreement

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

Spain

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)

1.599,32

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/area in the reporting year.

Country/area of generation

Germany

Renewable electricity technology type

Solar

Facility capacity (MW)

0,04

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

126

Renewable electricity consumed by your organization from this facility in the reporting year (MWh)

59

Energy attribute certificates issued for this generation

No

Type of energy attribute certificate

Comment

Country/area of generation
Spain

Renewable electricity technology type
Solar

Facility capacity (MW)
0,99

Total renewable electricity generated by this facility in the reporting year (MWh)
3.589

Renewable electricity consumed by your organization from this facility in the reporting year (MWh)
1.026

Energy attribute certificates issued for this generation
No

Type of energy attribute certificate

Comment

Country/area of generation
Colombia

Renewable electricity technology type
Solar

Facility capacity (MW)
0,84

Total renewable electricity generated by this facility in the reporting year (MWh)
707

Renewable electricity consumed by your organization from this facility in the reporting year (MWh)

707

Energy attribute certificates issued for this generation

No

Type of energy attribute certificate

Comment

Country/area of generation

Peru

Renewable electricity technology type

Solar

Facility capacity (MW)

0,38

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

1.553

Renewable electricity consumed by your organization from this facility in the reporting year (MWh)

1.553

Energy attribute certificates issued for this generation

No

Type of energy attribute certificate

Comment

Country/area of generation

Chile

Renewable electricity technology type

Solar

Facility capacity (MW)

0,58

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

198

Renewable electricity consumed by your organization from this facility in the reporting year (MWh)

198

Energy attribute certificates issued for this generation

No

Type of energy attribute certificate

Comment

Country/area of generation

Uruguay

Renewable electricity technology type

Solar

Facility capacity (MW)

0,19

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

1.764

Renewable electricity consumed by your organization from this facility in the reporting year (MWh)

774

Energy attribute certificates issued for this generation

No

Type of energy attribute certificate

Comment

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 and 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 2022, 82% of the total electricity consumption on our own facilities came from renewable sources. In addition, the ambitious distributed generation (DG) project in Brazil, which allowed for the installation of 48 new renewable energy plants in 2022, out of a total of 85 planned. These plants will generate over 700 GWh per year for our operations, thereby reducing dependence on renewable energy certificates or iRECs. In Spain, the four long-term renewable power purchase agreements (PPAs) signed for the period 2022-2031 came into operation in 2022. They account for 30% of total consumption, equivalent to 482 GWh per year for 10 years. In addition to these new agreements we have to consider also the one signed in 2020, enabling us to achieve a total of 582 GWh of renewable electricity coming from PPAs in our operations in Spain, covering 50% of the consumption of technical buildings.
In addition, thanks to the extension of guarantee of origin programmes, countries such as Argentina and Ecuador certified 7% and 30%, respectively, of their electricity consumption in their own facilities as renewable for the first time, while Colombia managed to increase it to 87%. We should mention that in 2022 Chile achieved 100% of renewable electricity, joining Europe, Brazil and Peru, operations where electricity consumption at our own facilities is 100% 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).
With regard to self-generation of electricity, we have 485 systems installed (both in fixed network buildings and in mobile network base stations) that allow us, firstly, to improve renewable electricity consumption and, secondly, to avoid the use of fossil fuel generators in isolated (off-grid) base stations, reducing consumption by between 70% and 100%. A good example of this is the installation of 23 hybrid self-generation systems in Chile, which is estimated to save around 60,000 litres of fuel per year. 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/area-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	Ecuador represents a challenge as the market has not developed yet the purchase of Certificates of Origin.

	Limited supply of renewable electricity in the market	

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Energy usage

Metric value

6.106.255

Metric numerator

MWh

Metric denominator (intensity metric only)

% change from previous year

0,01

Direction of change

Decreased

Please explain

In 2022, we implemented 128 energy efficiency and management initiatives in our networks and offices, achieving savings of 408 GWh. Our total energy consumption was 6,106 GWh (21,982,519 GJ), 95% of which was electricity, while 5% was fuel. Our energy consumption per traffic unit rate improved by 87% compared to 2015 and we saved €176 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, even though data traffic through our networks has increased 7.4 times over

Description

Other, please specify

Energy Efficiency

Metric value

49

Metric numerator

MWh

Metric denominator (intensity metric only)

PB

% change from previous year

10,11

Direction of change

Decreased

Please explain

In 2022, our energy consumption per traffic unit rate improved by 87% compared to 2015 and we saved €176 million through the implementation of energy efficiency and management projects.

Description

Other, please specify

Avoided emissions through our services

Metric value

81.700.000

Metric numerator

Avoided emisions in our clients thanks to our P&S

Metric denominator (intensity metric only)

% change from previous year

836

Direction of change

Increased

Please explain

In 2022, thanks to the efficiencies generated by our Eco Smart and connectivity services, our customers avoided the emission of 81.7 million tonnes of CO2. This demonstrates the capacity of new technologies to accelerate the transformation of the economy into a more sustainable model. This figure, which is significantly higher than in previous years, is due to the fact that we have updated and added new services to our methodology for calculating the decarbonisation effects of our solutions. Specifically, we have included:

• Connected Living: mobile connectivity and broadband services for the B2C segment which enable our customers to use digital applications that allow them to adopt more sustainable habits such as teleworking, distance learning, audio/video calls, car sharing, use of satellite navigation apps, real-time access to public transport applications, shared

accommodation, online shopping and online banking services.
• New remote healthcare services.
• IoT services for water cycle management

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 2022_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 2022, so all the document is relevant, The specific data on Scope 1 emissions for 2022 are on page 4.

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 2022_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 2022, so all the document is relevant. The specific data on Scope 1 emissions for 2022 are on page 4.

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 2022_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 2022, so all the document is relevant. The specific data on Scope 1 emissions for 2022 are on page 4.

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 2022_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 2022, so all the document is relevant. The specific data on Scope 1 emissions for 2022 are on page 4.

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 5 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 4 and 5 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 5 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 2.21.9 - Compliance table of Spanish Law 11/2018 of 28 December - GRI Standards. Please refer to p. 321 (Reduction of GHG emissions.). PwC verification statement is in p. 346 of the Consolidated Report. 1, 2
C5. Emissions performance	Year on year change in	ISAE 3000 (Revised)	PwC has verified emissions reduction under ISAE 3000 (Revised) standard Please see Table 2.21.9 - Compliance table of Spanish

	emissions (Scope 3)		Law 11/2018 of 28 December - GRI Standards. Please refer to p. 321 (Reduction of GHG emissions.). PwC verification statement is in p. 346 of the Consolidated Report. 1, 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 2.21.9 - Compliance table of Spanish Law 11/2018 of 28 December - GRI Standards. Please refer to p. 321 (Reduction of GHG emissions.). PwC verification statement is in p. 346 of the Consolidated Report. 1, 2
C6. Emissions data	Year on year emissions intensity figure	ISAE 3000 (Revised)	PwC has verified emissions intensity figure (tCO2/€), included in p. 103, under ISAE 3000 (Revised) standard Please see Table 2.21.9 - Compliance table of Spanish Law 11/2018 of 28 December - GRI Standards. Please refer to p. 321 (Reduction of GHG emissions.). PwC verification statement is in p. 346 of the Consolidated Report. 1, 2

[1]DECLARACION TELEFONICA GLOBAL EN 2022_signed.pdf

[2]management-and-sustainability-esg-report-2022_baja.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 canceled any project-based carbon credits within the reporting year?

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits canceled by your organization in the reporting year.

Project type

Other, please specify

Avoided Unplanned Deforestation (AUD project activity) and Avoided Planned Deforestation (APD project activity)

Type of mitigation activity

Emissions reduction

Project description

REDD+ EVERGREEN (BRAZIL)
Conservation project, which protects forests located in one of the regions with the highest deforestation rate in the Amazon Biome, the municipality of Apuí, in Amazonas. The project, verified by VCS, provides alternative income for extractive communities and helps to protect 250 species of birds, 40 mammals and 15 reptiles, as well as protecting flora species such as Mahogany, Cedar, Copaiba, Andiroba, Chestnut and Rosewood.

Credits canceled by your organization from this project in the reporting year (metric tons CO2e)

8.298

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

Yes

Vintage of credits at cancellation

2021

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Other, please specify

Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (https://cdm.unfccc.int/methodologies/ARmethodologies/tools/ar-am-tool-02-v1.pdf)

Approach(es) by which the selected program requires this project to address reversal risk

Other, please specify

Long-term agreements with stakeholders to ensure conservation and financial return; Benefit-sharing mechanisms with communities; Monitoring and verification; Policy and legal frameworks.

Potential sources of leakage the selected program requires this project to have assessed

Other, please specify

Estimation of emissions from activity shifting for APD/forest degradation and avoided planned wetland degradation;Estimation of emissions from activity shifting for AUD&avoiding unpl.wetland degradation; “Estimation of emissions from market-effects”

Provide details of other issues the selected program requires projects to address

Public consultation: The Project Proponent shall attempt to amicably resolve all grievances and provide a written response to the grievances in a manner that is culturally appropriate.

Comment

Project type

Afforestation

Type of mitigation activity

Carbon removal

Project description

BOSQUE TELEFÓNICA (SPAIN)

“Telefónica Forest”, located in Palencia (Spain) has planted over 12,500 trees of native species, which will help to restore a degraded agricultural area, transforming it for forestry use, involving rural communities and boosting the local economy by generating employment for young people and disadvantaged people. “Bosque Telefónica” is expected to absorb 3,000 tonnes of CO2 over its life cycle.

Credits canceled by your organization from this project in the reporting year (metric tons CO2e)

120

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

No

Vintage of credits at cancellation

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

Other regulatory carbon crediting program, please specify

Spanish national scheme: Spanish Climate Change Office registry for carbon absorption projects (https://www.miteco.gob.es/es/cambio-climatico/temas/mitigacion-politicas-y-medidas/inscripcion-registro.aspx)

Method(s) the program uses to assess additionality for this project

Market penetration assessment

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Activity-shifting

Provide details of other issues the selected program requires projects to address

Not applicable

Comment

Project type

Reforestation

Type of mitigation activity

Carbon removal

Project description

CÁCERES & CRAVO NORTE (COLOMBIA)

The project proposes to carry out reforestation, with 25 native tree species, 1,230 ha in the Cáceres/Antioquia area and 9,640 ha in the Cravo Norte/Arauca area, areas which had previously been degraded by extensive livestock farming activities. It also promotes the sustainable management of forest resources to encourage natural regeneration.

Credits canceled by your organization from this project in the reporting year (metric tons CO2e)

3.107

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

Yes

Vintage of credits at cancellation

2015

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Investment analysis
Barrier analysis
Other, please specify
Common practice analysis

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation
Other, please specify
Assessment of Non Permance Risk and as a result volumes (%) are reserved in the buffer pool

Potential sources of leakage the selected program requires this project to have assessed

Activity-shifting

Provide details of other issues the selected program requires projects to address

Comment

Project type

Other, please specify
Avoided Unplanned Deforestation (AUD)

Type of mitigation activity

Emissions reduction

Project description

REDD+ JARI AMAPÁ (BRAZIL)
Developed by the Jari Foundation and Biofílica S.A., the initiative trains local farmers in sustainable management techniques and agroextractive production in Pará and Amapá, promoting the well-being of communities and making them maintainers of forest resources. The project covers an area that includes 340 flora species, of which 54 are threatened of extinction, and 2,070 species of fauna, of which 133 are threatened with extinction. Beyond the benefits of carbon credits, the project has the additional CCB

certification (Climate, Community & Biodiversity Standard), benefiting more than 60 families from 8 communities.

Credits canceled by your organization from this project in the reporting year (metric tons CO2e)

14.964

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

Yes

Vintage of credits at cancellation

2016

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements
Investment analysis
Other, please specify
Alternative land use scenarios

Approach(es) by which the selected program requires this project to address reversal risk

Monitoring and compensation

Potential sources of leakage the selected program requires this project to have assessed

Activity-shifting

Provide details of other issues the selected program requires projects to address

Stakeholder Engagement: non-interest of stakeholders, especially communities and public bodies in participating in project activities, non-inclusion of vulnerable groups such as young people and women.

Comment

Project type

Reforestation

Type of mitigation activity

Carbon removal

Project description

MULTI-SPECIES REFORESTATION IN MATO GROSSO (BRAZIL)
Reforestation project involving 50 native species in an area of 8 thousand hectares, including the replanting and natural forest management. In addition to the positive environmental impact, the project also develops educational activities, builds economic and social partnerships with the population so that they can live of the forest, and guarantees the preservation and strengthening of biodiversity.

Credits canceled by your organization from this project in the reporting year (metric tons CO2e)

6.438

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

Yes

Vintage of credits at cancellation

2010

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Consideration of legal requirements

Approach(es) by which the selected program requires this project to address reversal risk

No risk of reversal

Potential sources of leakage the selected program requires this project to have assessed

Activity-shifting

Provide details of other issues the selected program requires projects to address

Not applicable.

Comment

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.

Type of internal carbon price

Shadow price

How the price is determined

Price/cost of voluntary carbon offset credits

Objective(s) for implementing this internal carbon price

Drive energy efficiency
Drive low-carbon investment
Identify and seize low-carbon opportunities

Scope(s) covered

Scope 1
Scope 2

Pricing approach used – spatial variance

Uniform

Pricing approach used – temporal variance

Evolutionary

Indicate how you expect the price to change over time

We have used the same shadow carbon price for all Operational Business in all our geographies. We determined the ICP based on the price of the carbon credits purchased in each region, which helps us to make investment based on a risk analysis . It is expected that new ICP instruments will be implemented in the next years, which will result in more accurate forecasts and follow up of our targets.
According to the World Bank "State&trend of carbon pricing" report, carbon markets have steadily evolved in the last 10 years and are expected to growth both in terms of coverage and price, to drive the transformational change needed to meet the Paris temperature goals. IPCC's AR6 indicates that with a mitigation pathway limiting warming to 2°C the marginal abatement costs of carbon are around USD 90/tCO2 by 2030 or USD 115 in 2023 terms. Therefore, we know that Telefónica's ICP is below the recommended levels and we expect to increase it after these first years of implementation and testing.

Actual price(s) used – minimum (currency as specified in C0.4 per metric ton CO2e)

30

Actual price(s) used – maximum (currency as specified in C0.4 per metric ton CO2e)

30

Business decision-making processes this internal carbon price is applied to

Capital expenditure

Procurement

Mandatory enforcement of this internal carbon price within these business decision-making processes

Yes, for some decision-making processes, please specify

Telefónica's Corporate Instruction on low-carbon procurement is mandatory in all Telefónica Group companies. Specifically, it applies to procurement processes > €3M of equipment that uses energy or contains refrigerant gases.

Explain how this internal carbon price has contributed to the implementation of your organization's climate commitments and/or climate transition plan

Carbon pricing is one of the most effective ways to provide across-the-board incentives to conserve energy and switch to cleaner energy sources.

We began to implement an internal carbon price in 2020 to inform our decisions relating to emissions reduction and energy efficiency initiatives, using an implicit price. In this regard, our strategy was to increase energy efficiency of our operations. In 2022, Telefónica has implemented a shadow price in our purchasing decisions for hardware that consumes fossil fuels or electricity, as well as hardware containing refrigerant gases. By applying Total Cost of Ownership (TCO), we include in the purchasing decision process both the cost of energy consumption and the greenhouse gas emissions costs during the useful life of the equipment. This allows us to guide procurement processes towards more efficient equipment and technologies, with a lower carbon footprint, which contributes to reducing our Scope 1 and 2 emissions and our intensity energy target (MWh/Pb) that are established in our climate action plan.

The updated version of the Low Carbon Procurement Instruction in 2022, extended the category of products for which the Instruction is mandatory and included the shadow price of carbon in the calculation of TCO. 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).

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

4,1

% total procurement spend (direct and indirect)

78

% of supplier-related Scope 3 emissions as reported in C6.5

97

Rationale for the coverage of your engagement

At Telefónica, scope 3 emissions represent 85% of the total carbon footprint and the procurement of products and services (supply chain) is currently the main source of emissions, accounting for 52% of its Scope 3 emissions. In this sense, Telefónica has identified opportunities to meet its emissions reduction targets through collaborative projects with its suppliers.

In order to achieve its objective of reducing Scope 3 emissions (as part of its SBTi short and long-term targets), Telefónica is working since 2019 with its most carbon-intensive suppliers in a programme called Supplier Engagement Program.

In 2022, we continued to invite 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 (categories 1&2)
- % of spending
- Degree of maturity in its management of climate change
- Strategical importance for Telefónica

In 2022, a total number of 218 suppliers, which represent 97% of the supply chain emissions (Category 1&2), participated in the program. At the same time, they represented 78% 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. In 2022, value chain emissions (scope 3) have decreased by 32%, compared to 2016, representing 925.492 tCO_2e less in seven years.

Impact of engagement, including measures of success

Our supplier engagement programme has the objective of collecting primary information from our suppliers to understand their maturity level & help them move forward in their CC Mmgt & to set more ambitious emission reduction targets reducing climate impacts on products & services. In 2022, we continued to collect data of our strategic suppliers through CDP supply chain.

We measure the success of the engagement through the % supply chain emissions -Cat 1&2- and the % of procurement spend covered. If the % of emissions reported is over 70% and % of procurement spend is over 65% we consider this engagement to be successful. As we obtained 97% of supply chain emissions -cat 1&2 reported and 78% of procurement spend covered we consider this initiative to be a success.

Impact of Engagement: Having primary information from suppliers allowed us to improve our S3 calculation & to develop 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 different maturity stages. These areas of work are those considered in the pledges where our suppliers committed to taking actions to reduce climate impacts on products & services that include Renewable Energy purchase, EE Projects, Targets (SBT) & switch to lower emissions vehicles. Thus, no supplier is left behind feeling they no longer need to act on their climate impact. The information reported allow us to understand their degree of maturity in handling their carbon footprints & identify potential areas for collaboration.

Example of Engagement: Within this program we have also organized workshops to educate suppliers on how to reduce climate impact, the methodology to report the info & the main KPI used by Telefónica.
In 2022 we continued to encourage decarbonisation among our SMEs & invited them to join the SME Climate Hub, where they can sign the Climate Commitment & have access to the tools available to help them achieve their climate goals. We continued to participate in initiatives such as 1.5°C Supply Chain Leaders to reduce CO2 emissions from SME suppliers in the SME Climate Hub & in the CC working group of the JAC initiative. We are also working on a new Carbon Reduction Programme with our strategic suppliers, on the analysis & reduction of emissions at the product level.

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

Sustainability in the supply chain(SC) 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 SC from the very beginning & for that we have included the Minimum Responsible Business Criteria related with CC in our Supply Chain Sustainability Policy(SCSP).

Within our Global SCSP, we have incorporated environmental, climate & circular economy criteria, such as the compulsory incorporation of preventive measures & LCAs when supplying products/services(P&S).

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 a process 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 SC(scopes 1,2&3). They should work to reduce its GHG emissions by setting reduction targets for the next 3 years, 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 P&S 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 (like CFC or HCFC), nor shall it refill it with these gases, unless expressly authorised by Telefónica. In the offers, gases with a lower 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.

(iv)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.

Impact of engagement, including measures of success

Measurement of success: our KPIs to measures of success are % of suppliers accepting our minimum responsible business criteria and % of suppliers evaluated via an external platform (EcoVadis or Integrity Nextl). Telefónica considers this initiative to be successful if the % of suppliers accepting our minimum responsible business criteria

is 100% and % of suppliers evaluated is over 70%.
Impact of engagement: in 2022, 100% of our suppliers accepted the minimum standards set out in our Supply Chain Sustainability Policy. 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 72% of the risk suppliers identified in our global risk analysis were evaluated via external platforms EcoVadis and Integrity Next which include CC aspects in the evaluation process.

Example of engagement: in 2022 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, 98 direct suppliers were audited (59 of the audits were at Telefónica suppliers), and 549 corrective action plans were carried out in their facilities within the JAC, some of which were related to climate change issues. 100% of the audited suppliers accept our supply chain sustainability policy.

Comment

Telefónica has two main tools to evaluate high risk suppliers' performance on our purchasing platform: JAC (Joint Audit Cooperation) & EcoVadis.
To ensure the CC minimum criteria, we conduct a 360° evaluation of our main high-risk suppliers based on 15 sustainability issues that cover among others, climate change aspects. This three-step analysis allows us to identify potential high-risk suppliers in our supplier base from a sustainability perspective. 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 to mitigate the risks, as stated in the terms and conditions signed by both parties.

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.

In JAC project, the climate maturity of strategic suppliers to 17 companies that are part of the conglomerate has been assessed, initiating several workstreams to increase their level of ambition and establish science-based emission reduction targets, in addition to providing training in collaboration with CDP and GSMA to the most relevant companies.

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

61

Please explain the rationale for selecting this group of customers and scope of engagement

Scope 3 emissions are 85% of the total emissions generated by Telefónica, and of these emissions, 29% come from the use of the products we sell to our customers (“Category 11. Use of sold products”), where we use our devices information (during the use stage) for the calculation, which represent 61% of the customer-related emissions.

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 also have in place specific campaigns focused on the products & services we offer to our customers. In 2021 we launched an Eco Rating (ER) system in all our operations & in 2022 we continued to promote the visibility of the initiative.
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 GHG 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 & 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 & resource efficiency.
The label helps customers to make informed decisions by helping them to incorporate sustainability criteria when choosing mobile devices, thus helping to drive more sustainable practices in the industry. Besides, this initiative encourages manufacturers to reduce the environmental impact of their devices & aligns the telecommunications industry in improving transparency. Working with mobile device manufacturers is especially relevant for Telefónica, since the emissions associated with their manufacture, transport & use account for more than 25% of the company's scope 3

emissions.

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 and a half (in May 2021), by the end of 2022 we managed to evaluate the catalogue of mobiles we offer to our clients and obtained the Eco Rating seal in more than 300 devices (71% of our portfolio), with an average score of 76 out of 100 (all above the threshold established by Telefonica as a success). We have implemented the system in 100% of our operations, that is 10 countries excluding Venezuela, where Telefónica has no mobile sales business.

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.

Example of Engagement with Customers: As an example of this engagement with customers, in 2022, 51% of the total devices sold globally had the Eco rating seal. Argentina, Spain and Ecuador are the countries who report a higher percentage of items sold with the ER seal, that is 73%, 63% and 62%, respectively.

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 SC (scopes 1, 2 and 3).
In 2022, a new requirement regarding climate change was incorporated into the purchasing process, whereby Telefónica, through a letter singed by CPO/CSO, has asked its strategic suppliers to establish short-term emission reduction targets in line with the Science Based Targets (SBTi) initiative. Specifically, they have been asked to commit to defining reduction targets based on science within 6 months, as well as to complete their validation with the SBTi .
The 73 strategic suppliers have been selected based on the percentage of emissions represented by the purchase of their goods or services in categories 1 and 2 of scope 3 of Telefónica, having covered more than 90% of the emissions of these categories of the inventory for the year 2021. Of these 73 suppliers, 14 have committed to our SBT requirement and 9 suppliers are discussing it internally. 27 suppliers have not responded yet (escalated to procurement heads internally).

% 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

28

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

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers

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)

https://www.telefonica.com/en/communication-room/telefonica-founding-member-of-the-european-green-digital-coalition-egdc/

Our Environmental Policy, which 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 external engagement activities are consistent with your climate commitments and/or climate transition plan

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) 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 by 2040 at the latest.
At Corporate level, the communications, advocacy, and engagement with policy makers is centralized through the Public Policy, Competition and Regulatory Officer, who regularly receives inputs from the Global Sustainability Department of Telefonica to guarantee the alignment with our climate change strategy.

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?

Specify the policy, law, or regulation on which your organization is engaging with policy makers

European Taxonomy on Sustainable Finance

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Climate-related reporting

Policy, law, or regulation geographic coverage

Regional

Country/area/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 proper inclusion of the telco sector as an enabler of Climate Change mitigation.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

In 2021 we released a document with our initial position on why telecommunication networks (TN) should be included within EU taxonomy as an activity contributing substantially to CC mitigation & provided details about how networks work, the importance of energy efficiency (EE) from its design to operation & how they can enable emissions reductions in other sectors.
For this purpose, Telefónica referred to internal information & substantially to the EU JRC publication on Best Environmental Management Practices in the telecommunications & ICT services sector.
Our opinion refers to several scientific papers, regarding energy consumption of TN, its EE & future of networks, as well as several reports on the contribution of ICT services to carbon abatement.

Currently, the TN are still excluded, & the Delegated Act on CC includes 4 activities related to the ICT sector in the Taxonomy list for both CC mitigation & adaptation:

• Data-driven solutions to reduce GHG emissions
• Data processing, hosting GHG & related activities
• Computer programming, consultancy & related activities
• Programming & dissemination activities

However, we consider that the role of TN & their decarbonising potential is not fully & appropriately captured in the current taxonomy model & therefore does not support the achievement of the targets. Although the enabling effect of connectivity solutions is undeniable, their limited consideration within the Taxonomy Regulation needs to be refined.

On one hand, within the current consideration of ICT solutions, the language in the legal texts allows for the assumption that TN can be considered as divisible & attributed to

different solutions, however, the reality is that networks cannot be considered as separate parts of the technology because they are not capable of transmitting data autonomously. The entire network must be functioning & operational so they provide data transmission from one point to another.

We will continue to work on our opinion cause we believe that a greater push for digitisation, starting with its basic infrastructures & followed by economy-wide transformative policies to increase the penetration of digitisation, will put society in a better position to meet the CC challenges. To this end, the consideration of next generation TN as green investments within the taxonomy of sustainable activities is essential & ensures that they are given appropriate attention & recognition within the context of sustainability.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?

The EU Taxonomy represents the fundamental pillar in the process of creating the EU sustainable financing framework. It establishes the technical criteria to determine which economic activities contribute to the climate objectives and is key to help us achieve our targets as its system for the classification of sustainable activities will help channel private financial flows towards sustainable economic activities. For Telefonica it is crucial as the efforts made are supported by green financing mechanisms & solutions, particularly in an environment in which the pressure on the telecommunication industry to innovate & deploy networks in a faster & more efficient way is stronger than ever.
Telefónica, along with the rest of the ICT sector, is covered by the taxonomy for its CC mitigation potential. According to ETNO & BCG4, the sector has the potential to reduce global CO2 emissions by as much as 15% resulting from full digitalisation (i.e. smart cities & buildings, transport, IoT, energy, etc.). Other studies indicate that digital technologies can indirectly support a further reduction of up to 35% considering criteria like changing consumption habits. Application of the current regulatory framework leads to uncertainty & doubts regarding interpretation in the market. Essentially, this stems from the difficult articulating a common language for all EU sectors & geographies in the highly diverse & complex field of sustainability.
In the ICT sector, the main issues surrounding interpretation are related to the potential to enable a reduction of emissions for 3rd-party telco network activities, understood as connectivity solutions developed for data transmission, storage & use that can reduce GHG emissions & would help enable decarbonization of 3rd parties.
Telecommunications networks are the only technology specifically described in the Delegated Regulation (e.g. 5G) that support data transmission.

Specify the policy, law, or regulation on which your organization is engaging with policy makers

RSPG - Radio Spectrum Policy Group

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Other, please specify

Radio Spectrum Policy to Help Combat Climate Change

Policy, law, or regulation geographic coverage

Regional

Country/area/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 Spectrum Policies can help combat 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 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. One of our strategic decisions in the recent years has been the network transformation to discontinue legacy technologies, such as 2G and 3G, as well as cooper networks. This is considered an energy efficiency measure because 4G/5G has seven times less impact than 2G/3G in terms of PB, and fibre has 18 times less environmental impact than copper. Network transformation initiatives are responsible for 78% of our energy savings. In 2022, investment in these new telecommunication networks accounted for 54.8% of Telefónica Group's CapEx.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?

The RSPG Opinion on the Role of Radio Spectrum Policy to help combat CC provides a series of recommendations to the European Commission (EC), Member States & stakeholders to continue the path towards a more environmentally-friendly society through the use of wireless technologies. 2 particular points fall into the purview of activities of the RSPG:
1) The need for a common set of methodologies to understand & assess the impact of ECS wireless technologies on CC, involving ECS stakeholders & all interested parties.
2) The importance of having accurate information on emissions and energy efficiency (EE) related to spectrum use on a national level.
These activities will help Member States and the EC to take appropriate regulatory actions within the spectrum area in order to combat CC.

The Scope of the RSPG activity is to identify methodologies to assess the EE of wireless technologies, including the influence of variables such as the frequency band & type of access technology. Input from stakeholders may be required; collecting practices from Member States on how EE is measured & managed nationally in relation to the spectrum area, including how data to assess the EE is collected; & assess how efficient spectrum policies can facilitate a green digital transition of Europe, to reduce GHG emissions.
Actions including lower spectrum awards prices, avoidance of restrictions to co-investment, easier administrative complex procedures for deployment, less strict limits of EMF exposure than the Council Recommendation would help operators to invest in upgrading the networks in compliance with more efficient & climate neutral standards. In general, efficient spectrum policy & regulations also supports EE. With sufficient spectrum resources available & by avoiding unnecessary deployment, operation limitations & requirements, operators are able to deploy & operate networks efficiently, including the swithcing-off legacy networks. Reducing energy costs is an incentive for operators to use radio spectrum in more energy efficient way. However, it requires investments to upgrade the network. A healthy telecom sector is a prerequisite for investments,& should also include spectrum licencing & regulation. Furthermore, incentives could be provided (i.e. in terms of reduction of spectrum fees, reduced price of renewals of licenses or perpetual licenses) in favour of any new effort towards EE & climate neutrality.

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

management-and-sustainability-esg-report-2022_baja.pdf

Page/Section reference

Chapter 1.7. Sustainable finance, pages 31-37
Chapter 1.8. European taxonomy for sustainable activities, pages 38-51
Chapter 2.1 – 2.4 - Building a greener future, pages 86-122

Chapter 2.16. Governance and culture of sustainability, pages 241-245
Appendix 2.21. Table of TCFD

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 consolidated Management report.
You can find this document in the following link: https://www.telefonica.com/en/wp-content/uploads/sites/5/2023/03/management-and-sustainability-esg-report-2022.pdf

Publication

In mainstream reports, incorporating the TCFD recommendations

Status

Complete

Attach the document

Page/Section reference

Chapter 2. Metrics and targets
Chapter 3. Risks and opportunities
Chapter 4. Circular economy
Chapter 5. Carbon offsets
Chapter 6. Roadmap to net zero
Chapter 7. Models of the plan (operational, value chain, commercial, financial,

governance and advocacy.

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics
Other, please specify

Circular economy targets, advocacy, and strategic partnerships.

Comment

To guarantee compliance with our short-, medium- and long-term targets, in 2022 we published for the first time our Climate Action Plan: Telefonica's transition plan to a net zero economy.

The climate action plan has been integrated into Telefónica's governance model and includes the quantification of GHG emissions, the implementation of specific actions with verifiable KPIs and the definition of oversight and accountability responsibilities within the organisation. The plan not only defines actions in Telefónica's operational model, but also in its business and financial strategy and in its commitment to customers, the supply chain and society as a whole.

Our Climate Action Plan is a living document, and was recently reviewed and updated. The 2023 version (which includes information of 2022) can be found in the following link: https://www.telefonica.com/en/wp-content/uploads/sites/5/2022/03/climate-action-plan-telefonica.pdf

C12.5

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

	Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
Row 1	Business Ambition for 1.5C Exponential Roadmap Initiative RE100 Race to Zero Campaign SME Climate Hub	Since 2002 Telefonica is an active participant of the UN Global Compact (UNGC), being one of the first Spanish companies who signed, the 10 Principles of the UNGC to work on issues such as human rights, labor practices and the environment, and currently engaged with the initiatives such as "caring for climate" and "responsible climate policy engagement", among others. In 2017 Telefonica joined the RE100+ initiative, the global and collaborative initiative of influential companies committed to

	Task Force on Climate-related Financial Disclosures (TCFD) The Climate Pledge UN Global Compact We Mean Business Other, please specify Spanish Green Growth Group, 1.5ºC Supply Chain Leaders, Planet Pledge, European Green Digital Coalition (EGDC).	100% renewable electricity, to reinforce our commitment to align with the 1.5ºC trajectory. Through the initiative we committed to sourcing 100% renewable electricity globally by 2030. We not only want to be 100% renewable, but as a large consumer of electricity, we also help countries to generate more clean energy. To meet both objectives, we promote long-term power purchase agreements (PPAs) with electricity companies, we contribute to the construction of small renewable hydroelectric or solar energy plants, and we self-generate. . By 2022 we have implemented 128 energy efficiency initiatives In 2019 Telefónica joined the UN campaign "Business Ambition for 1.5°C: Our Only Future". Thus, before the UN, it commits to meet climate objectives to contain the increase in global temperature. In 2021 Telefónica becomes one of the first 100 companies to adhere to The Climate Pledge, a joint initiative between Amazon and the NGO Global Optimism, for those companies that commit to achieving carbon neutrality by 2040, a decade before the date set in the Paris Agreement. During the same year, in In line with our commitment to transparency, we joined the Planet Pledge initiative launched by the World Federation of Advertisers (WFA). It aims to help companies' marketing and communications teams to be part of the solution to climate change. On the other hand, we continue to support initiatives such as the 1.5°C Supply Chain Leaders, which advocates for the reduction of emissions by small and medium-sized enterprises (SME), and the SME Climate Hub, which promotes decarbonisation amongst SMEs, and invites them to sign the 'SME Climate Commitment' as well as supporting them with specialised tools, knowledge and best practice for implementing a robust climate strategy. “SMEs Climate Hub” is a global initiative founded by the We Mean Business Coalition, the International Chamber of Commerce (ICC), the Exponential Roadmap Initiative and the United Nations Race to Zero campaign, which makes it easier for small and medium-sized companies to acquire ambitious climate commitments and provides tools, action guides and a powerful networking network. The small and medium-sized companies that join commit to halving their GHG emissions by 2030, reaching net zero emissions by 2050 or even sooner, and disclosing their progress annually, all with the ultimate goal of avoiding the worst effects of climate change while ensuring the viability of companies. In 2022, these two initiatives launched a pilot program in Spain

		focused on SMEs where eleven of our suppliers were invited. Furthermore, we are also partnering with the We Mean Business association at the local level to implement the Hub in Spain. Telefonica is also part of the Spanish Green Growth Group (GECV), created in 2014. The SGGG currently includes Spanish 27 companies responsible to emit 23 million tCO2e (scopes 1 and 2), who want to influence the following aspects: commitments to reduce emissions and the effort to achieve it; clear, reviewable, and long-term objectives are needed to reduce emissions, and the definition of stable and attractive frameworks that favor R+D+i of technological solutions aimed at reducing emissions and identifying new lines of economic activity. In line with our commitment to promoting green digital solutions and transparently communicating the environmental benefits they deliver, we have been a founding member of the EGDC since 2021. In addition, more than a third of mobile operators by revenue, including Telefónica, have met rigorous criteria set by the UN's Race to Zero campaign and committed to net zero emissions by 2050 at the latest. In January 2021, the mobile industry was the first sector to reach this major moment. Today, mobile operators who have committed or set science-based carbon reduction targets now cover 50% of mobile connections and 65% of industry revenues globally. Since 2022 Telefónica supports the CDP SBTi campaign as a supply chain member. This is a collective engagement mechanism to accelerate the adoption of science based targets in the private sector (high-impact companies). Finally, Telefónica reports non-financial information in accordance with applicable regulations and the foremost internationally recognized benchmark standards, This includes the recommendations of TCFD on environmental reporting. The TCFD compliance table can be found in section 2.21.8 of our annual report.

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	Description of oversight and objectives relating to biodiversity
Row 1	Yes, board-level oversight	Telefónica holds various internal regulations that serve as a common reference framework for all the companies of the Group. These policies guide the company in improving its environmental performance and achieving its environmental targets. Telefonica's Environmental Policy and Supply Chain Sustainability Policy are aligned with the main international biodiversity instruments and commitments and consider the supply & value chain, which provides a comprehensive approach to address our relationship with nature. Telefonica's main target is focused on protecting biodiversity through ecosystem preservation and natural capital improvement by considering both the interactions with biodiversity of the company's own operations and those from our value and supply chain. Both the Environmental Policy and the Supply Chain Sustainability Policy are approved by the Board of Directors. In addition, the Sustainability and Quality Board Committee is responsible for overseeing the environmental targets, action plans and programs, which includes Telefónica's interaction with nature. Following the commitment to protect biodiversity and ecosystems defined in our environmental policy, we are developing a Biodiversity Strategy aligned with the new Global Biodiversity Framework (GBF) and the EU Biodiversity Strategy for 2030. Telefonica's Biodiversity Ambition will be specified and detailed as part of the strategy, with a focus on addressing our impacts on ecosystems, species, and ecosystem services, as well as maintaining and strengthening our current dependencies on biodiversity.

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. We are part of the World Economic Forum's 1 trillion trees initiative, which intends to accelerate Nature Based Solutions. Telefónica has pledged to conserve and plant 1.5 million trees by 2030 to restore and conserve forest ecosystems.

C15.3

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment

Yes

Value chain stage(s) covered

Direct operations
Upstream

Tools and methods to assess impacts and/or dependencies on biodiversity

Biological Diversity Protocol
Natural Capital Protocol
SBTN materiality tool

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

The first Biodiversity Impact Assessment, which Telefónica performed in 2019, focused on quantifying the company's impacts on high quality ecosystems and protected (endangered) species across the different countries where the company operates. The methodology used followed the Natural Capital Protocol (NCP) and the Biological Diversity Protocol (BDP) steps and guidance. A location-specific GIS-based approach was used to measure and quantify the biodiversity impact and risk of 132.604 installations and their influence areas across 12 countries. Different GIS shapefiles where combined to match Telefonica's infrastructure location data with biodiversity data (e.g., habitat type and condition, fauna species information) from internationally recognized datasets, such as IUCN Red List of Threatened Species.

Results from this first Biodiversity Impact Assessment show that 98 % of Telefonica's facilities are located areas with 'low' or 'very low' biodiversity value, using different indicators such as habitat type —derived from land use and cover datasets—, habitat condition —obtained from natural protected areas and habitat vulnerability datasets—, and presence of fauna species. In conclusion, results show that Telefonica's main direct (Scope 1) impacts on biodiversity are of low significance.

The second Biodiversity Assessment, performed in 2023, was aimed at including those aspects that were not addressed in the 2019 analysis. These are: (i) assessment of Telefonica's impacts through Scope 3; (ii) analysis of Telefonica's dependencies from natural capital. For that purpose, ENCORE and Sectoral Materiality Tool (UNEP-WCMC, July 2021 version) methodologies were applied, and the presentation of the results were aligned to the guidance and structure suggested by the Science Based Targets for Nature (SBTN) graphics, where the higher or lower biodiversity impacts and dependencies for each business activity are shown using a colour gradient classification. Telefónica's dependencies analysis has included all its business and economic activities along Scopes 1 and 3.

Results from this second Biodiversity Assessment show that Telefonica's main impacts take place throughout its supply chain (Scope 3) and are mainly linked to land and water use change, climate change and disturbances.

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment

Yes

Value chain stage(s) covered

Direct operations
Upstream

Tools and methods to assess impacts and/or dependencies on biodiversity

ENCORE tool

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

Telefónica has used ENCORE tool, developed by the Natural Capital Finance Alliance in collaboration with UNEP-WCMC and funded by the Swiss State Secretariat for Economic Affairs (SECO) and the MAVA Foundation, to assess the dependencies of its activities on the ecosystem services and elements of the natural environment provided by nature. The results provided by the tool related to the degree of dependencies on ecosystem services are qualitative, since ENCORE establishes five dependencies categories, ranging from very low to very high (VH).

Analysing the company's activity in general (direct operations and supply chain) and taking into account all the ecosystem services on which there is a dependency and the number of times that this dependency is identified, Telefónica's main dependencies on ecosystem services are related to flood and storm protection and to lesser extent, climate regulation and mass stabilisation and erosion control.

C15.4

(C15.4) Does your organization have activities located in or near to biodiversity-sensitive areas in the reporting year?

Yes

C15.4a

(C15.4a) Provide details of your organization's activities in the reporting year located in or near to biodiversity -sensitive areas.

C15.5

(C15.5) 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 EMS for identifying&managing env.aspects&impacts on biodiversity. B.practices(noise insulation&infrastructure sharing) to optimise land occupation. REDD+&removal credits from NBS. New Biodiversity Strategy for minimising risks&enhancing opportunities

C15.6

(C15.6) 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

C15.7

(C15.7) 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	Content of biodiversity-	The information related to biodiversity can be found in the Consolidated Management Report 2022 (P.87 -91) 1

other voluntary communications	related policies or commitments Impacts on biodiversity Details on biodiversity indicators	
Other, please specify In Telefónica's website (chapter Environmental Responsibility)	Content of biodiversity-related policies or commitments Impacts on biodiversity Biodiversity strategy	We are developing a Biodiversity Strategy. It assesses impacts&dependencies on biodiversity, for direct operations&suppliers. More info: www.telefonica.com/en/sustainability-innovation/environment/environmental-responsibility/

[1]management-and-sustainability-esg-report-2022_baja.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.

Project-based carbon credits:

Regarding the offsetting of emissions through carbon credits, Telefónica reports in question C.11.2a the information related to the main projects from which carbon credits have been purchased and retired in 2022. In addition to these, Telefónica Brazil has also retired credits from the following projects (7% of the total carbon credits cancelled in 2022):

- 1,046 credits from BAESA PROJECT, a VCS project of emissions reductions from the use of renewable sources of energy (hydro) in Brazil.
- 566 credits from INTERMODAL TRANSPORTATION PROJECT, a CSA Registries transport project of emissions reductions in USA.
- 313 credits from LANDFILL GAS RECOVERY AND FLARING PROJECT, a CDM project of emissions reductions in Mexico.
- 139 credits from REDD+ JARI PARÁ, a VCS project of emissions reductions from degradation and deforestation in Brazil.
- 116 credits from STIPA NAAVA WINDFARM, a CDM project of emissions reductions from wind energies in Mexico.
- 70 credits from REDD+ PACAJAI, a VCS project of emissions reductions from degradation and deforestation in Brazil.

Biodiversity:

Regarding the details of the organisation's activities locates in or near to biodiversity-sensitive areas in question C.15.4a we cannot provide them currently, but the main results from Telefónica's Biodiversity Impact Assessment show that 98% of Telefonica's facilities are located areas with 'low' or 'very low' biodiversity value.
This assessment focused on quantifying the company's impacts on high quality ecosystems and protected (endangered) species across the different countries where the company operates to have a first view of our impacts in nature, but has not a detailed outcome of the specific locations.

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

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms