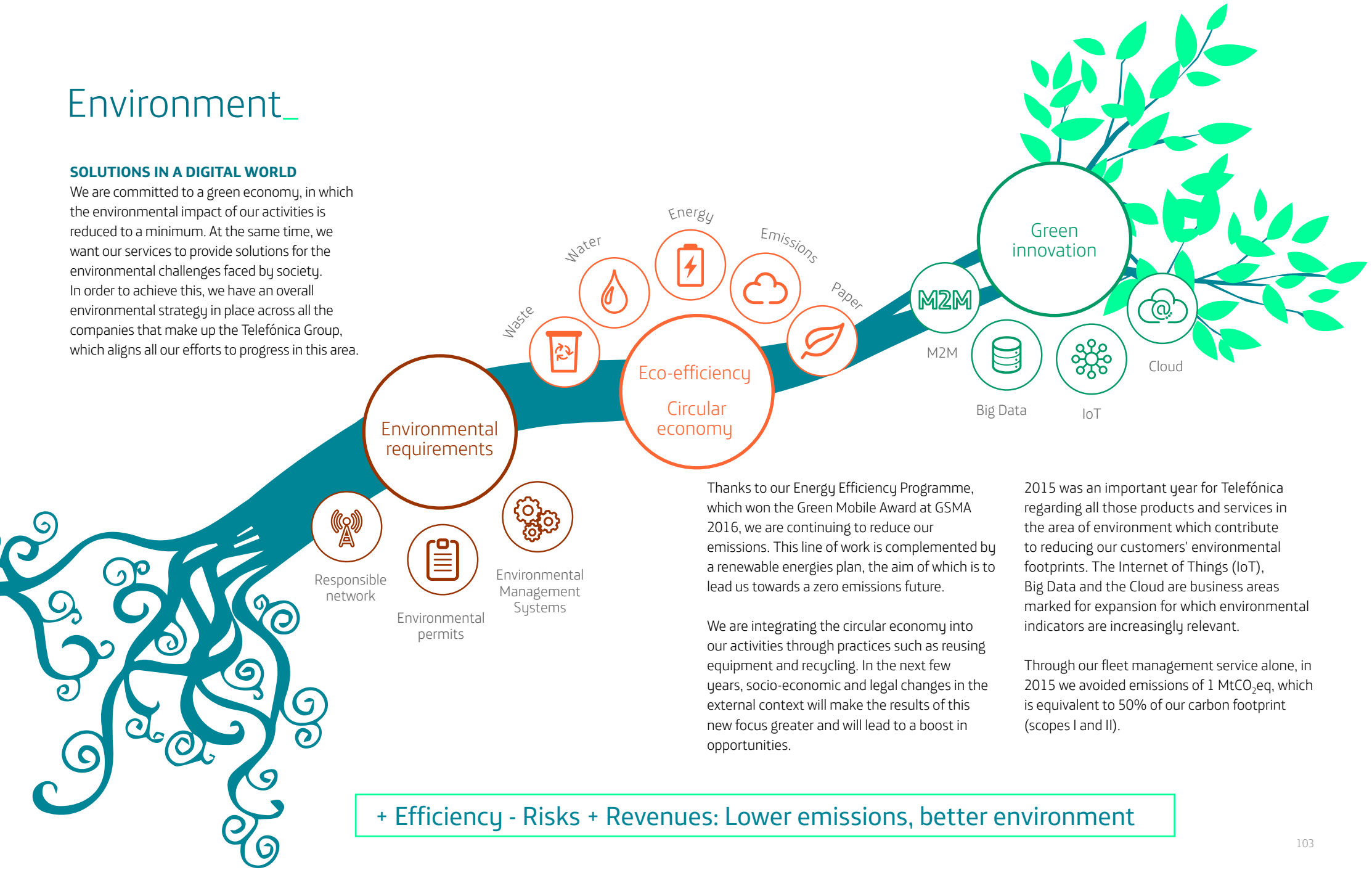
Commitment to the environment_

Environment_

SOLUTIONS IN A DIGITAL WORLD

We are committed to a green economy, in which the environmental impact of our activities is reduced to a minimum. At the same time, we want our services to provide solutions for the environmental challenges faced by society. In order to achieve this, we have an overall environmental strategy in place across all the companies that make up the Telefónica Group, which aligns all our efforts to progress in this area.



Thanks to our Energy Efficiency Programme, which won the Green Mobile Award at GSMA 2016, we are continuing to reduce our emissions. This line of work is complemented by a renewable energies plan, the aim of which is to lead us towards a zero emissions future.

We are integrating the circular economy into our activities through practices such as reusing equipment and recycling. In the next few years, socio-economic and legal changes in the external context will make the results of this new focus greater and will lead to a boost in opportunities.

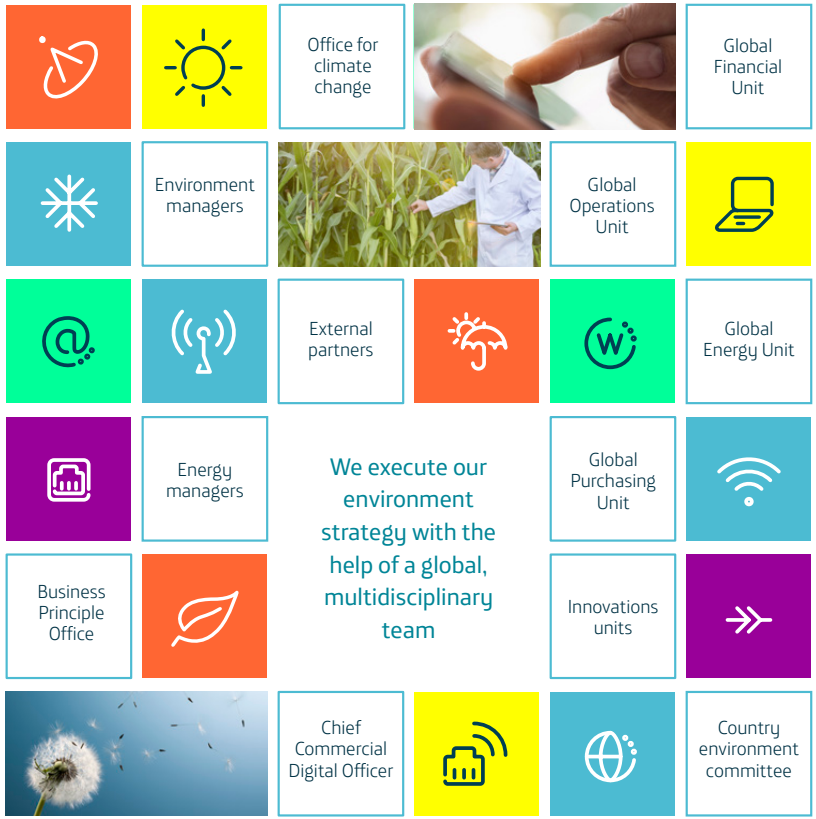
2015 was an important year for Telefónica regarding all those products and services in the area of environment which contribute to reducing our customers' environmental footprints. The Internet of Things (IoT), Big Data and the Cloud are business areas marked for expansion for which environmental indicators are increasingly relevant.

Through our fleet management service alone, in 2015 we avoided emissions of 1 $MtCO_2eq$, which is equivalent to 50% of our carbon footprint (scopes I and II).

+ Efficiency - Risks + Revenues: Lower emissions, better environment

GOVERNANCE

We have a multidisciplinary team operating both at a global level and within each of the Group Companies, which is in charge of carrying out our strategy at each of the different responsibility levels. The environmental strategy is the responsibility of the Management Committee within the framework of the Business Principle Plan.



MATERIALITY

Based on our materiality analysis, the environmental matters that have the greatest repercussion on our activities and on that of our stakeholders, and which should therefore be highlighted in this report are:

ENVIRONMENTAL MATERIALITY

	Supply Chain	Internal processes	Customers
Energy consumption			
Green innovation and services			
Carbon emissions			
Circular economy			
Renewable energy			X
Electromagnetic fields			
Responsible network roll-out			
Environmental management systems			
Adaptation to climate change			
Water			

Very high priority High priority Medium priority X Not applicable

OUR IMPACT

2015

ENERGY 6,439 GWh Var. 2014: -0.51% / access	WATER 3.9 hm^3 Var. 2014: -7.24% / access	WASTE 25,896 t Var. 2014: +12.5% / access
EMISSIONS scope 1 95,677 tCO_{2eq} Var. 2014: +2.08% / access	EMISSIONS scope 2 1,908,230 tCO_{2eq} Var. 2014: -0.42% / access	

RENEWABLE ENERGY 16% Var. 2014: +1%	RECYCLED WASTE 97%	ENVIRONMENTAL INVESTMENT 16 M€
EMISSIONS avoided by energy efficiency 41,114 tCO_{2eq} Var. 2014: +37,414 tCO_{2eq}	EMISSIONS saved by energy efficiency 162 GWh Var. 2014: +150 GWh	
REVENUE from green services 130 M€	EMISSIONS avoided by fleet management service 1 $MtCO_{2eq}$	

ENVIRONMENTAL MANAGEMENT SYSTEMS

ISO**14001** CERTIFICATES

2015

OBJECTIVE % CERTIFIED REVENUE

ENVIRONMENTAL MANAGEMENT

Annually, based on the precautionary principle, we analyse the environmental and climate change risks across all our operations under the Company's global risk model, with the aim of reducing such risks and further identifying opportunities for improvement. The possible risks are associated with the regulatory aspects of environmental legislation, such as waste or noise, vulnerability of our Network to climatic disasters and energy costs. To keep checks on this, our Company has different mechanisms set up such as common environmental management practices that go beyond regulations and a programme of global energy efficiency. In 2015, in Telefónica we did not receive any environmental penalties in this area.

The environmental management systems help us to keep checks on environmental risks, at the same time as bringing opportunities linked to eco-efficiency and allowing our Company to reduce its environmental footprint. Today, 65% of the business has environmental management systems in place in accordance with international standard ISO 14001, as endorsed by external certification. Furthermore, in 2015 we adopted a new Environmental Policy and are continuing to work on achieving our objective of having 100% of our operators certified by an external body in 2017.

We are making a big effort to take our best environmental practices over to our operators in Latin America. Thus, Telefónica Brazil, our most important regional operator, will certify its environmental management system at the start of 2016.

A RESPONSIBLE NETWORK

It is in our Network that we see the greatest environmental impact due to energy consumption, but also as a result of physical elements, such as visual impact or waste. To roll out and maintain the Network responsibly, we apply the best available practices and we manage all the environmental aspects of these from design to decommissioning.

For example, we share, where possible, the location of our facilities with other operators or communication tower management companies. This leads to a lesser visual and energy impact, as well as a reduction in waste creation. This practice is increasingly widespread in Telefónica. As a result, during 2015, 33,878 of our base stations were shared.

MORE INFORMATION

Refer to the 'Environmental management' section of our corporate website.

RESPONSIBLE NETWORK ROLL-OUT

PLANNING AND CONSTRUCTION

- 1,470 Environmental licences and permits
- 600 K€ Environmental impact studies
- 412 Visual impact reduction measures
- 5,259 Remote base stations using renewable energy
- 2.8 M€ Visual impact reduction

OPERATION

- 34,162 UD Electromagnetic field measurements
- 4.6 M€ Environmental adpatation
- 33,878 Shared base stations
- 118 Energy efficiency projects
- 812,257 € Acoustic impact actions

DECOMMISSIONING

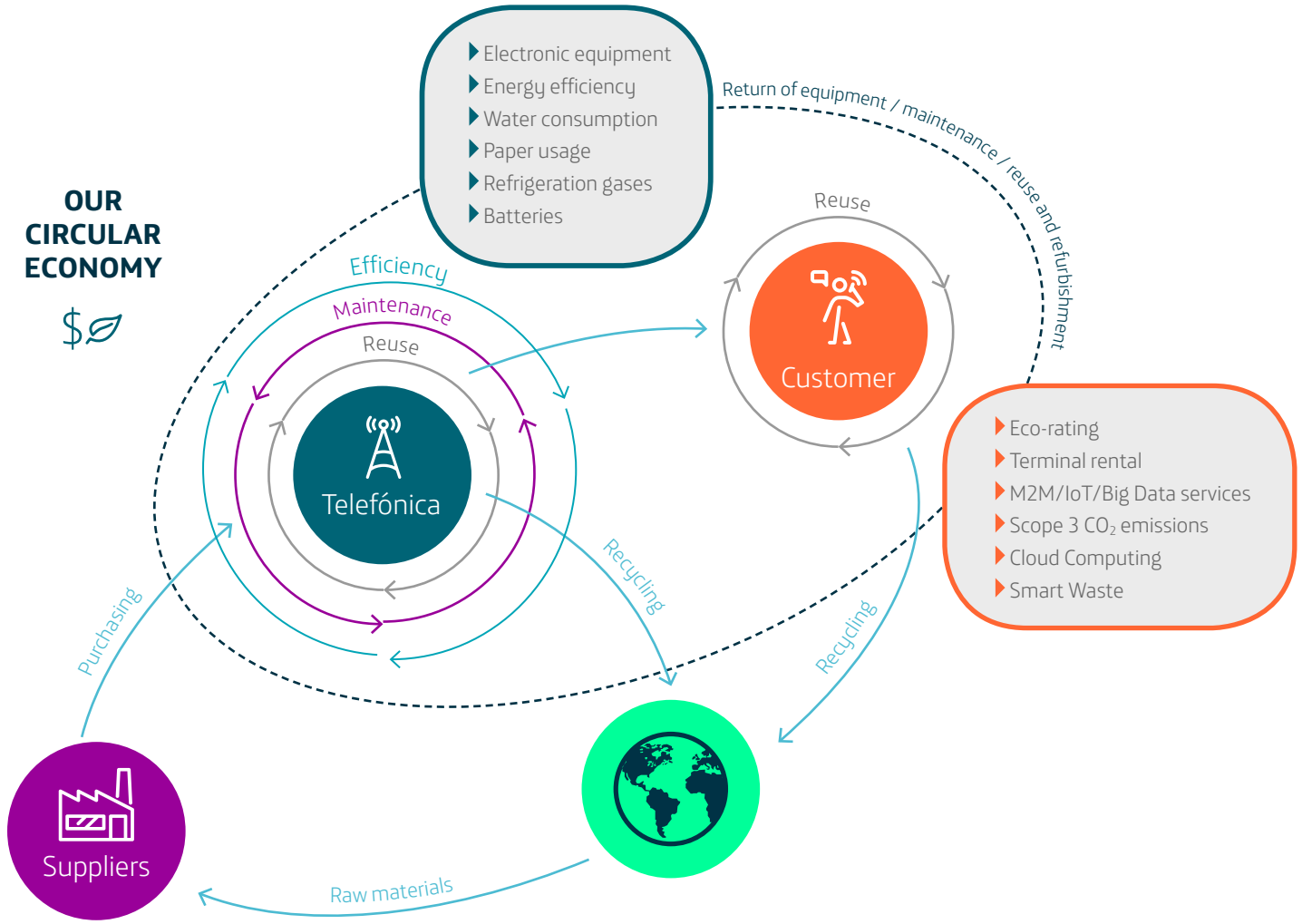
- 1,892 t WEEE Recycled operations
- 37 M€ Sale of waste operations
- Reuse of internal equipment

Circular economy_

The circular economy emulates the behaviour of ecosystems, in which there is no waste and the balance and sustainability of the system is based on the relationships with different actors. This presents many business opportunities; thus, Telefónica has already integrated in large part this philosophy into our activities through reusing and recycling, but also in our value chain through practices such as low carbon purchasing, renting terminals or eco-rating among others.

We are implementing various strategies to optimise the consumption of our resources along the whole value chain and to promote the return of used goods to the production cycle. These initiatives are based mainly on Network and customer processes, as these represent the greatest consumers of materials and resources. Furthermore, we are focusing on the development of digital services which provide possibilities for the circular economy, such as Smart Waste.

OUR CIRCULAR ECONOMY



- Eco-design
- Eco-rating
- TCO, low carbon purchasing
- Scope 3 CO_2 emissions

PRINCIPLES OF THE TELEFÓNICA CIRCULAR ECONOMY

- Renewable and eco-efficient resources and materials
- Sharing and reusing
- Eco-efficiency and eco-design, less waste
- Closing the circle, recycling
- Virtualisation, dematerialisation
- Innovation

RESPONSIBLE PROCUREMENT

Little by little, we are incorporating practices to reduce the consumption of resources, besides trying to acquire cleaner materials. Thus, for example, we have incorporated the TCO (Total Cost Ownership) for low carbon purchasing, we set minimum criteria common to all substances and materials in electronic devices, and we purchase recycled and sustainable goods.

Furthermore, we are committed to responsible paper consumption, promoting the use of recycled paper and virgin fibre paper from sustainable origins, through using paper that carries a seal, such as from the FSC (in Spain, Argentina, Brazil, Germany, Colombia, Ecuador(*) and Uruguay). Our paper consumption increased in 2015 to 1,163 t, around 230 t of which were recycled paper which avoided 129 t of CO_2.

More information can be found in 'Supply chain management'.

INTERNAL ECO-EFFICIENCY

Eco-efficient practices allow us to provide more services to a greater number of customers, and reducing our environmental footprint at the same time. Resource consumption is reduced thanks to practices such as adequate maintenance or by reusing equipment internally.

Given its relevance, a separate chapter is dedicated to energy consumption: 'Energy and climate change'.

As for our water consumption, this principally corresponds to sanitation use and, to a lesser extent, air-conditioning. Each of our operations takes specific measures to reduce consumption, especially in those places where water stress is greater, for example in Mexico City D.F. and São Paulo, or in countries like Spain. In these cases, our Company carries out specific plans for sustainable water management. Thanks to these, in 2015 we reduced our overall water consumption by 5%.

Another example of eco-efficiency is the introduction of digital billing for our customers thanks to new technology. In 2015, 45 million customers chose this way of receiving their bills.

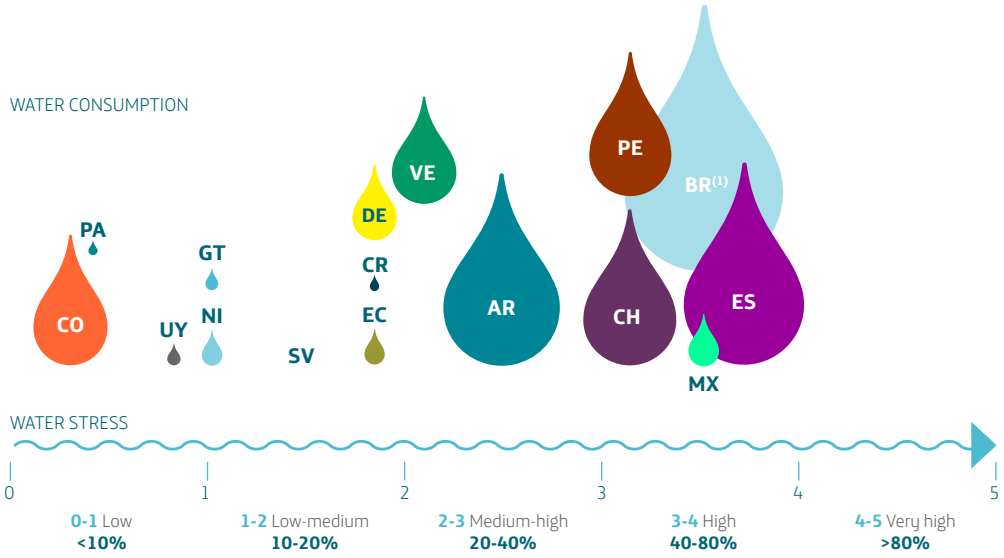
WASTE AND UNUSED EQUIPMENT

Across all our activities (Network, offices and customers) we generate waste and unused equipment. These represent a very relevant aspect of environmental management and are key to the circular economy. Some can have dangerous components, such as batteries, while others have other associated risks, such as electronic waste or e-waste. Thus, for several years we have been carrying out audits on waste internally and among suppliers, in order to ensure that it is managed with maximum guarantees and with an emphasis on improving traceability.

Our main aim is to reduce waste generation and to promote a circular economy, advocating reuse and recycling. To achieve this, we are encouraging practices that promote the reutilisation of equipment, where possible , both internally and among our customers.

When reutilisation is not an option, recycling is the best alternative for dealing with waste. Thus, in 2015, we generated 25,896 t of waste, of which 97.2% was recycled.

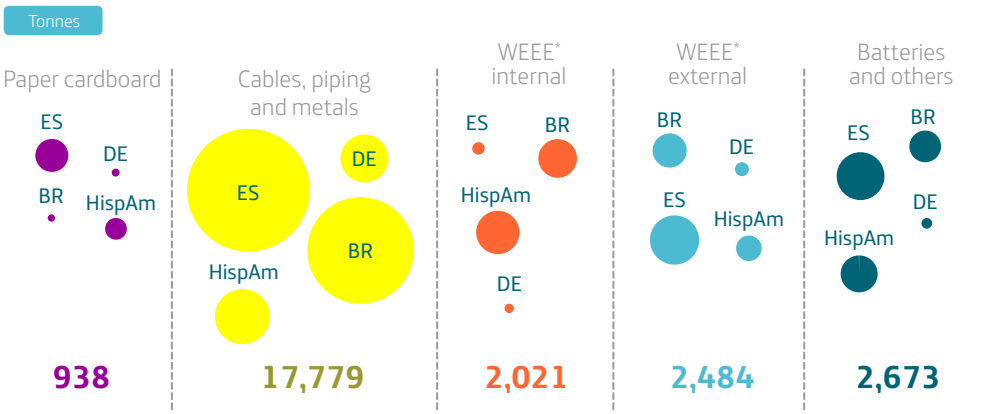
TELEFÓNICA'S WATER CONSUMPTION VS. WATER STRESS



Source: World Resources Institute. (1) Brazilian Cities

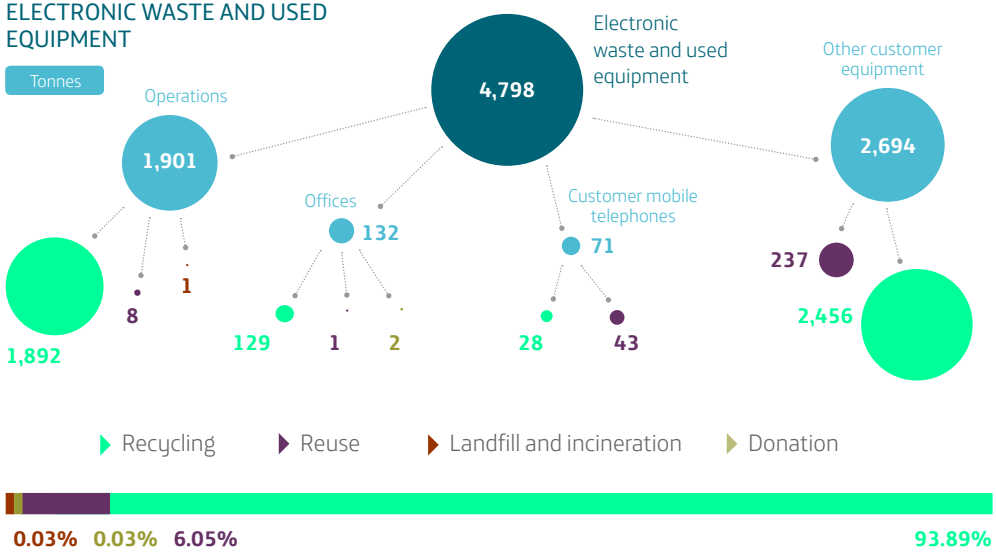
(*) Only 50%.

TELEFÓNICA **WASTE**



*WEEE: Waste Electrical and Electronic Equipment.

ELECTRONIC WASTE AND USED EQUIPMENT



About 70% of our waste corresponds to cables that come from our Network transformation process. Their reuse is not possible but we can recycle them, and therefore 97% get recycled by specialist companies. The increase in the generation of this type of waste in Brazil, caused by the incorporation of GVT into our Telefónica Brazil operator, was the reason for the rise in waste in 2015.

ELECTRONIC WASTE

According to the United Nations, of the 42 million tonnes of electronic waste or e-waste that is generated each year, only 12% is recycled, despite being the fastest growing source of waste. Thus, in Telefónica we consider that the solution to this problem has to come from shared responsibility from all those actors involved. Our contribution to change is based on the following principles:

- Carry out reutilisation and recycling pratices.
- Encourage the development of a regulatory framework for reutilization and recycling.
- Guarantee adequate treatment with monitoring in our supply chain.
- Provide our customers with environmental information during purchase (Eco-rating) and alternatives for their used telephones.
- Promote the best eco-design in line with international standards.

Thanks to this, nearly 94% of devices used in our operations and by our customers have been recycled, and more than 6% reused. The boost from the circular economy will bring with it an increase in reutilization over the coming years.

CUSTOMERS

We want to help our customers to join in with the circular economy and reduce their environmental impact. Thus, we facilitate the reutilisation of terminals, through leasing or refurbishment initiatives, and promote the recycling of their telephones and supply them with environmental information on terminals through eco-rating, which allows them to choose the most eco-efficient terminal.

We promote the reuse of terminals through programmes in which our customers can return their mobile, still working but that they wish to change, in return for a financial incentive. In this way we are able to prolong the useful life of the mobile in collaboration with specialist partners. In the past year, we received 52,000 terminals in Spain and 100,000 in 7 countries in Latin America, 94% of them still in working order. This programme will be extended to 9 more countries in 2016 and it is hoped that it the number of returned terminals will increase 4-fold in three years. Thanks to this project we are also promoting advances in service supply, with the move from 2G to 4G equipment in Latin America.

Through our services we are also encouraging the circular economy. Virtualisation reduces the consumption of raw materials and resources, while existing M2M services, like Smart Waste, help to improve the management of municipal waste (85% recycled, 60% incidences, 18% maintenance costs).

This circular economy brings with it many possibilities, and we are in a position to make the most of them and contribute solutions through sustainable innovation.

Energy and Climate Change_

We want a more efficient and cleaner Network in terms of energy and carbon.

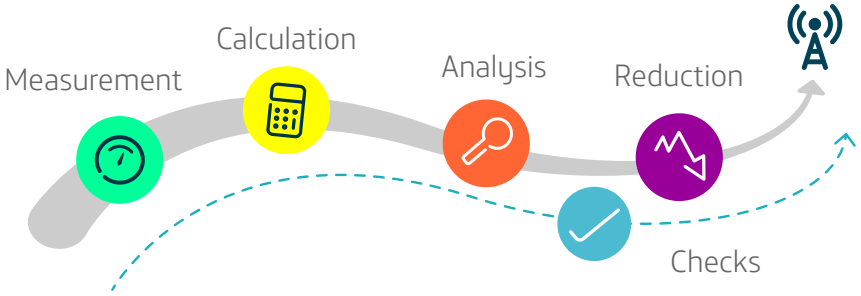
Climate change is one of the most pressing challenges for society today, affecting quality of life and the planet as a whole. Thus, it is urgent to boost economic growth which is less dependant on carbon. We are aware of the role we can play as a digital company in the search for solutions through our services, but we are also aware of the responsibility we have to reduce our own carbon footprint.

With this aim, in 2008, we set up a Global Office for Climate Change and set some ambitious goals for energy and emissions. This has led to there being 100 people working today to achieve these goals.

In 2015, some of these goals were finalised, and it is therefore time for analysis. The Energy Efficiency Plan has resulted in a saving of 64 million euros since 2010, and our energy intensity has been reduced by 25%. Even though the initial goal of a reduction of 30% has not been achieved, the result is nonetheless very positive.

All of this spurs us on to continue down this line and we are now setting a new framework of goals for 2020. These will set the road map for energy efficiency and also for renewable energies.

Renewable energies are necessary to achieving the decarbonisation of our activities and to reducing our carbon footprint in absolute terms. Today this transition has already begun, and more than 16% of energy now comes from renewable sources, mainly in Brazil and Germany. We are defining a Renewable Energies Plan which, through the purchasing of electricity from renewable energies, micro-generation and Energy Procurement Agreements, will lead the Company to a zero emissions future.



We measure our energy consumption and **we calculate** our carbon footprint. **We analyse** and identify new opportunities for energy and green house gas emissions (GHG) reduction, and we implement energy efficiency and renewable energy projects in each of our operations. As a result of this, **we are reducing** the operational energy consumption and the environmental impact of our activities.

MEASUREMENT

We measure our energy consumption and we monitor the Network by installing smart meters in our facilities. Thanks to these, we can determine our consumption more precisely, identify faults in the Network and optimise the operational energy costs.

CALCULATION

We calculate our total energy consumption, as well as green house gas emissions for each of the scopes one, two and three, in line with a global model based on the GHG Protocol, ISO 14064 and the ITU-T L. 1420 recommendation.

Monitoring of stations in Telefónica España

In 2015, we carried out the monitoring of the National Centre for Supervision and Operations (CNSO) in Madrid. The building was monitored to measure energy consumption, hourly consumption patterns (daily and seasonal), as well as the environmental variables and thermal characteristics of the building. In parallel to this we carried out load studies of the building to measure the degree of correlation between consumption and occupation. The information obtained from the meters was subsequently presented to a Big Data technology company with the aim of analysing, calculating and homogenising the behaviour and response of the building to its usage needs.

Leadership in the Carbon Disclosure Project

For 5 consecutive years, Telefónica has remained among the leading 5 telecommunications companies in the Carbon Disclosure Project (CDP) with a rating of 99A, the second best rating in our sector. Furthermore, we were recognised by the 'CDP Supply Chain' programme as one of the companies that best manages energy and climate change risks and opportunities globally, and informs its customers about the impact of the services provided on emissions.

ENERGY INVENTORY AND GHG EMISSIONS

Energy (GWh)

Base stations **2,609**

Technical buildings **2,936**

Offices **635**

Vehicles **259**

6,439 GWh

Fuel Electricity

GHG emissions (tCO_{2eq})

882,695

864,785

206,656

49,771

2,003,907 tCO_{2eq}

Scope 1 Scope 2

Note: 16% energy from renewable sources.

OTHER INDIRECT SCOPE 3 EMISSIONS

ANALYSIS

We carry out an analysis of operational energy consumption and of our carbon emissions. Based on this, we assess how we meet our global goals for the reduction of energy and GHG emissions, and work with different groups and associations in the sector to identify risks and opportunities regarding energy and climate change.

MORE INFORMATION

Watch the video 'Telefónica Global Energy Efficiency Programme'

GLOBAL ENERGY AND EMISSIONS GOALS

KPI	Unit	Base year	Goal year	Base year value	Value 2015	Reduction goal	Current
Energy consumption in networks per customer	kWh/ea(*)	2007	2015	32.7	24.7	30%	-25%
Energy consumption in offices per employee	MWh/emp(**)	2007	2015	6.3	5.5	10%	-13%
Carbon emission per customer	tCO_{2eq}/ea	2010	2020	10.2	9.3	30%	-9%
Energy OPEX	M€	2013	2017	-	27.7	50 M€	-

(*) ea = equivalent access (**) emp = employee

6th Global Energy and Climate Change Workshop

In 2015, we hosted the **6th Global Energy and Climate Change Workshop** at Telefónica in Quito, where 200 participants came together, including energy and environmental managers, technological partners and other special guests. During the event, Telefónica Brazil was recognised for its energy management in 2015. Telefónica Ecuador and Telefónica España received the prize for best energy efficiency project and best Green project respectively. Telefónica Colombia received the prize for best efficiency plan, while Evolution Networks was recognised as best Green partner at this event.

G4-EN3, G4-EN4, G4-EN5, G4-EN6, G4-EN7, G4-EN17, G4-EN18, G4-EN19

REDUCTION

In 2015, we carried out more than 100 energy efficiency and GHG emissions reduction initiatives in our networks and offices. As a result of these, we reduced our energy consumption by 162 GWh and avoided more than 41,000 tonnes of CO_2eq emissions.

Winner of the Green Mobile Award

Telefónica was awarded the GSMA Glomo in 2016 at the MWC for our global energy efficiency programme. The jury agreed that it was a noteworthy example of what all operators should be aiming to achieve: improvements in energy efficiency, reduction of their carbon footprint and preservation of the environment.

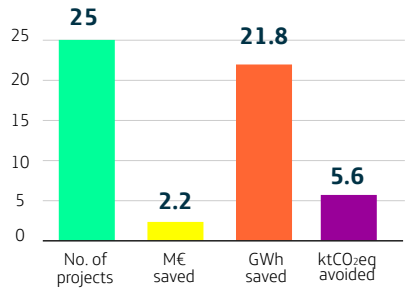
CHECKS

Additionally, in **Telefónica** we carry out an independent energy and emissions data checking process on an annual basis, which allows us to better identify areas for improvement in our processes and manage energy and carbon in a transparent manner.

ENERGY EFFICIENCY PROJECTS

POWER

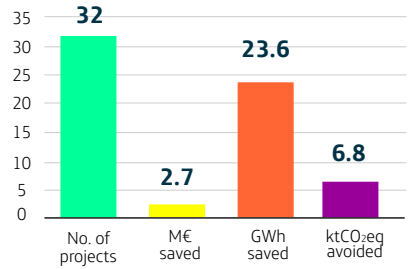
2015



Improvement in the efficiency of electronic equipment (rectifiers, UPS and inverters).

COOLING

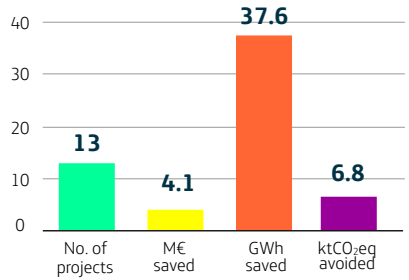
2015



Improvement in the efficiency of refrigeration and air conditioning equipment (modernisation of equipment, free cooling).

PSF

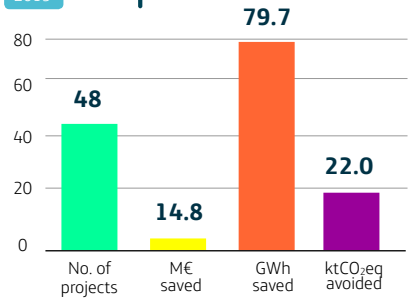
2015



Reduction in energy consumption at radio bases during periods of low load.

OTHER

2015



Lighting, selective shut-off, hybrid and renewable generation.

G4-EN3, G4-EN5, G4-EN15, G4-EN16, G4-EN17

ENERGY INVENTORY AND CO_2 (1)

Energy		2014	2015	% Var
Total energy consumption	MWh	6,352,388	6,438,573	1.4%
Electricity	MWh	5,951,515	5,997,388	0.8%
Fuel	MWh	400,870	441,185	10.1%
Energy from renewable sources	%	15	16	6.7%
GHG emissions				
Direct emissions (Scope 1)	tCO_2eq (2)	92,004	95,677	4.0%
Indirect emissions (Scope 2) (method based on localisation)	tCO_2eq	1,880,938	1,908,230	1.5%
Indirect emissions (Scope 2) (market-based method)	tCO_2eq	-	1,609,677	-
Avoided emissions (3)	tCO_2eq	1,324	6,547	394.5%

(1) Inventory based on ISO 14.064, GHG Protocol & ITU-T L.1420 (02/2012).
(2) $CO_2eq = CO_2$, CH_4 & N_2O.
(3) Emissions avoided as a result of renewable energy generation for self-consumption.

MORE INFORMATION

Refer to the 'Energy and Climate Change' section of our corporate Website.

Electromagnetic fields_

The roll-out of mobile telephone networks has been frenetic over the last few years. Scientific research in this field, supported by technological progress, has investigated the possible effects of emissions on health for more than 40 years. Telefónica actively works with such institutions, with citizens, businesses, public authorities and with society in general to boost the maximum guarantees for safety and the most scientific and objective perception possible on awareness of electromagnetic fields.

WE COMPLY WITH INTERNATIONALLY RECOGNISED RESTRICTIONS

All terminals and equipment that we provide meet the international standards established by the SAR (Specific Absorption Rate) parameter.

Furthermore, in 2015, all the measurements taken at our base stations were below the internationally recognised levels, in some countries comfortably fulfilling these requirements by some way. These measurements are available to the public in the majority of countries in which we operate.

Furthermore, at Telefónica Deutschland we have worked with IZMF (Mobilfunk Information Centre) and the Technical University of Ilmenau in the study on radio frequency exposure in every day life, the results of which confirmed that good coverage is an important contributor to reducing total exposure to a minimum.

WE COOPERATE IN RESEARCH: WE INCREASE OUR KNOWLEDGE

For the World Health Organisation, scientific research in this field is a priority in their research schedule. At Telefónica we follow these projects closely and we even work directly with some of them:

- **Mobikids**
- **Gerónimo:**
- **COSMOS:**
- **SCAMP study:**

All measurements that we have taken at our base stations have always been below internationally recognised levels

MORE INFORMATION

Refer to the 'Electromagnetic fields' section of our corporate website.

COLLABORATING WITH INSTITUTIONS

We cooperate with different institutions with the aim of creating synergies to respond to all concerns, not only those of our customers, but those of the population in general.

In 2015, our work in Peru on the 'Antenas Buena Onda' campaign stands out, which was carried out in conjunction with the Ministry of Transport and Communications in order to establish base stations in the country.

In Colombia, we have adhered to the Colombian Mobile Industry Association (Asomovil) and GSMA initiative called 'Nos Importa Colombia' (We Care about Colombia) to tackle the subject of responsible roll-out of Network infrastructures.

WE TALK TO COMMUNITIES

In Ecuador we implemented a pioneering social information process with a view to strengthening citizen participation processes, this being the first step in the roll-out of our 'Best Practice Manual'. This methodology allows us to manage the social component of the Network roll-out and improve our relationships with communities. We have noted that achieving a successful Network roll-out results in a decrease of community health-related conflicts.

Also in Ecuador, and in association with the Fundación Telefónica, we launched the 'Digital Literacy' project. This has allowed us to reduce the digital divide in rural and marginal areas, and to bring communities the benefits of technology for their daily activities. This has been a determining factor for Network roll-out in these areas, where before there was absolute rejection of the construction of base stations due to the lack of knowledge of their operation and importance to local development.

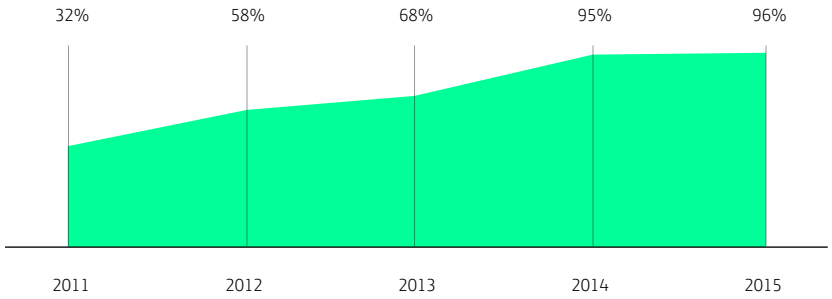
In Colombia, in collaboration with local institutions, we have launched an initiative called 'Aerials for Progress', with the aim of improving public perception of telecommunications infrastructure, generating confidence and promoting a favourable environment for the roll-out, quality and stability of the Network.

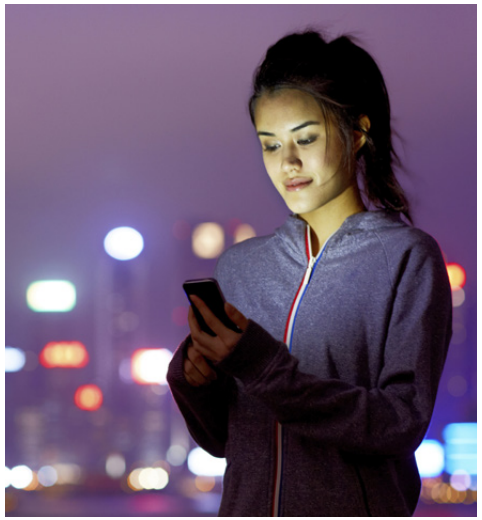
BUILDING AWARENESS AMONG OUR EMPLOYEES

Our employees are our best ambassadors. For this reason, in 2015, in Colombia we launched the campaign 'On the waves with aerials' with the aim of creating a forum for sharing solid arguments that will help us to break the myths surrounding the infrastructure in our sector.

% EFFECTIVENESS IN THE SOLUTION OF COMMUNITY CONFLICTS

Network roll-out: Ecuador





We believe that information is fundamental for society to overcome the myths related to electromagnetic fields

Furthermore, in Venezuela we gave training to Huawei Technologies, the company whose job it is to assess our performance in electromagnetic fields in the country, with the aim of improving and making its measuring tasks more efficient. In Ecuador we have also provided continuous training to our employees so that they can explain how mobile telecommunications work and the benefits that they bring.

COMMITMENTS WITH OTHER ORGANISATIONS

In 2015, we participated in various different forums. In Colombia we collaborated on the training event 'ICT, health and the application of the precautionary principle', directed at judges and magistrates with the aim of clarifying doubts and myths about electromagnetic fields and their effects on health.

WE COMMUNICATE

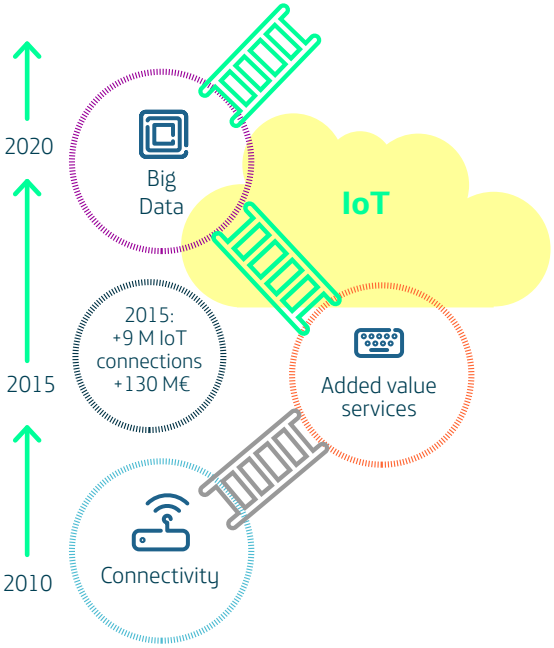
We believe that information is fundamental for society to overcome myths related to electromagnetic fields and understand the operation of telecommunications. Thus, we provide links of interest, expert information on the subject and frequently asked questions, which we update periodically.

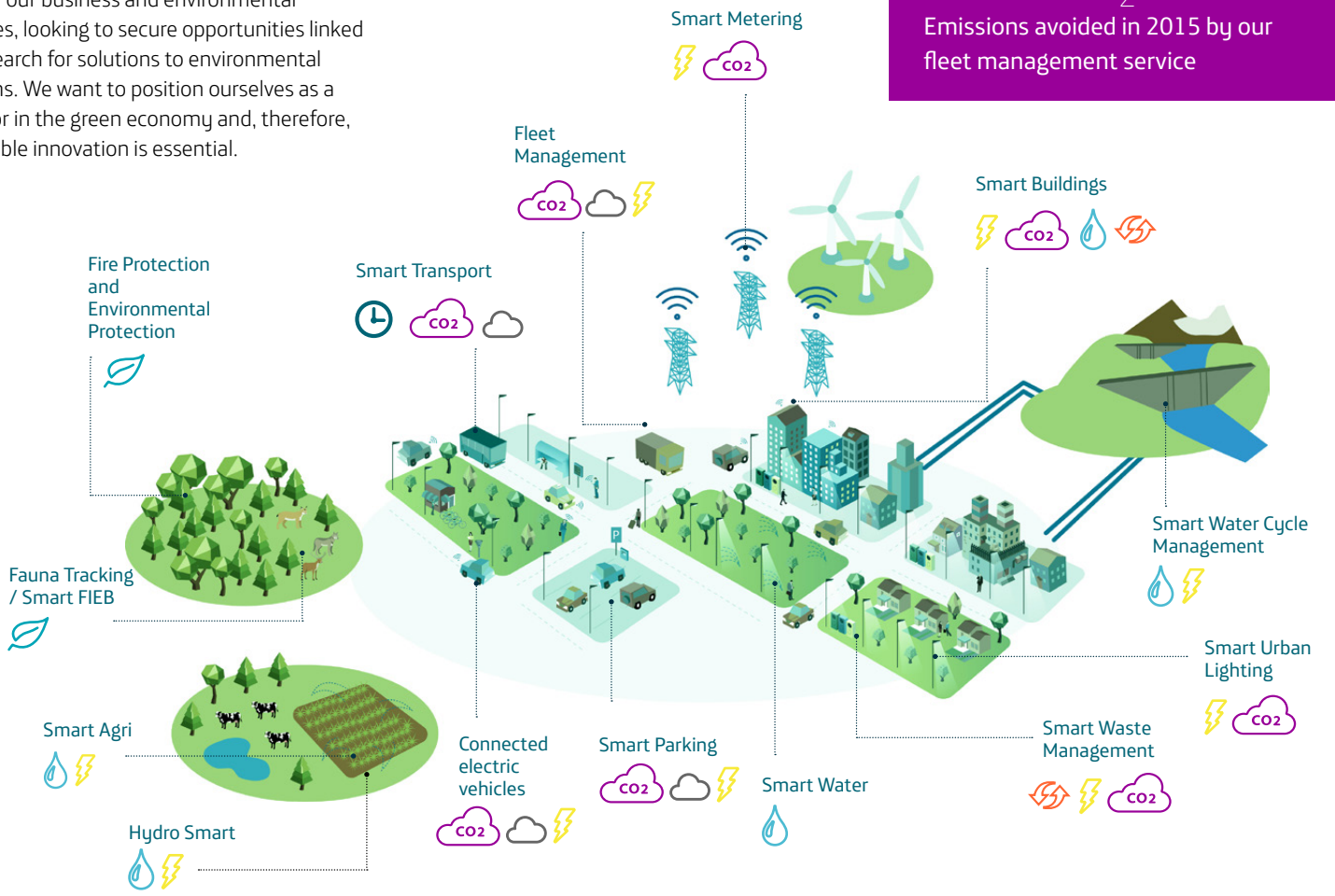
Green services_

In the current context, where environmental challenges affect the whole of society, Telefónica is developing services based on the 'Internet of Things' (IoT), Cloud Computing and Big Data to reduce the consumption of resources and the environmental impact of our customers. These will be key in the area of reduction of and adaptation to climate change.

We align our business and environmental strategies, looking to secure opportunities linked to the search for solutions to environmental questions. We want to position ourselves as a key actor in the green economy and, therefore, sustainable innovation is essential.

1 Mt CO_2
Emissions avoided in 2015 by our fleet management service





Note: IoT connections also support services other than Green services.

INTERNET OF THINGS

IoT will be the next industrial revolution in a hyperconnected world. It is expected, according to Gartner, that more than 6 billion 'things' will be connected in 2016, 30% more than the previous year. It is estimated that this figure could rise to 50 billion in 2020.

For us, the Internet of Things has become one of the main areas for investment, where the main points of interest are better connectivity and value added services. Today, more than 1,000 customers around the world use our Smart M2M. Although we are still at the early stages of this process, we are laying the bases and the next few years will be critical. Thus, there are elements that will speed up the growth of the IoT: new technologies that are more accessible and open; favourable regulations with medium-term public investment strategies; and an increase in customer needs as well as the development of new business models.

Therefore Telefónica is committed to total connectivity and open platforms. We cooperate with technology partners to find solutions for our customers' needs. According to recent studies on the subject, the IoT could reduce 200 million tonnes of CO_2 emissions, approximately 23% of the 2030 goal for the European Union in the areas of transportation and buildings. Therefore, the potential for these services to mitigate climate change is enormous and we want to be part of it.

MORE INFORMATION

Watch the video 'What is the Internet of Things?'

IOT services

15%
reduction of fuel consumption with our fleet management services

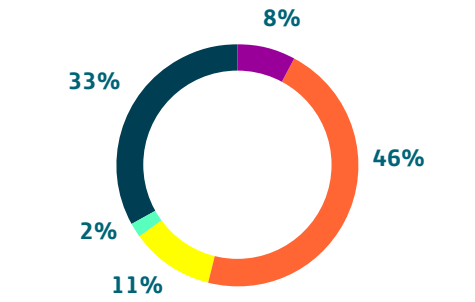
15%
irrigation water reduction with Smart Water

10%
fuel savings and 85% improvement of black points where there is bad waste separation, thanks to Smart Waste

A reduction of
30%
in the consumption of public street lighting with Smart Lighting

REVENUE FROM GREEN SERVICES

%



BEST PRACTICES

SMART CITIES

In the urban environment, where the great majority of the population is concentrated, sustainability challenges are multiplied and efforts to create 'Smart Cities' are already a priority for local authorities.

In this regard, the Internet of Things currently allows us to provide cities with effective digital solutions that converge in one integrated and open platform, thanks to which costs can be reduced, revenues increased, urban resource administration can be improved, as can the lives of inhabitants.

Our platform 'Thinking Cities' has already been implemented in cities like Valencia and Santander (Spain).

BIG DATA

It is already clear how the data analysis of social behaviour models and movement flows can have important uses in terms of the environment, such as in climate change adaptation. Our Company vision is to become a benchmark, in the medium-term, for the data economy, whereby the Internet of Things will also be a key element, as without it we would not have Big Data.

We currently have some services in place, such as Smart Steps, which utilise anonymous data to help take decisions, for example on transportation in cities. Furthermore, we recently acquired Synergic Partners, an expert consultancy in science and data engineering.

HOSTING AND CLOUD

As a result of our hosting services at Data Center, we have managed to dematerialise contents and services, thereby reducing energy consumption and greatly optimising space usage. This all contributes to reducing our customers' carbon footprint significantly. At Telefónica we see virtualisation as a first step towards Cloud Computing.

We currently operate four Data Centers globally, located in Alcalá de Henares (Spain), Brazil, Miami and Mexico. They all comply with international Green IT principles for eco-efficiency and sustainability, and have electric infrastructure and air-conditioning, which allows us to reduce energy consumed by the infrastructure itself by about 75%. The average PUE of our strategic Data Centers is 1.8.