08 Environment: respect and protection

08/01 environmental commitment

The companies in the Telefónica Group have upheld a commitment to the environment via Global Compact

NEW ENVIRONMENTAL POLICIES
Telefónica Móviles

08/02 environmental management

The Telefónica Group has established internal regulations governing *Minimum Environmental Requirements*

MINIMUM ENVIRONMENTAL REQUIREMENTS

08/03 monitoring of environmental issues

Telefónica endeavors to minimize the impact of its activities on the environment

27

COMPANIES REPORTED IN 2004 (5 IN 2003)

08/04 development of services with a positive impact on the environment

Telecommunications services contribute to efficiency and savings in natural resources

PROJECTS EVALUATED
318
Telefónica I+D

Telefónica

Telefónica's commitment to the environment is embodied not only by minimizing the impact of its activities, but also by promoting products and services that contribute to its preservation

TELEFÓNICA'S COMMITMENTS TO THE ENVIRONMENT (08-1)

Year	Company	Commitment
1996	Telefónica de España	• ETNO (European Telecommunication's Operator Association) environmental commitment Telefónica joins the ETNO working group on the environment
1997	Telefónica I+D	• Telefónica I+D environmental policy (revised in 2003). This policy includes a commitment to develop telecommunications services that contribute to the protection of the environment and the sustainable development of society.
1998	Telefónica Móviles España	• Telefónica Móviles España environmental policy. The policy is comprised of ten commitments of a broad scope.
1999	Telefónica de España	• Telefónica de España environmental policy. This policy follows ten lines of action, all developed in coordination amongst eachother.
2002	Telefónica Group	• United Nations Global Compact, three principles of which are related to respect for the environment: -Principle 7: Businesses should support a precautionary approach to environmental challenges; -Principle 8: undertake initiatives to promote greater environmental responsibility; -Principle 9: encourage the development and diffusion of environmentally friendly technologies.
2002	Telefónica Móviles España	• Sustainability Excellence Club. Founded with 15 other companies with the aim of fostering sustainable development amongst companies.
2003	Telefónica Group	• GeSI (Global e-Sustainability Initiative). Initiative supported by UNEP (United Nations Environmental Program) and the ITU (International Telecommunications Union). It groups manufacturers and operators in the sector to promote the sustainable development of the information society.
2003	Brazil	• A working group formed by experts and employees to promote the environmental policy
2004	Telefónica Group	• Corporate regulations: Minimum Environmental Requirements that must be contemplated in the operations of the company subsidiaries
2004	Telefónica Móviles	• Approval of an environmental policy applicable to operations undertaken in Argentina, Chile, Colombia, Ecuador, El Salvador, Spain, Guatemala, Mexico, Nicaragua, Panama, Peru, Uruguay and Venezuela.
2004	Telefónica Soluciones	• Approval of the Company environmental policy.
2004	T-Gestiona España	• Approval of the Company Environmental By-laws, as a first step toward in the implementation of an environmental management system.

THE GLOBAL
COMPACT

01 TELEFÓNICA, COMMITTED TO THE ENVIRONMENT

Telefónica considers respect for the environment to be a fundamental issue in all its activities and therefore, the companies in the Telefónica Group have maintained a public commitment to the environment for the past several years.

The *Minimum Environmental Requirements* established by the Telefónica Group in 2004 require each company or business line to define a commitment to protect its environment, an environmental policy at the highest level of the organization that encompasses a minimum of the following criteria, provided they are applicable to its activities:

- Identification of the environmental issues related to the company's activities, facilities and products.

- Compliance with the applicable environmental legislation in effect and fulfillment of all other commitments the organization has made in this area.

- Gradual evaluation of the environmental impact of the products and services it develops.

- Continual upgrading of internal action procedures, taking into account the principles of pollution prevention and the conservation of natural resources.

- Gradual incorporation of environmental criteria in the purchasing, supplier selection and sub-contracting processes.

- Regular publication of the company's environmental indicators and practices, and promotion of communication in environmental issues with all stakeholders involved (employees, customers, suppliers, the Public Administration, etc.)

- Training of personnel in environmental issues, oriented toward increasing awareness and improving control over environmental issues arising through the Group's activities.

In 2004, Telefónica Móviles approved and published an environmental policy that intends to be implemented at all levels of the organization, which is applied as specific action procedures for all the activities and facilities that may affect the environment.

In September 2004, Telefónica Soluciones approved an environmental policy as the jumping off point for implementing its environmental management system, which is expected to be certified under UNE-EN ISO 14001 standards in 2005. Under this policy, Telefónica Soluciones management establishes the protection of the environment as one of the company's strategic goals, and involves all the company's activities and employees in its achievement.

The 2004 year also saw Telefónica Gestión de Servicios Compartidos España (T-Gestiona) draw up a set of environmental by-laws, which will enable the company to undertake a series of actions this year addressed at improving conservation of the environment, particularly taking into consideration its role in managing all general services at the new Group headquarters in Spain, *Distrito C*. T-gestiona will be responsible for providing its services to all the Group companies that are slated to move to this new development.

In addition to these commitments, Telefónica collaborates with organizations involved in the defense of the environment, such as:

- The Wildlife Foundation in Argentina.

- The *Charles Darwin* Foundation in Ecuador.

ISSUES CONSIDERED AT THE *MINIMUM ENVIRONMENTAL REQUIREMENTS* (08-2)

- Energy consumption
- Consumption of water
- Consumption of paper and other office material
- Waste management
- Dumping of waste water
- Noise
- Emissions into the atmosphere
- Radio electric emissions
- Use of substances that damage the ozone layer
- Vehicles
- Visual impact on the natural surroundings

- The Soria 21 Forum on Communication and Sustainable Development, and the Fundación Entorno in Spain, bodies in which Telefónica Móviles acts as a collaborating company.

- The 6th National Environmental Congress in Spain, sponsored by Telefónica Móviles.

- The *Cambie* Environmental Conservation prize, convened by the Southern Scientific University (UCSUR) in Peru and sponsored by Telefónica Móviles, which aims provide recognition for institutions, organizations and persons who work in favor of the environment.

- TPI participated in the work done by the *European Association of Directory and Database Producers (EADP)*, addressed at establishing a European environmental commitment in the directory sector.

02 ENVIRONMENTAL MANAGEMENT

a) Minimum environmental requirements

Throughout 2004, Telefónica continued its in-depth analysis of control of the environmental risks arising from its activities, based on studies carried out in 2003 and 2002 on the Group's work in Latin America and Spain, respectively. The analysis concluded that the companies providing fixed and mobile telephony services have a much higher environmental impact, due both to the type of activity and the greater number of facilities in operation. The study was undertaken by the Internal Corporate Audit areas, with Telefónica I+D acting as expert advisor.

The knowledge acquired from these studies has served as the basis for drawing up internal regulations on *Minimum Environmental Requirements*, addressed at unifying the conduct of all the Group companies in this area. Taking fulfillment of the different legal requisites in each country as a basic

foundation, the regulations include additional voluntary requirements that will be gradually implemented in all the companies to reach a uniform level of operation.

The companies must identify the environmental factors arising from their activities and establish practices for their effective control, documenting such practices and the related responsibilities in internal regulations. These procedures should:

- Envisage monitoring and measurement of the main company environmental factors.

- Respect with the legal provisions in effect as well as other requirements within the organization.

- Define responsibilities within the company with regards to control and measurement of environmental factors.

- Be updated periodically, to ensure their efficiency and compliance.

- Be broadly publicized amongst company employees, as well as employees of the sub-contractor companies that may intervene in environmental matters.

b) Environmental management in Spain

Since 1999, Telefónica de España has implemented an Environmental Management Project based on the model of the UNE-EN ISO 14001 standard. As part of that project, the Logistics Center implemented an Environmental Management System, the certification of which was renewed by *AENOR* in 2004. This logistics center, located in Villaverde, Madrid, has the primary mission of reception, storage and distribution of the materials handled by Telefónica de España.

Telefónica de España has established a procedure for the identification and evaluation

TELEFÓNICA MÓVILES ENVIRONMENTAL POLICY (08-3)

Telefónica Móviles considers respect for the environment fundamental in all its activities and encourages the development of telecommunications services that contribute to the protection and sustainable development of society.

Based on its commitment to respect the national and international environmental laws and regulations applicable to us, Telefónica Móviles promotes programs and actions with the following objectives:

- Evaluation of environmental issues, whether positive or negative, arising from the company's activity.

- Optimize the consumption of energy and natural resources.

- Reduce pollution through the correct treatment of waste and promoting better processes for recycling of materials.

- Gradually extend awareness and training in environmental issues among all the company employees.

- Include environmental considerations in decisions to buy and withdraw equipment.

- Establish environmental objectives and goals, endeavoring to continually improve our environmental performance.

- Regular publication of the Company's environmental indicators and practices and the promotion of communication on environmental issues with the various groups involved.

IDENTIFICATION OF SIGNIFICANT ENVIRONMENTAL IMPACTS FOR TELEFÓNICA DE ESPAÑA (08-4)

- Consumption of poles
- Consumption of fuel for vehicles
- Waste wire: plastic coated wire
- Electric power consumption
- Emission of combustion gases from generators
- Visual impact of aerial wires
- Water consumption
- Dumping of waste water
- Consumption of wire cleaning products
- Consumption of fuel in generators
- Bio-sanitary waste: used first-aid and puncturing materials
- Hazardous waste from gas detector tubes
- Emission of gases from vehicle combustion
- Consumption of wire splicing material
- Waste from storage batteries
- Noise produced by heat and air-conditioning equipment
- Noise produced by generators
- Noise in construction of external plant
- Alteration of the landscape by radio masts

of environmental impacts in its operations. During the inspections done in July 2004, 110 direct environmental factors were analyzed, of which 19 were found to be of significance. Also studied were 12 potential environmental impacts, of which one was identified as being significant. It is important to note the existence of the Environmental Management Team, the composition of which includes company labor representatives.

The environmental management system at Telefónica Móviles España covers 100% of its activities and has been certified by *AENOR* to the *UNE EN ISO 14001:1996* standard since 1998. This certificate must be renewed every three years and received its last validation in 2004, with no deviations and a very positive evaluation for the high degree of implementation of the System.

The environmental management system at Telefónica I+D encompasses all the activities with environmental impact carried out at the work centers in Madrid and Boecillo (Valladolid); the company's certification to ISO14001 standards was recently renewed in 2004. The specific scope envisaged is the *preparation of studies, research, applied research and exploratory development of telecommunications products, services and systems* at the aforementioned centers.

Internal environmental audit processes continued in 2004 in various Group companies in Spain; the audit of TPI was concluded and the process commenced in other companies.

Likewise, in 2004 Telefónica Soluciones initiated the implementation of the Environmental Management System in its activities in accordance with the ISO 14001 standard, with a view to certification in 2005.

The environmental by-laws approved by *T-Gestiona España* (Telefónica Gestión de Servicios Compartidos) is focused on savings in the consumption of paper and energy, a reduction in the generation of waste and the implementation of selective waste collection. The development of these actions contemplates the fact that some of the companies soon to be located in *Distrito C*, are already certified by *AENOR* in ISO 14001, and that specific steps will be necessary to maintain that certification.

No environmentally related fines or sanctions were imposed on the Telefónica Group companies in Spain in 2004.

c) Environmental management in Latin America

After approval of the *Minimum Environmental Requirements*, the various Telefónica Group companies in Latin America have planned and implemented a series of actions to fulfill this commitment. The degree of environmental management varies from one country to another, as will be commented below.

Operations with environmental certification
- Telefónica Móviles México: In October 2004, *AENOR* carried out a certification audit that accredited the *Environmental Management System* under the *ISO 14001/1996 standard*.

- In Argentina, T-Gestiona's *Environmental Management System* has been implemented and certified by *IRAM*, under the ISO 14001 standard since 13 January 2004. The services certified are: logistics, management and administration of stock, quality control, warehouse management, transport and distribution management; physical conciliation of accounts and administrative back up (back office).

Operations with identified environmental risks and processes
- In 2004, Telefónica Móviles Chile drew up an action plan for the implementation of an Environmental Management System under the ISO 14001:2004 standard for 2005. As an

FULFILLMENT OF ENVIRONMENTAL GOALS 2004 (08-5)

Company	Goal	Status
Telefónica de España	• Prevention and control of Legionnaire's disease in cooling towers	100%
	• Replacement of 9.8% of the fleet of older vehicles managed by Telefónica which, at year-end 2003, were not equipped with catalytic converters	124%
	• Preparation of an inventory of septic tanks and proposed plan for their elimination through connections to the sewer system.	38%
	• Study of the repercussions on Telefónica de España of application of the Directive on Waste Electrical and Electronic Equipment	60%
	• Audits of maintenance companies to ensure their fulfillment of the environmental clauses in their contracts.	Delayed until 2005
		100%
	• Adaptation of the fuel tanks in boilers and generators to current legislation (delayed from 2003)	100%
	• Extension on registration as a producer of Hazardous Waste (delayed from 2003)	40%
Telefónica Móviles España	• 5% reduction in electrical power consumption	100%
	• 5% reduction in incidents caused by generator spills	100%
	• Application of the Directive on Waste Electrical and Electronic Equipment	In progress (goal 05)
	• Implementation of 10% of the actions to lower the noise level at UMTS base stations described in their specifications	In progress (goal 05)
Telefónica I+D	• 65.4% reduction in the consumption of paper by the year 2009, reaching a maximum cap of 24.91 sheets / thousand €.	91%
	• 5% reduction in the emission of greenhouse gases in Boecillo as compared to the estimated reduction achievable with conventional systems.	In progress
	• Improve the project environmental evaluation process.	100%

initial measure, the company undertook a legal environmental diagnosis.

• T-Gestiona Brazil is entrusted with the management of the Telefónica Group's equity in that country. In 2004, a proposed environmental policy was drawn up, which will give rise to the implementation of an *Environmental Management System*, first in T-Gestiona and later extending to other companies in the country.

• Telefónica Móviles Colombia undertook an inventory / audit of the current status of the activities with environmental impact as the first step in embarking on the process of implementation of an environmental management system.

• In October 2004, Telefónica Móviles Ecuador commenced a project for the Implementation of an Integral Management System focused on setting into motion a *Risk Analysis* and *Management System* to study quality, the environment, and occupational health and safety. In addition, environmental audits have been carried out in base stations and company buildings in Quito and Guayaquil.

• At year-end 2004, Telefónica Móviles Peru was in the study phase of the

implementation of the *Environmental Management System*, after the initial analysis and diagnosis of the impact of its activities.

• After appointing an environmental unit, Telefónica CTC Chile embarked on the identification of the factors of its activity with the greatest potential environmental impact.

• T-Gestiona Argentina included the following point in its logistics policy: *Preservation of the environment, by avoiding pollution, conserving natural resources and proper handling of wastes.*

Operations with identified environmental units.

• In Brazil, Vivo has created the *Environmental Management Forum*, the aim of which is to define and approve projects and actions that contribute to the conservation of the environment in its activities.

• Telefónica Móviles Argentina has commenced a consolidation process for environmental projects established by the two merged operators, with a view to beginning implementation of an environmental system in 2005.

ENVIRONMENTAL GOALS 2005. SPAIN (08-6)

Company	Goal
Telefónica de España	• Replacement of four Cooling Towers as a preventive measure against Legionnaire's disease. • Replacement of 8.1 % of the fleet of vehicles under renting-back, which at year-end 2004 were not equipped with catalytic converters. • Extension of registration as a producer of hazardous waste: Incorporation of the generator maintenance waste and hazardous waste at the inter-provincial logistics centers • Study and definition of the requirements and drawing up of the procedures for the suitable collection and treatment of Electrical and Electronic Equipment Waste • 10% reduction in paper consumption. • Paper consumed: 60% recycled and 40% white. • Consideration of the environment as criteria for sponsorship, and participation in at least one such sponsorship.
Telefónica Móviles España	• Application of the *Directive on Waste Electrical and Electronic Equipment* • Implementation of 10% of the actions to lower the noise level at UMTS base stations described in their specifications
Telefónica I+D	• 65.4% reduction in the consumption of paper by the year 2009, reaching a maximum cap of 24.91 sheets / thousand € • Integral environmental scorecard
T-Gestiona	• Implementation of the Manual on Good Environmental Practices and its internal dissemination • Placement of posters informing about the types of waste and containers • Placement of waste containers • Information on the procedures to follow with more contaminating waste, (toner, batteries, etc.) • Reduction in the consumption of contaminants • Increase in the percentage of selective waste collection • Reduction in paper consumption, thus reducing the environmental impact involved

ENVIRONMENTAL GOALS 2005. LATIN AMERICA (08-7)

Company	Goal
TeleSP Brazil	• Efficient energy consumption in the network • Reduction of the noise generated by operations • Adaptation of fuel storage systems • Replacement of storage batteries using acid
T-Gestiona Brazil	• Project for the *Rational Consumption and Use of Water* • Efficient energy consumption in offices and facilities managed • Paper recycling (implementation of *Proyecto Recicla* in the Telefónica Group).

CASE STUDY

ENVIRONMENTAL TRAINING IN TELEFÓNICA MÓVILES ESPAÑA (08-8)

Telefónica Móviles España's Environmental Training plan took the form of three training activities in 2004:

- An e-learning (a+) course: *Mobile Telephony and Society*. The goal was to teach employees and raise their awareness of the impact of Network Deployment on the environment, with a view to doing away with the "myths" associated to environmental management. This course, available since 2003, was attended by 1,598 employees and is currently available to the public on the company website.

- Theoretical-practical course on an introduction to environmental acoustics, attended by 59 employees whose responsibilities include noise control.

- Course on office waste targeted at the staff responsible for handling the Company waste, attended by 23 employees.

To facilitate access to environmental regulations, Telefónica Móviles España employees have access to the *e-comovil.ley* application on the corporate Intranet. This application offers information on environmental legislation applicable in the European, national, autonomous community and local scopes. Throughout 2004, 541 applicable regulations were added to *e-comovil.ley*.

Moreover, Spain was the scene for the development of a 20-month internal awareness campaign addressed at savings in natural resources, during which email messages were sent to all employees regarding how to use the various waste containers, how to recycle mobile phones and the efficient use of energy and paper.

- Telefónica Móviles El Salvador and Guatemala have concluded the bidding process for certification as *Consultants for the Implementation of Integral Quality Systems* (ISO 9001 / ISO 14001)

- At the end of 2004, Telefónica Móviles in Nicaragua, Panama, Uruguay and Venezuela were in the study phase for the implementation of an environmental management unit in the company.

d) Environmental training and awareness

Telefónica has over 173,000 employees throughout the world, and is present in more than 15 countries. With a view to proper management of its environmental impact, the various companies in the Telefónica Group have undertaken a series of training activities targeted at their employees and collaborating companies.

The Intranet is one of the most frequently used channels in employee environmental training.

- The Telefónica *Intranet* provides access to the environmental section of the Corporate Responsibility page, which provides a summary of the Group environmental policies and the main measures to reduce environmental impact that have been implemented. It includes a section on *Telecommunications and sustainable development*, which offers information on the negative or positive environmental impact of certain services provided by Telefónica.

- Telefónica de España has an environmental website on the *e-Domus* quality website, which includes a tele-education course on environmental management that is currently being renovated and updated.

- In Brazil, TeleSP has created an Intranet section on natural resources.

- In Spain, Ecuador, Mexico and Peru, *online* courses that focus primarily on electromagnetic emissions are offered to Telefónica Móviles employees.

- In Mexico, environmental content was added to the training course given to all new employees.

- Telefónica I+D also has an internal environmental web page that was redesigned in 2004 with new content that now includes the subject of sustainability. The page is continually updated with news and innovations on this topic.

TELEFÓNICA DE ESPAÑA INFRASTRUCTURES (08-09)

Type of use	No of properties	constructed M²
Management	349	651,853
Telephone services	6,400	1,179,587
Mixed	504	1,640,869
Total	**7,253**	**3,472,309**

Courses on environmental legislation and management of hazardous waste were given to 42 Telefónica de España employees in 2004. Telefónica I+D offered courses related to waste management and good environmental practices to 23 employees. In addition, information about the environment was disseminated during the Conference held on the occasion of the *World Environment Day*.

In Ecuador and Chile, Telefónica Móviles has trained personnel responsible for environmental management in the ISO 14001 standard. And in Argentina, El Salvador and Guatemala, environmental training programs were planned for 2005 as part of the implementation of their respective Environmental Management Systems.

Amongst other employee awareness activities were:

- TeleSP held two work days focused on natural resources, which included topics related to efficient electrical power and water consumption, impact on the ozone layer, recycling, noise and dumping.

- Telefónica Móviles Chile and Panama: campaigns to reduce the consumption of paper, water, and electrical power in the company offices.

- Telefónica Móviles Colombia: campaign to recycle waste from printers, photocopy machines and faxes.

- T-Gestiona España prepared a Communications Plan to make its employees aware of the need to put its environmental by-laws into operation.

- T-Gestiona Argentina offered internal courses and talks on topics within its environmental management system attended by approximately 100 of its own employees and 15 collaborating companies.

e) Environmental requirements for suppliers

In addition to managing the environmental impacts of its own operations, Telefónica contributes to the promotion of responsible practices in its supply chain. Thus, the contracts between Telefónica and its suppliers include environmental clauses that require compliance with environmental legislation, and particularly that related to waste management.

Companies contracted for construction, installation and maintenance work play a fundamental role in environmental issues, as they are responsible for the elimination of the waste produced in the course of their activities. With this in mind, in 2004 Telefónica de España published 10,000 copies of a *Guide to good environmental practices for External Plant installers*, which was distributed to collaborating companies, that sets out the requirements to be fulfilled in the management of the waste generated by their work. This guide joins a similar publication drawn up in 2003 on good practices in work done at customers' homes.

TeleSP prepared training activities on efficient consumption of electrical power and water for the operational areas and companies contracted for facilities maintenance. Moreover, the company monitored and audited the waste produced, and required documentation from the specialized companies in charge of handling waste to accredit the final processing of the material.

Telefónica Móviles is in the process of establishing mechanisms in its operations that oversee and control waste management, based on verification of the contractor's technical and legal capacity to handle hazardous wastes and control of the volume of the waste removed, which requires evidence and /or certificates that accredit the proper elimination of the waste and the systematic control of the status of the facilities.

VISUAL FRAGILITY OF TELEFÓNICA MÓVILES ESPAÑA
INFRASTRUCTURES (08-10)
(scale of 1 a 5)

	2003	2004

Rural Areas
2.86
2.84

Urban Areas
2.43
2.42
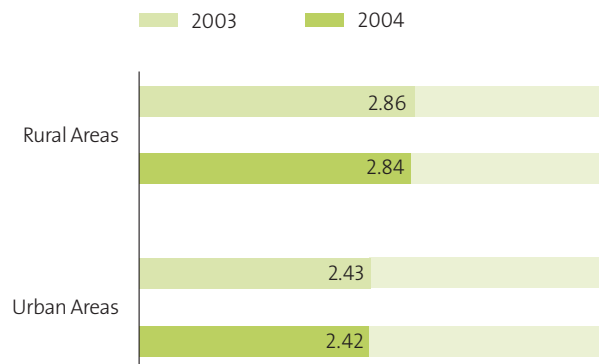
In Spain, Telefónica Móviles has put a Supplier *Evaluation Program with environmental repercussions* in operation. The Program identifies the activities with environmental impact in the different suppliers, informs them their environmental requirements and obligations and envisages audits to verify fulfillment of the same.

Within the framework of its biennial operations audit, TPI España closely monitors the printing and distribution of the guides it sub-contracts with external companies. In particular, in 2004 the TPI Group continued its policy of applying the principle of traceability to control the sustainability of the paper it consumes. Thus, paper suppliers must have environmental ISO 14001 certification, and the raw materials used to make the final products must be of sustainable origin, that is, they must guarantee that their product does not damage the balance of the ecosystem. Therefore, all the paper used in the Group for publication of directories was made from wood grown in sustainable forests.

03 MONITORING OF ENVIRONMENTAL ISSUES

The companies in the Telefónica Group establish procedures to monitor key environmental factors for various reasons: because they are subject to requirements of a legal or other nature, because many situations needing monitoring arise or because their characteristics could have a significant impact on the area surrounding the company. In those cases in which such procedures are not established, approval in 2004 of the regulations governing the *Minimum Environmental Requirements* will encourage their future implementation.

a) Reduction of the impact of infrastructures on the environment

Telefónica upholds a commitment: to make the extension of its services over the maximum area possible while minimizing the impact of its infrastructures on the environment. Particularly in the case of mobile telecommunications, base stations and antennae are required to provide the necessary coverage. These facilities, although occupying a relatively small amount of land (between 50 and 100 m2), must be located at a certain height in relation to their surroundings, generally in the form of towers or on buildings.

When deploying networks in rural or urban areas of special interest due to their landscape or historic-artistic heritage, Telefónica takes into account such options as imitating the surroundings, reuse of existing structures (own or shared with other operators) and the reduction of the size of the equipment.

At the end of 2004, the activities of Telefónica de España were carried out in 7,253 buildings used totally or partially by the Company (floors of buildings or business premises, in particular 6,256 telephone centers) with a total constructed surface area of 3,472,309 m2, a 5.6% drop as compared to year-end 2003, and 8,829 telecommunications masts. It is important to note that the Company has carried out environmental impact studies on a total of 922 facilities.

In the State of Sao Paulo, TeleSP manages a total of 1,721 network infrastructure buildings, 1,129 telecommunications masts, 6,266 antennae and 20 administrative buildings. CTC in Chile has 630 infrastructure buildings, 756 masts, 23 antennae and 160 administrative buildings.

Telefónica Móviles España applies its own methodology to objectively quantify the visual impact of its base stations. The evaluation tool used is *Visual Fragility*, which measures alteration to the landscape, and is currently being adopted in the planning phase for Telefónica Móviles Mexico facilities. In addition, the company has identified the fact that 1.9% of all its base stations are located in protected areas of particular environmental interest,

**TELEFÓNICA MÓVILES
SITES AROUND
THE WORLD (08-11)**

	Sites
Argentina	1,647
Brazil	9,669
Chile	950
Colombia	503
Ecuador	237
El Salvador	147
Spain	15,304
Guatemala	417
Mexico	2,854
Nicaragua	286
Panamá	115
Peru	386
Uruguay	100
Venezuela	745
Total	**33,360**

DISTRITO C, THE NEW TELEFÓNICA HEADQUARTERS (08-12)

Distrito C, the new headquarters of the Telefónica Group in Spain, located in the northern part of Madrid, will be the most visible representation of Telefónica's new corporate culture and new ways of working. The project has won recognition from *Actualidad Económica* magazine, which awarded it the *Most Representative Real Estate Project* in the Community of Madrid.

- The Campus design will be located on 17 hectares of land, of which approximately 65% of the available space will be building-free. The complex is comprised of four towers, with ten buildings encompassed under a canopy-type structure, and a myriad of services including catering, a gymnasium, a nursery, a health center, an auditorium and a training center, amongst others.

- The buildings are set around a large central square with gardens, where water and trees will create an area that encourages interpersonal relations, outdoor work and relaxation.

- Its enormous environmental value lies in the three elements differentiating the project's cohesion – the canopy, landscaping and façades – which improve the temperature, humidity and noise levels. Other significant environmental data are: 32% saving in electrical power for climate control; 100% saving in energy for hot water; 42% saving in power consumption through lighting control.

- *Distrito C* is the largest solar powered office complex in the world. The total project represents a 48% decrease in emissions into the atmosphere, of which 30% will be the direct consequence of energy savings and the remaining 15% the result of its energy-producing capacities.

- Also worthy of note is the *Resource Plan* defined in line with the recycling parameters set out in the ISO 14001 certification. In terms of the use of paper, the policy will focus on a lower number of printers and decrease in paper consumption. In addition to its environmental impact, this policy contributes to the integration of the new technologies in the Company's working methods.

- The project was designed within the framework of an urban planning philosophy that envisages open spaces, without closed areas or barriers, with low buildings largely interconnected through exterior accesses, designed to facilitate the functions and duties of employees, not vice versa.

- In addition to being an urban and architectural project, *Distrito C* is a project that transforms spaces, placing people first, a project addressed at changing the way we work. It envisages a change in the need for physical presence on-site, moving toward alternative options, such as tele-working; an increasingly greater presence at customer's premises and of the customer in the company; more collaborative work and project teams. The spaces created will encourage mobility, cooperation, flexibility and productivity. Moreover, modern technologies implemented will allow the exchange of know-how, innovation and creativity, personal interrelationships, motivation, personal commitment and a balance between work and family life. *Distrito C* makes it possible for work to be done not only in the office or the traditional workplace; it provides the means and spaces that best adapt to the various types of interaction. In a word, a new work culture.

- The project design places particular emphasis on accesses, with a view to facilitating employee use of public transport. Telefónica has reached an agreement with the *Consorcio de Transportes de la Comunidad de Madrid* (the Transport Consortium of the Community of Madrid) to co-finance an underground line with a station at *Distrito C* that will allow transport from our headquarters to the center of Madrid in minutes. The line will be completed in early 2007.

- Furthermore, a new section has been set up on the Company Intranet to inform employees of the progress of the work and provide drawings of the new working environments as well as news about the upcoming move.

- Employees have been encouraged to participate in the project through interviews with Directors and surveys made to learn about the way they work and supplementary resources they use (for example, meeting rooms), all with a view to suitably allocating the workstations in the new environment. Likewise, employees were asked to offer their opinions on services and future needs through open surveys on the portal and individualized surveys made for random groups.

MANAGEMENT OF THE ENVIRONMENTAL IMPACT OF TELEFÓNICA MÓVILES FACILITIES (08-13)

Country	Activities
Argentina	• Environmental impact studies on 155 antennae sites (15 were changed) • Verification of the noise level at 90 sites (3 were changed)
Colombia	• Minimization of 5 masts in urban areas, incorporating them into the surroundings • 190 acoustic insulations in electrical power and air-conditioning plants
Ecuador	• Environmental impact studies on the stations located in the city of Quito, and in the new stations installed since May 2004 • Verification of the noise level at 77 sites (10% were changed)
Spain	• 34 environmental impact studies on antennae sites • 186 environmental adaptation actions in base stations (194 in 2003), 74 of which were imitations of the surroundings (40 in 2003) • 320 share agreements (232 in 2003) • At year-end 2004, the company had installed nearly 9,000 cross-polar antennae, which significantly reduce the visual impact on the environment.
Guatemala	• Environmental impact studies on 247 sites
Mexico	• 548 Environmental impact studies to obtain the relevant authorizations • 750 Verifications of noise level; no modifications were required
Panama	• Environmental impact studies on 5 sites (2 changed) • Painting of antennae installed on roofs in the same color as the buildings and replacement of old antennae for smaller-sized cross-polar units • Verification of noise levels at 15 sites (2 changed)
Peru	• Environmental impact studies on 15 sites (3 changed) • Verification of noise levels at 30 sites (9 changed)

including protected zones declared *Red Natura in Spain*.

In Argentina, t-Gestiona evaluated the environmental factors and impacts of its intelligent-automated storage Center in the city of Avellaneda.

b) Reducing consumption of scarce resources

Electric power
Powering the communications networks is a major consumption item both for fixed and mobile telecommunications operators. Energy consumption is one of Telefónica's most significant environmental concerns, as the reduction of this consumption has direct effects on the savings in scarce natural resources and the reduction of pollution. In addition, this issue has a significant impact on efficiency and cost reduction in the Group companies.

In 2004, the Telefónica Group made notable progress in identifying the power consumed by its operations, basically through measurement

of this consumption in the Telefónica Móviles, TPI and T-Gestiona companies in Latin America, which showed a result of 9.17 million GJ.

Throughout the 2004-year, the operators in the Telefónica Group developed significant energy saving procedures in both networks and offices through:

• The use of alternative energies: At the end of 2004, Telefónica Móviles España had two base stations with solar panels and seven with solar panels and wind-driven generators. The company has studied the use of mixed alternative energies, such as wind and photovoltaic power. In Brazil, TeleSP purchases energy produced through two Small Hydroelectric power plants.

• The increase in the operating temperature in certain equipment and technical control rooms, with the subsequent energy savings in air-conditioning (TeleSP, Telefónica Móviles Argentina, Nicaragua, Mexico, Panama) as well as passive cooling systems (Telefónica Móviles España and Uruguay)

ELECTRIC POWER CONSUMPTION IN THE TELEFÓNICA GROUP COMPANIES (KWH) (08-14)

Company	Country	Power consumption in the network		Power consumption in offices	
		2003	2004	2003	2004
Telefónica de España	Spain	712,319,444	**648,504,755**	236,680,555	**235,045,564**
TeleSP	Brazil	639,472,000	**534,217,753**	41,660,000	**46,453,717**
Telefónica del Perú	Peru				**15,500,000**
TASA	Argentina		**140,550,000**		**(A)**
Telefónica CTC	Chile		**70,253,490**		**4,436,180**
Telefónica Móviles	Spain	324,382,132	**307,003,333**	46,221,468	**47,766,111**
	Argentina				**6,008,909**
	Brazil		**276,425,321**		**(A)**
	Chile		**29,337,468**		**1,867,260**
	Colombia		**34,257,155**		**7,824,256**
	Ecuador		**7,709,645**		**1,263,500**
	El Salvador		**11,334,804**		**1,729,008**
	Guatemala		**10,881,960**		**1,108,764**
	Mexico				**10,621,666**
	Nicaragua		**2,550,297**		**1,863,033**
	Panamá		**6,660,000**		**4,770,000**
	Peru		**21,623,023**		**5,998,919**
	Uruguay		**5,600,000**		**1,400,000**
	Venezuela				**20,986,694**
Telefónica I+D	Spain	na	**na**	13,124,494	**12,401,728**
TPI	Spain	na	**na**	5,264,000	**6,284,652**
	Chile	na	**na**		**1,431,807**
	Perú	na	**na**		**881,881**
Telefónica Gestión	Spain	na	**na**		**699,385**
de Servicios Compartidos	Argentina	na	**na**		**4,481,858**
Terra	Argentina	na	**na**		**164,160**
	Chile	na	**na**		**336,498**

(A): Data included in the network electric energy consumption figures
N/A: Not applicable

ENERGY EFFICIENCY INDICATORS (08-15)

Company	Indicator	Data	Units
Telefónica de España	Energy efficiency in the network	0.0572	KWh / € invoiced
	Energy efficiency in offices	6.928	KWh / employee year
Telefónica I+D	Energy efficiency in innovation	0.0634	KWh / € in production and innovation
T-Gestiona España	Energy efficiency in offices	2,185	KWh / employee year

INDIRECT POWER CONSUMPTION (08-16)
(Calculated in accordance with the GRI Energy Protocol)

| | Direct consumption | Indirect consumption | | | | | | |
| | | Fossil resources | | | Renevable energy / others | | | |
		Coal	Natural Gas	Petroleum products	Biomass	Eolic	Hydroelectric	Nuclear
Spain	4.528	5,868	209	1,235	105	86	689	5,560
Argentina	544	34	934	101	0	0	195	195
Brazil	3.086	315	15	396	0	0	3.529	148
Chile	388	434	150	76	0	0	163	0
Peru	158	0	32	65	0	0	148	0
Otros países	470	46	248	3	0	0	505	0
Total	**9.174**	**6,697**	**1,588**	**1,876**	**105**	**86**	**5,230**	**5,903**

· The reduction of the recharge time for system support batteries (Telefónica Móviles Argentina, Panama...)

· The shut-off of office lights at a particular time and employee awareness campaigns (TeleSP, Telefónica Móviles in Chile, Colombia, Ecuador, Spain, Nicaragua, Panama, Peru, t-Gestiona in Argentina, Brazil...)

· Installation of low-energy bulbs (Telefónica Móviles Colombia, t-Gestiona España and Brazil...)

· Temperature control in the various plants with a view to saving electrical power, both in heating and air-conditioning (TeleSP, T-Gestiona in Spain and Brazil...)

· Optimization of the trigeneration plant at the Telefónica I+D building in Valladolid

Telefónica de España's own consumption was 883.5 million kWh, 6.9% lower than in 2003. Telefónica Móviles España and Telefónica I+D reached electric power consumption reduction levels of over 5%.

Fuel
The telecommunications sector is not one that generates a significant direct demand for fuel, since its consumption is associated to vehicle fleets, heating boilers, emergency actions or service in places with difficult access to power sources.

The most significant fuel consumption by Telefónica de España is that of its fleet of vehicles, amounting to 7.5 million liters (8.8 million liters in 2003). In addition, Telefónica de España's power generators consumed a total of 0.57 million liters, as compared to 0.51 in 2003. Oil consumption for boilers amounted to 1.14 million liters (1.02 in 2003)

The fuel consumption identified by Telefónica Móviles operators surpassed 7.8 million liters, of which Telefónica Móviles España consumed some 50%.

The 642 TeleSp generators operate solely in the event of emergency, in cases of power failures and consumed 500,000 liters of fuel. As a measure addressed at reducing consumption, the time between periodical inspections of generators was lowered.

In 2004, Telefónica I+D used 163,000 liters of oil for heating and 295,537 m3 of natural gas at the trigeneration plant in Boecillo. Its reduced vehicle fleet consumed 12,750 liters of fuel.

Water
Water consumption in the telecommunications sector is quite minor as compared with other industries or service sectors. It main impact consists of water consumption in offices and air conditioning systems.

Paper
Paper consumption is another of the significant environmental factors related to Telefónica's activities, traditionally linked to three areas: offices, invoicing and directory publication.

Paper consumption in offices
The consumption of administrative paper at Telefónica de España has dropped 23.7% in absolute value and 13.8% in relative value in relation to the number of employees, reaching an average of 15.9 kgs / employee. In T-Gestiona this figure reaches 33 kgs / employee, as a result of the employee awareness campaigns regarding the rational use of documents.

Telefónica I+D continues to move forward in its environmental goal of becoming a paperless office. In 1998, the company established the goal of reducing paper consumption by 65.4%, to a maximum of 24.91 sheets / thousand g in 2009. At the end of 2004, paper consumption had been

TELEFÓNICA DE ESPAÑA VEHICLE FLEET (08-17)
(Units)

2002	2003	2004
7,260	6,621	6,309
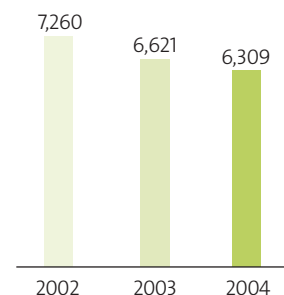
FUEL CONSUMPTION IN THE TELEFÓNICA GROUP COMPANIES (08-18)
(Thousands of liters)

Company	Country	Group fuel	Vehicle fuel
Telefónica Móviles	Chile	42.2	102.9
	Colombia	1,034	164
	Ecuador	100	139.5
	El Salvador	38.6	120.5
	Spain	4,867.5	504.3
	Guatemala	38.6	175
	Nicaragua	56	63
	Panama	100.8	54.4
	Peru	31.2	85.3
Telefónica de España	Spain	570	7,515
TeleSP	Brazil	500	2,813
Telefónica CTC	Chile	184	127
Telefónica de Argentina	Argentina	220	3,348

ESTIMATED WATER AND PAPER CONSUMPTION IN THE TELEFÓNICA GROUP COMPANIES (08-19)

Business line	Country	Water consumption[1]		Paper consumption[2]	
		2003	2004	2003	2004
Telefónica Móviles	Argentina				106
	Chile		23,019		29.4
	Colombia		19,035		140
	Ecuador		1,808		47.8
	El Salvador		1,679		27.8
	Spain	57,600	55,173	131	145.3
	Guatemala		12,544		29.9
	Mexico				32.5
	Nicaragua		16,200		15.5
	Panama		600		19.8
	Peru		19,330		174
	Venezuela				97.5
Telefónica de España	Spain	1,078,315	906,927	707	539.6
TeleSP	Brazil	1,070,132	1,165,045		
Telefónica del Perú	Peru		327,521		
Telefónica CTC	Chile		880,990		
Telefónica de Argentina	Argentina		421,241		
Telefónica I+D	Spain	37,681	37,404	37	32.25
T-Gestiona	Spain				10.6
T-Gestiona	Argentina				2.88
TPI	Spain		15,280		84.8
	Brazil				10.4
	Chile		14,802		29.6
	Peru		5,718		12.7

(1): In thousands of litres
(2): In tons

CASE STUDY

TELEFÓNICA I+D MOVING TOWARDS *THE PAPERLESS OFFICE* **(08-20)**

Measures related to computer and information systems:
· Use of printing *driver* that allows the printing of a maximum of 8 pages/side
· Network fax service
· Intranet applications that replace the use of forms on paper (holidays, time off, training, purchasing, etc).

Measures at the document reproduction center
· Document scanner service
· Multiple photocopy (1 photocopy on both sides of up to 8 pages)
· Preparation of notebooks from paper printed on one side, or from the first and last pages of each new package of paper
· Authorization required for photocopying manuals and making color photocopies

reduced by 62.31% with respect to figures for 1998.

Other measures adopted in 2004 to reduce the consumption of paper in offices included:

· More administrative steps available on the Intranet (Telefónica de España, Telefónica Móviles in Argentina, Colombia, Ecuador, Mexico, Uruguay)

· Employee awareness campaigns to encourage double sided printing of documents (Telefónica de España, Telefónica Móviles Chile)

· Control of the use of photocopy machines and restrictions on the printing of documents (Telefónica Móviles in Colombia, Ecuador, Spain, Mexico)

· Replacement of personal printers by network printers (Telefónica de España)

· Use of recycled paper (this accounts for 68% of paper and cardboard consumption in Telefónica Móviles España)

Invoicing
Telefónica de España achieved a 1.89% reduction in operational paper consumption, which dropped to 3,409 tons in 2004. On a positive note, at year-end 2004, 120,000 Telefónica de España customers no longer received their invoices on paper. However, ADSL customers are invoiced more frequently (monthly), a more negative factor.

Other measures adopted in 2004 to reduce the consumption of paper in invoicing included:

· Electronic invoices and the possibility of making queries and taking administrative steps online (Telefónica Móviles in Argentina, Chile, Ecuador, Peru, Panama)

· Double sided printing of detailed call information (Telefónica Móviles in Chile, Peru, Panama)

Directories
TPI is aware that, as a publisher of directories and other publications, it consumes a large amount of paper. Therefore, the purchase of paper is a factor that is meticulously controlled to ensure its responsible and sustainable use. In 2003, TPI consumed over 50,000 tons of paper and card in the production of its guides and directories.

c) Responsible waste management

Telefónica separates and handles each type of waste produced in the course of its activities in a different manner. The waste collected is classified as follows:

· Non-hazardous, including paper, plastic equipment parts, rubble and construction waste, packaging materials; and

· Hazardous, which include motor oils, used batteries of all types, fluorescent lamps, toner cartridges (in certain regions) and other waste produced from smoke detectors and fire extinguishers equipped with substances that damage the ozone layer. The Telefónica Group companies all work toward the goal of hazardous waste management carried out by government authorized firms.

Telefónica de España also intends to broaden its registration as a producer of Hazardous Waste to include other types of waste that had previously been the responsibility of collaborating companies.

Telefónica Móviles España has a methodology defined by the Integral Management System, which identifies and removes waste from the

MANAGEMENT OF CUSTOMERS' USED BATTERIES AND HANDSET (08-21)

Country	Activities
Spain	Participation in activities such as the *Tragamóvil* (mobile-phone swallower), the objective of which is to recycle unused mobile telephones. Up to September 2004, nearly 53 tons of mobile telephone waste was eliminated, making a total of 175 tons since the programme got off the ground in 2001.
Argentina	A program for collection of batteries has been underway since 1999 (backed by the Wildlife Foundation and Secretariat of the Environment of the Government of the city of Buenos Aires), which has set up 27 deposit boxes in the Company's commercial offices.
Chile	The sales formula promotes the recovery of handsets through an exchange system, collecting a total of 280,618 units throughout the 2004 financial year. To achieve this, the process for the return of equipment from companies was changed, an informative letter sent out and a strict system of fines for non-return was applied, as well as a special unit that was set up for the removal of this type of equipment.
Colombia	Launch of a pilot program called *Celupilas*
Mexico	Planning for a similar campaign for the collection of batteries and handsets
Peru	16.6 tons of material were collected in 2004
Panama	Customer service offices are equipped with special containers for the collection of batteries
Uruguay	Launch of a pilot program called *Montevideo, te quiero pila*

WASTE MANAGED BY THE TELEFÓNICA GROUP COMPANIES (KGS) (08-22)

		Non hazardous waste Kg	Hazardous waste Kg
Telefónica Móviles	Argentina		20,000
	Chile	29,400	15,500
	Brazil	208,204	
	Ecuador		5,000
	Spain	480,688	1,038
	Mexico	307,481	71,596
	Peru	29,600	48,000
	Venzuela	20090	
Telefónica de España	Spain	12,504,862	1,004,789
TeleSP	Brazil	247,665	474,705
Telefónica I+D	Spain	91,355	10,151

WASTE MANAGED AT TELEFÓNICA DE ESPAÑA (08-23)

Amounts (kg)	2004	Amounts (kg)	2004
Non Hazardous Waste		**Hazardous Waste**	
Internal plant waste	3,767,857	Bio-sanitary waste	9,413
Waste wire	5,196,982	Radiological waste	500
Telephone equipment waste	1,215,248	Battery waste	945,273
Telematics equipment waste	87,651	Hazardous waste managed by Logistics	5,937
Scrap aluminum	6,249	Removal of halon	43,666
Scrap iron	516,894		
Wood	369,760		
Polycarbonates, ABS and other plastics	50,356		
Paper for recycling	1,282,465		
Vehicles for scrap yard	11,400		
Total	**12,504,862**	**Total**	**1,004,789**

construction and installation of base stations and from the Company buildings:

· Waste produced by network activities is handled through the supplier companies.

· Containers are distributed throughout office buildings and points of sale to deal with urban / municipal waste (paper and cardboard) and hazardous waste, such as batteries, telephone batteries and fluorescent lights.

All the waste is subject to selective collection and is managed in keeping with the legislation in effect, through authorized waste managers who recycle and/or recover the materials where possible.

Other mobile telephony operators have also distributed special bins for the collection of paper in offices (Argentina, Chile, Colombia, Panama and Venezuela), toner cartridges from printers, fax machines and photocopiers (Chile and Colombia), a collection center for waste produced in technical operations, with recycling programs for scrap and batteries (Colombia) and separate containers for all types of waste: paper, organic, glass and plastic (Ecuador and Mexico).

In Brazil a new project for Recyclable Materials Management is now underway with respect to paper, construction work, maintenance and equipment. This project, shared by TeleSP, Telefónica Empresas Brazil and t-Gestiona, affects selective collection services, mercury lamps, electrical accumulators, transport and the final destination of the waste produced.

In Argentina, when the treatment process undertaken by contractors produces hazardous waste, these contractors must show documentation accrediting that their activity complies with all existing legislation applicable to that area. Contractors are responsible for removing all the hazardous

waste produced by the services they render to Telefónica.

Technological innovation and the passage of time make replacement of terminals inevitable, which produces waste materials that in some cases, such as batteries, are potentially hazardous to the environment. Despite the fact that management of this type of waste should not be the exclusive task of the operators, a responsible company is expected to participate in the reduction of the environmental impact that such waste could have if it does not take the suitable actions.

The companies operating in Spain are currently analyzing recovery policies as a result of the application of the new *Royal Decree on electrical and electronic equipment* and the management of the waste they produce. In the case of Telefónica de España, rented terminals are recovered and handled as waste; in the Telefónica Móviles companies, a series of different procedures has been developed for the recovery of batteries and handsets. With a view to making society more aware of the importance of recycling, a film was produced to show the full mobile telephone recycling process (available on the website).

For over five years, TPI Peru has had a campaign underway that includes the collection of out-of-date directories. The project also has a social component, as the money obtained from recycling the directories is donated to a charitable institution that promotes education among needy children. Nearly 204 tons of paper were collected in 2004. In Argentina, t-Gestiona also runs a recycling program for the benefit of charity.

d) Emissions into the atmosphere

The optimization of fossil fuel consumption linked to the use of energy naturally involves a reduction in the greenhouse gases produced

Estimated indirect emissions of greenhouse gases
(Co2 equivalent tons)

33,891
paper consumption
(Telefónica Móviles, TID, TPI, T-gestiona, T. de España)

1,601,030
power consumption
(Telefónica Móviles España, Telefónica de España)

(CO_2, NOx and CH4, amongst other), thus contributing to reducing one of the main problems that threatens our planet today.

For some years, the companies in the Telefónica Group have carried out improvement actions in favor of reducing GEGs (greenhouse effect gases):

- Renewal and reduction of the vehicle fleet, replacing vehicles not equipped with catalytic converters with others that comply with current regulations on emissions.

- Measures to save electric energy, such as raising maintenance temperatures in equipment rooms up to 23°C, disconnection of underused rectifiers, reducing time of use of management buildings, decreasing lighting in traffic areas in telephone centers, etc.

- Optimizing spaces occupied in buildings, isolating unoccupied areas to suppress their heating and air-conditioning.

- Internal awareness campaigns on energy saving.

- Use of alternative energy sources to power mobile infrastructure networks.

The contribution to greenhouse gas emissions resulting from transport, fuel consumption in generators and electrical power consumption in the activities of the Telefónica Group is estimated at 1.6 million equivalent tons of CO_2, taking the 2002 *CORINEAIR Guide* and the 2002 *Toxics Release Inventory* as references.

Certain substances used as coolants, solvents, propellants and fire extinguishing systems are harmful to the ozone layer, such as CFCs, HCFCs and Halon. The Telefónica Group companies are working toward the gradual elimination of this type of materials.

- In previous years, a project was undertaken to eliminate the Halon 1211 and 1301 at all Telefónica de España facilities. The project was completed in 2003, at which time the aforementioned substances were no longer in use at company facilities. In terms of other cooling agents, there is no longer equipment using CFC 11, and the equipment using HCFC22 is currently being replaced. The new cooling systems are designed to incorporate other types of coolants.

- Telefónica Móviles España has reduced the emissions of CO_2 into the atmosphere by nearly 5% with regards to the previous year, despite the increased volume of its operations.

- In 2004, Telefónica I+D worked toward the goal of reducing greenhouse gas emissions at its facilities in Boecillo through the use of its cogeneration plant, as opposed to conventional power systems. At the moment, the reduction achieved is around 1%, and the 5% goal has not yet been reached.

- In Brazil, TeleSP no longer purchases air-conditioning equipment with that uses CFC 11 and 12, nor fire extinguishers with Halon 1211 and 1301. With respect to HCFC22 (R22), the company has projected future demand of equipment using R-134, when possible within the options offered by its suppliers.

- In Argentina, Telefónica Móviles made an inventory of its air-conditioning and fire extinguishing equipment, with a view to determining the current status and drawing up an adaptation plan.

- In El Salvador and Guatemala, no cooling substances that damage the ozone layer have been used since 2003. In Colombia and Uruguay, the fire prevention systems use only clean, non-halon agents. In Panama, the use of R134, which does not affect the ozone layer, is quite generalized, and has replaced Freon R22.

CASE STUDY

DIRECT TELEFÓNICA CONTRIBUTION TO THE GREENHOUSE EFFECT (08-24)

Emissions in tons	Power in networks (a)	Power in offices (a)	Fuel consumption in generators (b,c)	Fuel consumption in vehicles (b,c)
CO_2 Equivalent (d)	1,323,749.86	277,280.43	22,095.36	33,414.61
SOx	13,432.81	2,813.72	4.69	7.11
NOx	4,133.76	865.88	247.80	132.12
COVNM	113.77	23.83	46.88	224.63
CO	250.30	52.43	107.15	2,241.71
CO_2	1,306,812.84	273,732.70	21,029.17	31,581.95
CH_4	22.75	4.77	1.34	20.41
N_2O	53.09	11.12	3.35	4.53

(a) Estimated from the 2002 Toxics Release Inventory issued by the Ministry of the Environment and on the information on net electrical power production published in the Electrical Energy Statistics in December 2002 (Ministry of the Economy and the Spanish Electricity Grid)

(b) Source: 2002 CORINEAIR Guide

(c) Estimation based on the sulfur content of the fuel used

(d) CO2 equivalent = CO2 + 21 x CH4 + 310 x N2O

- Telefónica Móviles in Chile and Peru have undertaken a gradual elimination of the use of gases that affect the ozone layer; thus, new cooling and fire prevention systems do not contain any of the damaging elements. Likewise in Mexico, since January 2005 these substances are no longer allowed in the cooling systems used in the new radio bases.

- In Ecuador, a plan for the reduction of the Freon R22 used at company facilities has been implemented, aimed at fully eliminating its use.

e) Electromagnetic emissions

Telefónica Móviles has a solid commitment to guarantee and ensure the safety of its infrastructures. It is also scrupulously respectful in its fulfillment of the current regulations and the laws in effect. Therefore, it not only rigorously controls the electromagnetic emissions from base stations, but also collaborates with the local authorities to achieve optimum deployment of the network, striving to provide internal and external communication of everything related to this important factor.

The base station emission measurement processes have been carried out in the various countries in which we operate (5,194 sites in 2004). They have always proven to comply, within ample margins, with the regulations in force, the limits established by the international reference bodies (ICNIRP, WHO) and health recommendations from the European Union, based on constant revision of ongoing research.

In Spain, Telefónica Móviles has continued its task of ensuring fulfillment of all regulations and respecting the limits established in *Royal Decree 10666/2001*, as well as in its work to provide information and transparency to all its stakeholders. In compliance with the aforementioned regulations and *ORDER CTE/23/2002* of 11 January 2002, a total of 4,214 certifications with measurements were carried out, including new sites or sites with significant changes, as well as in sensitive areas located less than 100 m from the base stations. In addition, a further 4,276 sites communicated in previous certifications have also passed inspection. These are sites that do not surpass 25 percent of the power levels or 50 percent of the field intensity levels of reference established in *Royal Decree 1066/2001* with the habitual presence of people in the surroundings; levels below the established limits were recorded at all such sites.

Moreover, the company keeps numerous channels of communication to society open to provide information on the impact of mobile telecommunications on health and the environment.

In Brazil, TeleSP complies with *Anatel Resolution 303*, which calculates the electromagnetic emission levels at all its transmitting stations. In keeping with this resolution, physical measurements were taken at a sample group of 1,400 antennae, while the remaining sites were calculated on the basis of statistics.

CASE STUDY

TELEFÓNICA MÓVILES ESPAÑA ENVIRONMENTAL COMMUNICATION (08-25)

Actions	2003	2004
Nº of sessions on the Telefónica Móviles España environmental web page	30,752	**58,299**
Nº of accesses to *www.sociedadmovil.com*	29,921	**26,739**
Nº of calls to 1488	5,046	**3,617**
Nº of queries responded to through *medioambiente@tsm.es*	47	**52**

100%

measured installations comply with international organization recomendations

In Peru, theoretical calculations were made for radio links with directional antennae in accordance with the procedures set out in the Regulations of the Ministry of Transport and Communications (*Supreme Decree No 038-2003-MTC on the Maximum Permissible Limits for Non-ionizing Radiation*), showing that the company complies with the aforementioned regulations, as the figures obtained are better than those required by the Ministry Regulations.

All mobile telephones must comply with the standards that ensure that the maximum radiation levels specified in the standards are not exceeded. The World Health Organization and the *International Commission on Protection against Non-Ionizing Radiation* (ICNIRP) oversee the levels specified in the various standards. The limit value SAR (Standard Absorption Rate) generally used for mobile phones is 2.0 Watt/Kg average for each 10 grams of tissue. This value includes a considerable safety margin to protect users and exclude divergent measurement.

The SAR figures may vary depending on the requirements set in the different countries and network bands. Although the SAR value may vary in function of the handset or the position in which it is used, all the figures comply with the EU requirements for exposure to radio electric wave emissions. The set of practices used by manufacturers in relation to terminal SAR is the SAR measurement according to the European directive R&TTE (EC seal), checking that the limits set by the *International Commission on Protection against Non-Ionizing Radiation* are complied with. All this information, the SAR data measured (specific for each terminal) and the information on the ICNIRP values are systematically provided in the instruction booklets accompanying each handset.

At the same time, despite the fact that there is no scientific evidence that antennae and mobile telephones, within the limits established, may be harmful to health, citizens'

concern has made it sensible to continue to provide more training and information both for employees and for the public in general.

- Given the alarm caused by mobile telephony facilities arising largely due to lack of knowledge and misinformation, Telefónica Móviles España wishes to assist in calming such public fears by providing clear, detailed information on its services and the technology on which they are based. Along these lines, Teléfonica Móviles has designed a training course on mobile telephony which furnishes all the necessary information related to this service and its multiple applications, its operation and the infrastructures behind it, the regulations in effect and the latest, state-of-the-art scientific data regarding electromagnetic emissions and their effects on health. In addition, it includes a glossary of the most common terms used, as well as a full informational dossier for all those who wish to receive further information.

- The Intranet at Telefónica Móviles Argentina offers information to employees regarding radio electric wave emissions.

- Telefónica Móviles Chile furnishes a half-yearly report on power density measurements to the *Undersecretary of Telecommunications* (SUBTEL).

- In Ecuador, an e-learning module on antennae and health was posted on the company Intranet and website; also undertaken were a series of informative talks to publish the information from the World Health Organization and the publication of a brochure developed for informative meetings with communities.

- In Mexico, the corporate Intranet health page posts the latest information in this respect, which is regularly updated, talks are held and informative brochures distributed

ELECTROMAGNETIC EMISSION MEASUREMENTS IN TELEFÓNICA GROUP COMPANIES (08-26)

		Sites measured in 2003	Sites measured in 2004
Telefónica Móviles	Argentina	130	**334**
	Chile	1,218	**532**
	Spain	5,872	**4,214**
	Panama	na	**15**
	Peru		**15**
TeleSP	Brazil		**1400**

n.a. No applicable

in all the regions of the country, both to employees and the public in general, with regards to emissions and health.

• In Panama, presentations on radio electric wave emissions have been made to the Inter-institutional Council, comprised of the Ministry of Health, the University of Panama, the Regulatory Body and representatives of Environmental Health Quality.

• In Peru, an international forum was held on the effects of electromagnetic waves on human health, attended by the Association of Public Service Companies (ADEPSEP), the Universidad Ricardo Palma, the WHO and municipalities from all over the country.

04 DEVELOPMENT OF SERVICES WITH A POSITIVE IMPACT ON THE ENVIRONMENT

The telecommunications sector has an enormous impact on the environment; however, and unlike what tends to occur in other business sectors, this impact is largely positive. Thus, communications contribute to efficiency and savings in valuable resources such as electrical power, product dematerialization and the optimization of transport processes in the most effective manner.

Certain services that are traditionally considered to have a positive impact on the environment are teleworking, remote office, audio and video conference calls, tele-education, e-commerce, mobile service to consult personalized information, network answering machines and call identification. The impact of these services is even greater when considering transport and distribution systems, energy efficiency in buildings, and savings in paper through electronic or non-paper catalogues and invoices (for example, the replacement of individual answering machines by network answering services).

Moreover, advanced mobile telephony services may also contribute to reducing environmental impact. For example, thanks to *Third Generation* mobile telephony, it is now possible to send control and environmental data in real time from UMTS mobile devices. These devices have a broad range of uses, such as for measuring pollen and spores, noise, the ozone level, water quality or fire control. Other 3G applications useful for the environment include monitoring wildlife and dumping control.

In January 2002, Telefónica I+D commenced a procedure addressed at systematically evaluating the environmental impact of its latest developments. In the course of 2004, 318 projects were analyzed, as compared to 353 in 2003. Amongst the conclusions reached were the following:

• 54.72% enabled the update or future repair of equipment or facilities.

• 32.4% involved a reduction in transport needs

• 32.2% entailed a reduction in transport needs

The methodology used to objectively evaluate project impacts was revised in 2004. This involved the environmental evaluation of an Intranet application and the compilation of a bibliography on the environmental evaluation of information and communications technologies.

With a view to promoting debate on the role of telecommunications in the sustainable development of the planet, on its website Telefónica has begun to publish a series of monthly articles that analyze the relationship between the use of the new technologies and sustainability. The first articles focused on the impact of tele-working, the use of energy in the information society and the digital home.