



Environmental
Report
2010



RED ELÉCTRICA DE ESPAÑA

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PRESENTATION

Respect for the natural environment and the conservation of biodiversity are key principles of our business management. For this reason, all our activities are carried out in accordance with strict environmental criteria, in line with the principles assumed in our environmental policy.

In 2010 we approved a new edition of the environmental policy which expressly brings together the firm commitment that Red Eléctrica maintains to significantly contribute to the achievement of a more sustainable energy model, with a greater presence of energies originating from renewable technologies, as well as the clear intention to advance in the fight against climate change, with the firm backing of energy efficiency as a fundamental pillar.

These sustainability commitments which are derived from our environmental policy are specified in various key aspects that we carry out in the execution of our business activities:

- The significant investment made in the structural strengthening and meshing of the transmission grid, with the purpose of increasing its capacity and reliability to facilitate the evacuation of renewable energies and, at the same time, allow the enormous changes in energy flows, which may be produced by renewable energies depending on the meteorological conditions, to be channelled and compensated for.
- The application of new functionalities and operation tools in our Control Centre of Renewable Energies (CECRE), so as to provide a greater visibility of these energies in real time and to increase the manageable power, with the purpose of maximising its safe integration into the electricity system.

In 2010, this fact led to 35% of electricity production being of renewable origin, noteworthy was wind power energy with 16% which has given rise to a 21% reduction in CO₂ emissions derived from the generation of electricity as compared to 2009.

- The promotion of energy efficiency and the development of demand-side management initiatives that contribute to the displacement of demand from peak hours to valley hours as well as the promotion of a more interactive behaviour of the demand in order to contribute to the compensation of the variability of renewable generation. The promotion of smart charging systems for electric vehicles is also included within this scope.
- And, finally, the control of our greenhouse gas emissions, where we maintain the objective to reduce to the maximum those related to SF₆ gas (sulphur hexafluoride), as well as to compensate a great part of our direct emissions, 49% in 2010, by means of the planting of trees.

Another one of the outstanding aspects of 2010 was the approval of our biodiversity strategy that, structured on five main axes, defines the stages and action criteria to follow so that the biological diversity conservation is integrated into our business management.

The primary objective of this strategy is to develop and maintain a transmission grid which is sustainable and compatible with the natural environment. In addition its objective is to promote biodiversity through the development of different initiatives that slow down its loss. This is done by means of collaboration with organisations that encourage the conservation and improvement of biodiversity, and promote environmental projects in local communities aimed at preserving ecosystems and indigenous species.

On the other hand, in 2010 the degree of fulfilment of the environmental programme increased considerably with respect to the previous year, increasing from 56% to 71%. In this context, the electricity interconnection between the Spanish peninsula and the Balearic Islands stands out as the project, currently in progress, of greatest environmental relevance regarding the preventive and corrective measures carried out in its execution. Similarly, it is noteworthy that we have successfully finished the plan for the elimination /decontamination of equipment containing PCBs (auxiliary and power transformers).

In the scope of R&D&i, work in collaboration with institutions and organisations was carried out on projects for the fighting and prevention of forest fires, as well as for the protection of flora and birdlife. Amongst these, worth noting is the Vulcano project for fire prevention, the modelling of the growth of forest masses or the design of migratory bird flows in autonomous communities. Lastly, I would like to highlight that 5 March 2011, World Energy Efficiency Day, the brand “Red Eléctrica eficiente” was presented. This brand provides the framework through which a large number of projects and initiatives are promoted by the Company within the scope of communication, awareness and research related to energy efficiency and through which it channels the implementation of all those measures aimed at securing a more efficient energy consumption. In this regard, it is worth highlighting the special mention granted to this initiative by the Jury of the Excellence Sustainability Club.

This report brings together all these activities and reflects our commitment and environmental responsibility that we maintain day after day in making the development of our activity compatible with the maximum respect and protection of the natural environment. That is our objective to continue being a sustainable, ethical and responsible company.

Luis Atienza Serna
Chairman

01

WHO IS RED ELÉCTRICA



We are responsible for the technical management of the Spanish electricity system. We are the owners of the Spanish high voltage electricity transmission grid and the only company in Spain specialised in the activity of electrical energy transmission.

on Internet

 www.ree.es

As operator of the Spanish electricity system (peninsular and extrapeninsular), our main function is to guarantee the continuity and security of the electricity supply and the correct co-ordination of the generation and transmission system. This is achieved by working in cooperation with the operators and agents of the Iberian Market for electrical energy, under the principles of transparency, objectivity and independence.

As manager of the transmission grid, we perform our function as sole transmission agent guaranteeing the expansion and development of the facilities, carrying out their maintenance and improvement following homogeneous and coherent criteria; and managing the flow of electricity between exterior systems which is carried out using the Spanish electricity transmission grid. We provide the operator of any other interconnected grid with sufficient information in order to guarantee a secure functioning and we also guarantee access to the grid by third parties under a regime of equality.

Our transmission infrastructure is comprised of: electricity control systems which manage and supervise the operation of the system, a circuit of 38,393 kilometres of high voltage transmission lines and 4,572 busbars in substations with a transformation capacity of 72,432 MVA.

38,393
kilometres
of electricity line

72,432
MVA
transformation capacity

Evolution of the facilities

		2008	2009	2010
Lines (km of circuit)	Kilometres of circuit	34,322	34,754	38,393
	400 kV	17,686	17,977	18,764
	220 kV and less	16,636	16,777	19,629
Substations	Number of busbars	3,162	3,385	4,572
	400 kV	1,055	1,114	1,185
	220 kV and less	2,107	2,271	3,387
	Transformation capacity (MVA)	62,859	66,259	72,432

All the activities we carry out are done so in accordance with a strict environmental policy, from an ethical commitment perspective towards society, integrating environmental protection into our business management with the objective of continually creating value. In order to do this, we have an Environmental Management Systems in accordance with the UNE-EN ISO 14.001:2004 standard certified in May 1999 and registered in the EU Eco-Management and Audit Scheme (EMAS) under registration number ES-SB-000013 since October 2001.

We are the first business group in the Spanish energy sector to hold the comprehensive triple certification: quality, environmental and occupational health and safety for all its companies.



We count upon an Environmental department which in December 2010 was comprised of 17 professionals, with widely varying educational backgrounds and who are experts in environmental matters and actively support all the organisational units in the performance of their daily activities. Additionally, the different territorial areas count on 19 technical professionals whose function is to control, on-site, all the environmental aspects which every Red Eléctrica facility undergoes during each phase: planning, construction and maintenance.

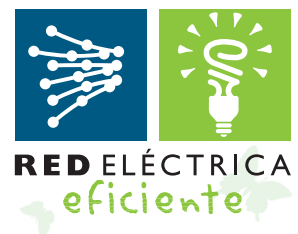
Respect for the environment, contributing to habitat conservation, correct waste management and minimising the consumption of natural resources is the responsibility of all our employees and collaborators in the development and execution of our daily activities.

The determined effort of Red Eléctrica to become a responsible, efficient and sustainable business model has been recognised by the main sustainability rating agencies. During this year, we have obtained recognition from the main sustainability indices due to the results obtained within the environmental, social, economic and corporate governance scope. Amongst these the following are noteworthy:

- For a fifth consecutive year Red Eléctrica renewed its presence in the Dow Jones Sustainability World Index with a score of 73 points out of 100, substantially higher than the sector's average (53 points) and a short distance from the global leader in its sector (84 points).
- A special mention from the Sustainability Excellence Club ("El Club de la Excelencia en Sostenibilidad") was obtained for the brand "Red Eléctrica eficiente" awarded within the framework of international benchmarking sessions regarding corporate responsibility.
- International award for sustainability and development, awarded in the category of large companies by the Asociación de Empresarios de Alcobendas (AICA), after the evaluation of 32 companies from Spain, Portugal, Andorra, France, Mexico, Argentina and Brazil.

[more information on](#)

www.ree.es - Corporate Responsibility section



02

ENVIRONMENTAL POLICY

The Red Eléctrica Group expresses its commitment to protect the natural environment and undertakes to promote and ensure that each employee in the Group performs their daily work with the maximum respect for the environment. This is achieved through on-going improvement in the fulfilment of their responsibilities and functions.

The principles of our environmental policy are as follows:

- Guide the Group towards **sustainable development**, seeking to maintain the adequate balance between respect for the environment, the promotion of progress, social well-being and economic interests, with the objective of creating value on an on-going basis.
- Seek **leadership** in environmental issues in all the companies of the Group within their scope of activity.
- Ensure **compliance with the environmental legislation, regulations and laws** applicable to the activities they carry out and adopt as many **voluntary commitments** regarding environmental matters which are considered of interest.
- Guarantee **continual improvement, the prevention of contamination and the principle of precaution**, according to the objectives and capacities of the Group.
- Promote **research, development and use of new technologies and processes** with the objective of preventing or minimising environmental impacts.
- Contribute to a **sustainable energy model**, with a greater presence of energies generated by clean and efficient technologies regarding electricity consumption.
- Develop and maintain a **transmission grid which is compatible with its surroundings**.
- Drive the conservation of **biological diversity** through active collaboration in initiatives which help reduce their loss.
- Adopt a clear commitment in the fight against **climate change**, promoting energy efficiency as a fundamental basis.
- Develop and provide on-going actions of **training, awareness and motivation** regarding environmental protection.
- Maintain means and channels of **communication** for informing and communicating with all interested parties regarding environmental related activities whilst promoting **collaboration frameworks** with stakeholder groups.
- Consider environmental requirements as one of the criteria in the selection and evaluation of **suppliers**.

** Fourth Edition approved by the President's Office in October 2010.*

03

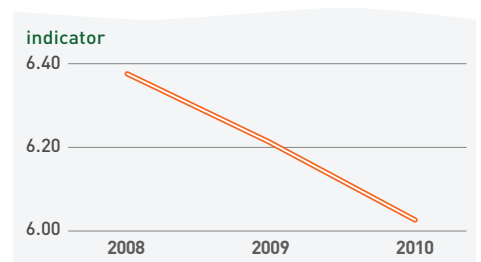
INDICATORS

By way of introduction, the following is a numerical representation of the information that is deemed most relevant, and which is detailed throughout this Environmental Report.

Key indicators

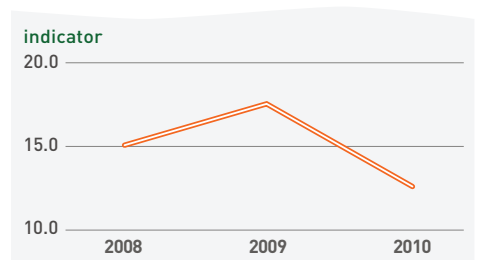
Electricity consumption at Head Office

A	MWh consumed			
B	Nº employees at Head Office			
Indicator	A/B			
		2008	2009	2010
A		5,252.23	5,307.60	5,367.54
B		825	854	888
indicator		6.37	6.21	6.04



Fuel consumption of vehicles

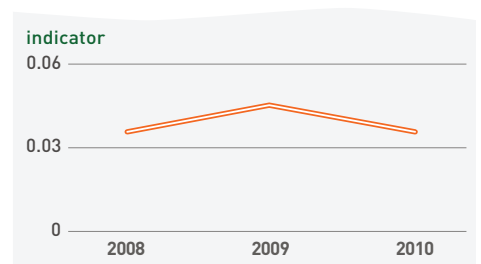
A	GJ consumed			
B	Total Nº of employees*			
indicator	A/B			
		2008	2009	2010
A		27,000	33,500	23,700
B		1,787	1,886	1,944
indicator		15.11	17.76	12.19



* Workforce employees + contracted personnel

Paper consumption

A	Tonnes (t) consumed			
B	Total Nº of employees			
indicator	A/B			
		2008	2009	2010
A		67,086	86,091	71,044
B		1,787	1,886	1,944
indicator		0.037	0.046	0.036



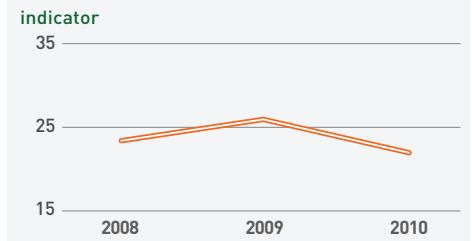
Water consumption at Head Office

A m³ consumed

B N° of employees at Head Office

indicator A/B

	2008	2009	2010
A	18,161	22,508	18,083
B	825	854	888
indicator	22.01	26.36	20.36



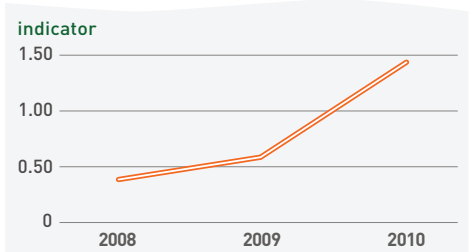
Hazardous waste

A Tonnes (t) of hazardous waste generated

B (*) Total N° of employees

indicator A/B

	2008	2009	2010
A	605.181	1,149.305	2,744.814
B	1,787	1,886	1,944
indicator	0.34	0.61	1.41



Direct greenhouse gas emissions

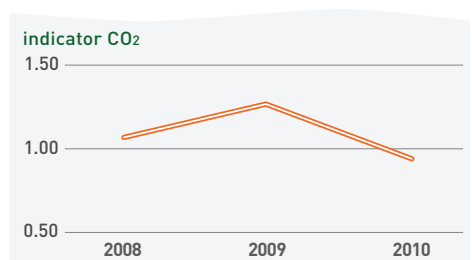
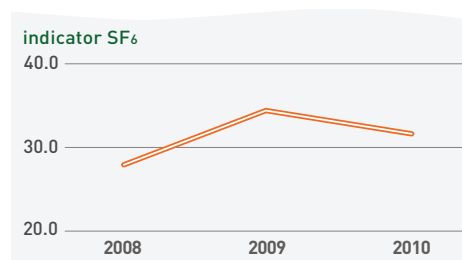
A Tonnes (t) of CO₂ equivalent

B Total N° of employees

indicator ⁽¹⁾ A/B

	SF ₆			CO ₂		
	2008	2009	2010	2008	2009	2010
A	48,455.00	65,764.28	61,500.50	1,995.00	2,437.00	1,714.73
B	1,787	1,886	1,944	1,787	1,886	1,944
indicator	27.1153	34.8697	31.6361	1.1164	1.2922	0.8821

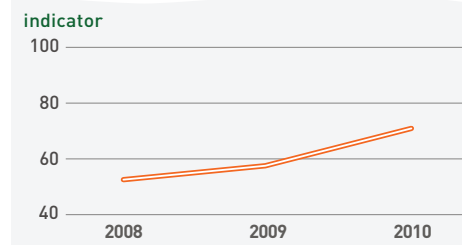
(1) Direct emissions derived from the activities are taken into account in the calculation of this indicator, which as described on page 38 are those emissions derived from the SF₆ gas losses and the emissions derived from the use of fleet vehicles.



Environmental performance indicators regarding activities

Compliance with the Environmental Programme

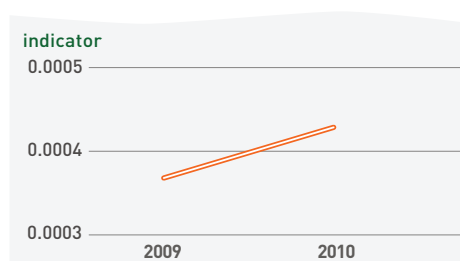
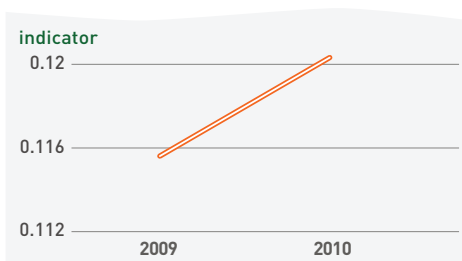
A	Environmental Objectives Fulfilled		
B	Total number of environmental objectives		
indicator	A/B		
	2008	2009	2010
A	53.08	56.10	71.41
B	100	100	100
indicator	53.08	56.10	71.41



Biodiversity: Area of land occupied

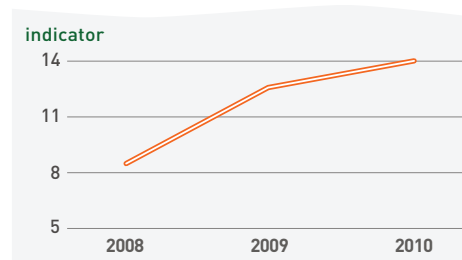
A	Area of land in Red Natura occupied by lines (m ²)		
B	Total area of Red Natura (m ²)		
indicator	A/B x 100		
	Lines		
	2008	2009	2010
A	no data	171.04*10 ⁶	165.66*10 ⁶
B	no data	148,045.75*10 ⁶	137,653.18*10 ⁶
indicator	no data	0.1155	0.1203

A	Area of land in Red Natura occupied by substations (m ²)		
B	Total area of Red Natura (m ²)		
indicator	A/B x 100		
	Substations		
	2008	2009	2010
A	no data	55*10 ⁴	58*10 ⁴
B	no data	148,045.75*10 ⁶	137,653.18*10 ⁶
indicator	no data	3.715*10⁻⁴	4.217*10⁻⁴



Biodiversity: Protection of Birdlife

A	km of lines in SPA's marked with bird flight diverter devices		
B	Total km of lines in SPA's		
indicator	A/B x 100		
	2008	2009	2010
A	255	375	412
B	2,897.81	2,941.72	2,949.8
indicator	8.88	12.74	13.97



The objective of the indicator is not the marking of 100% of the lines that cross SPA's as not all bird species present in these areas are susceptible to colliding with the cables. At this moment the elaboration of an indicator that better reflects the marking is being worked on (for its calculation the areas in which species at risk of collision exist will be taken into account, whether they are in SPA's or not).

Biodiversity: Impact of facilities

A	km of line in Red Natura			Nº of substations in Red Natura		
B	Total km of line			Total Nº of substations		
indicator	A/B x 100			A/B x 100		
	Lines			Substations		
	2008	2009	2010	2008	2009	2010
A	3,616.06 (SAC) 2,897.81 (SPA)	3,691.42 (SAC) 2,941.72 (SPA)	4,141.587 (Red Natura)	53 (SAC) 43 (SPA)	54 (SAC) 44 (SPA)	37 (Red Natura)
B	26,606.9	26,861	25,923.538	449	461	481
indicator	13.5 (SAC) 10.8 (SPA)	13.7 (SAC) 10.9 (SPA)	15.97 (Red Natura)	11.8 (SAC) 9.57 (SPA)	11.7 (SAC) 9.54 (SPA)	7.7 (Red Natura)

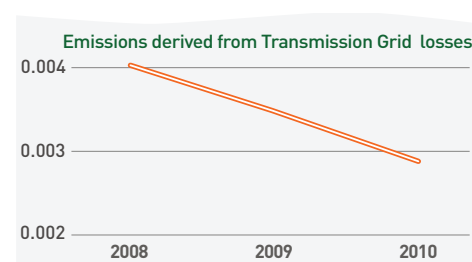
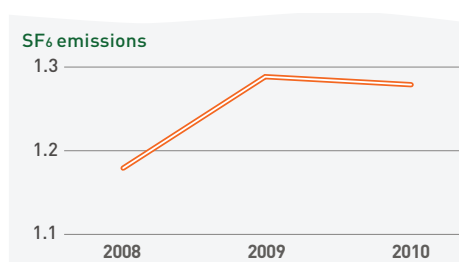
Biodiversity/Relations with stakeholders

A	Nº of autonomous communities with biodiversity projects		
B	Total Nº of CCAAs		
indicator	A/B		
	2008	2009	2010
A	no data	no data	10
B	no data	no data	17
indicator	no data	no data	0.59

Emissions

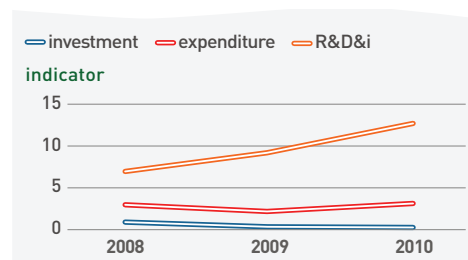
A	SF ₆ emissions (kg) (*)			Indirect emissions derived from losses in the Transmission Grid (tonnes of CO ₂ equivalent)		
B	SF ₆ installed (kg)			MWh transported		
indicator	A/B			A/B		
	SF ₆ Emissions			Emissions derived from losses in the Transmission Grid		
Año	2008	2009	2010	2008	2009	2010
A	2,0270	2,8840	2,6970	1,073,518	861,859	723,540
B	175,25	203,036	211,255	260,230,008	251,423,171	263,783,816
indicator	0,01156	0,01275	0,01262	0.00412	0.00342	0.00274

The most representative emissions related to the activity are the SF₆ gas emissions in relation to the total SF₆ gas installed, it has been considered more appropriate to use the tonne unit of SF₆ emissions instead of calculating them in tonnes of CO₂ equivalent.



Environmental costs

A	Environmental investment			Environmental expenditure			Environmental R&D&i expenditure		
B	Total investment			Total expenditure			Total expenditure in R&D&i		
indic.	A/B x 100			A/B x 100			A/B x 100		
	Environmental investment			Environmental expenditure			Environmental R&D&i expenditure		
	2008	2009	2010	2008	2009	2010	2008	2009	2010
A	5,078,780.39	4,427,759.53	6,277,588.17	17,150,041.92	13,651,980.44	18,866,104.90	496,108.42	600,471.56	618,489
B	613,654,000	734,766,000	2,286,488,000	621,333,000	639,328,000	725,556,000	7,010,000	6,780,278	5,020,000
indicator	0.82	0.60	0.27	2.76	2.13	2.60	7.07	8.85	12.30



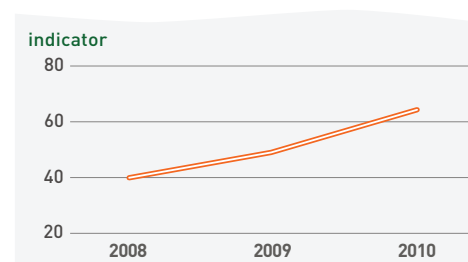
Training and awareness

A	Nº of employees who received environmental training		
B	Nº of employees		
indicator	A/B x 100		
	2008	2009	2010
A	125	247	48
B	1,443	1,604	1,560
indicator	8.66	15.39	3.07



Accidental spillage of hydrocarbons

A	Nº of accidents involving oil or fuel spills from in-service machinery and equipment		
B	Total Nº of accidents		
indicator	A/B x 100		
Año	2008	2009	2010
A	4	13	18
B	10	27	27
indicator	40	48.15	66.66



04

OBJECTIVES



The Environmental Programme of Red Eléctrica contains the set of environmental improvements which we intend to carry out throughout the period of one year. This Programme describes the environmental objectives which may be annual or multi-year, and includes the goals throughout the year for achieving each of these objectives.

Due to the degree of complexity of the activity carried out by Red Eléctrica, the geographical distribution and the multiplicity of actions, the Environmental Programme defines objectives which are directly linked to the improvement of environmental aspects and other objectives which contribute to environmental improvement of the processes. In the various sections of this Report, information is provided on how environmental issues are associated to the various activities, as well as on the contribution of the objectives to environmental improvement.

The overall compliance of the Environmental Programme 2010 was 71.41%, representing an increase of 15.31 percentage points with respect to the previous year.

The following is a table which summarises the objectives addressed during 2010 indicating their weighting within the Programme and their level of fulfilment for the year.

71.41 %
Compliance
of the environmental
programme, an increase of
15.31 percentage points
with respect to 2009



Aspect group/ Associated processes	Objectives	Character/ term	Weighting	Fulfilment	%	Page.
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Improvement activities associated to the prevention of possible effects on the environment

Presence of facilities	10% of the buildings of Red Eléctrica's new projects are integrated into the surroundings	Annual	5	3	60 ⁽¹⁾	22
Aspects regarding accidents in the maintenance process	Environmental risk analysis of 180 substations of Red Eléctrica	Multi-year (2007-2011)	15	8.75	58.33 ⁽²⁾	36
Biodiversity	Implementation on the Biodiversity strategy of Red Eléctrica	Annual	15	13.53	90.20 ⁽³⁾	31-33
	Control of maintenance activities in the corridors for electricity lines in those areas classified as as being susceptible to fire	Annual	10	10	100	54
	R&D&i projects for nature conservation (two)	Multi-year (2008-2010)	5	5	100	55

Improvement activities associated to the emission of greenhouse gases

Emisiones	Control and compensation of 20% of Red Eléctrica's emissions	Multi-year (2008-2010)	10	10	100	38-40
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Improvement activities associated to significant environmental aspects

Risk of leakage or spillage of hydrocarbons	Execution of 31 improvement actions at substations for the prevention of soil contamination	Multi-year (2007-2010)	15	10.37	69.13 ⁽²⁾	35
Consumptions	Efficiency improvements in consumption of natural resources: electricity and water consumption and the development of Red Eléctrica's sustainable mobility plan	Multi-year (2009-2010)	10	5.76	57.60 ⁽⁴⁾	44-46

Improvement activities associated to other significant aspects

Training	Development of Red Eléctrica's Environmental Training Plan	Annual	5	5	100	57
Communication/ Awareness	Execution of two environmental communication actions directed towards society	Annual	10	0	0 ⁽⁵⁾	59
TOTAL			100	71.41		

(1) Will continue in 2011. Objective: the incorporation of landscaping integration criteria in the design of new substations, within the framework of environmental action regarding responsible environmental investment designed for a three-year term.

(2) Will continue in 2011. Outside of the Environmental Programme until the completion of the global plan for the actions pending environmental improvement.

(3) Will continue in 2011. Objective: establish 17 activities regarding biodiversity in the 17 autonomous communities, within the framework of environmental action regarding biodiversity designed for a three-year term.

(4) Will continue in 2011. Objective: integration of renewable energies to cover 20% of energy consumption by 2020, within the framework of environmental action regarding climate change, energy efficiency and the saving resources designed for a three-year term.

(5) This objective will not continue in 2011. Actions to improve the relationship with stakeholders shall be tackled within the framework of specific action designed for a three-year term.



The total fulfilment of the Environmental Programme is the sum of the fulfilment of the different objectives.

The contribution of each objective of the Environmental Programme is weighted according to its importance and is scored out of 100.

In order to achieve each objective, a set of goals are defined. The fulfilment of each objective is the sum of the fulfilment of the goals due to be carried out during the year.

In the various sections of this report reference is made to each objective and in each case, the reasons are identified for those not obtaining a total fulfilment.

4.1. Environmental activity roadmap 2011-2013

The following environmental activity roadmap has been defined for a period of three years, aligned with the Strategic Plan of Red Eléctrica 2010-2014:

Responsible environmental investment

- Redistribution of environmental resources necessary for the 2020 Planning.
- Redistribution of environmental resources necessary for specific projects.
- Incorporation of the environmental requirements into the conditions for the acquisition of new property and which must be fulfilled, especially regarding the physical-chemical characteristics of the soil.
- Integration of environmental criteria into the construction of new facilities via environmental certification of the works (with special attention paid to landscaping integration).
- Approval and implementation of internal regulations concerning general criteria regarding construction which must include environmental conditioning factors.

Biodiversity

- Reduction in the potential risk of forest fires associated to Red Eléctrica's infrastructures.
- Reduction in the risk of collision of birdlife with Red Eléctrica's overhead lines.
- Promoting collaboration with stakeholders in the development of projects related to biodiversity conservation.

Climate change, energy efficiency and the saving of resources

- Development of the Climate Change Strategy that is applied to all the activities of Red Eléctrica and includes, as one of its main aspects, the integration of renewable energies.
- Has a horizon of 2020 and is aligned with European Union policy:
 - Reduction of Red Eléctrica's emissions by 20%.
 - Integration of renewable energies up to 20% of the consumption of its own buildings.
 - Saving of 20% of its own energy consumption in its buildings via the implementation of efficiency measures (at present not associated to transmission losses).
- Promotion of the brand "Red Eléctrica eficiente" amongst the management team as a tool to value all the activities regarding energy efficiency and which are carried out by the areas for which they are responsible.
- Optimisation of the electrical energy consumption in buildings, with the aim of achieving a higher level of comfort for the occupant, energy saving, economic saving and revaluation of the property, through:
 - Purchase of buildings. Fulfilment of Construction Technical Code.
 - Achieving a level B energy rating in newly constructed work centres and level C in existing work centres.
- Implementation of a sustainable mobility plan.

Improvement of environmental aspects in the facilities of the transmission grid

- Integration of the environmental variable in the process of electricity line corridor maintenance.
- Development and application of methodologies to improve the landscaping integration of Red Eléctrica's assets.
- Reduction in the potential risk of contamination of soils associated to Red Eléctrica's substations.

Improvement of relations with stakeholders

- Involve employees in environmental matters through training and awareness.
- Strengthen the relations with different administrations establishing agreements relating to environmental collaboration.
- Establish mechanisms to incorporate environmental requirements into the supplier chain. Essentially achieving that:
 - Supplies and suppliers identified in the qualification system as critical, count on a certified environmental management system.
 - Supplies and suppliers identified as non-relevant have ecological certification seals.

4.2. Environmental programme 2011

Based on the strategic lines set out, the following table summarises the environmental objectives approved by the Management for 2011.

Aspect group/ Associated processes	Scope of environmental improvement	Objectives	Frequency/ term	Weighting
Responsible environmental investment				
Presence of the facility	Prevention of effects on the surroundings	Incorporation of landscaping integration criteria into the design of new substations	Multi-year (2011-2013)	5
Construction process	Prevention of effects on the surroundings	Implementation of the environmental certification of works	Multi-year (2011-2012)	12
Climate change, energy efficiency and the saving of resources				
Emissions	Reduction in greenhouse gas emissions	Carrying out an inventory of Red Eléctrica's emissions. Defining of specific objectives and calculation methodology for its monitoring	Multi-year (2011-2013)	12
		Reduction in SF ₆ emissions	Multi-year (2011-2013)	10
		Integration of renewable energies in work centres to cover 20% of consumption (2010-2020)	Multi-year (2011-2013)	5
Energy efficiency	Activities regarding significant environmental aspects	20% reduction in energy consumption by 2020	Multi-year (2011-2013)	10
		10% reduction in the consumption of resources (2010-2020)	Multi-year (2011-2013)	4
Biodiversity				
Biodiversity	Prevention of effects on the surroundings	Risk map regarding birdlife collisions with facilities	Multi-year (2011-2013)	7
		Establish 17 action points regarding biodiversity in the 17 autonomous communities	Multi-year (2011-2013)	7
		Establish agreements for the fighting and prevention of forest fires	Multi-year (2011-2013)	3
Improvement in the environmental aspect of Red Eléctrica's transmission facilities				
Maintenance process	Prevention of effects on the surroundings	Incorporate Red Eléctrica's environmental criteria in the maintenance process of electricity line corridors (existing as of 31/12/10)	Multi-year (2011-2013)	10
		Reduce birdlife risks associated with existing facilities	Multi-year (2011-2013)	5
Improvement of relations with stakeholders				
Communication/ Awareness	Activities regarding other aspects	Design a new format within the environmental section of the external website	Annual	5
Suppliers	Activities regarding significant environmental aspects	Integration of environmental criteria in Red Eléctrica's supplier qualification process	Multi-year (2011-2013)	5
			TOTAL	100

05

ENVIRONMENTAL ACTIVITIES

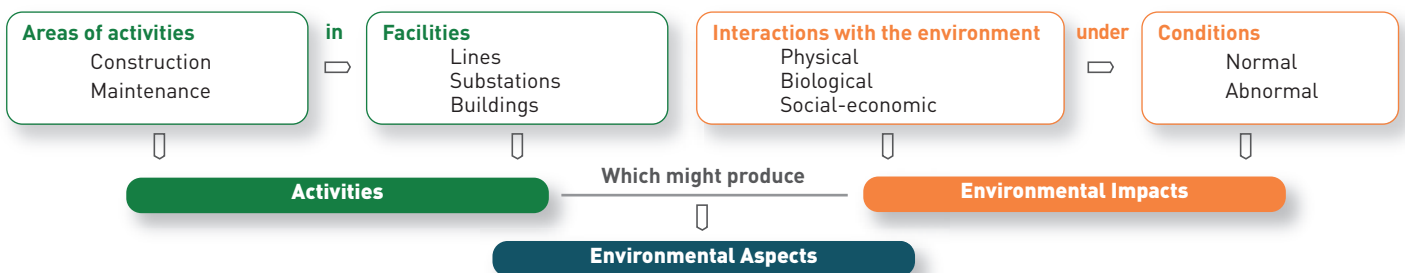
We work with the commitment to integrate environmental protection in the execution of our day to day tasks and activities.

During the **planning phase** we perform environmental studies on all our facilities and define alternatives, which are technically and economically feasible and have the least possible impact on the environment and society.

During the **construction phase** we conduct comprehensive environmental monitoring of all the works being executed, both for new facilities as well as for modifications to existing ones.

During the **maintenance phase** we systematically carry out periodic reviews and audits on the facilities in service which allow us to define and implement preventive and corrective measures, detect potential environmental incidents and verify the effectiveness of the measures put in place during the construction phase.

In all the planning and construction activities, as well as the maintenance activities, conducted on facilities in service, we identify and assess the direct and indirect environmental aspects that could interact with the environment, and which could lead to any type of negative impact, both under normal and abnormal operating conditions.



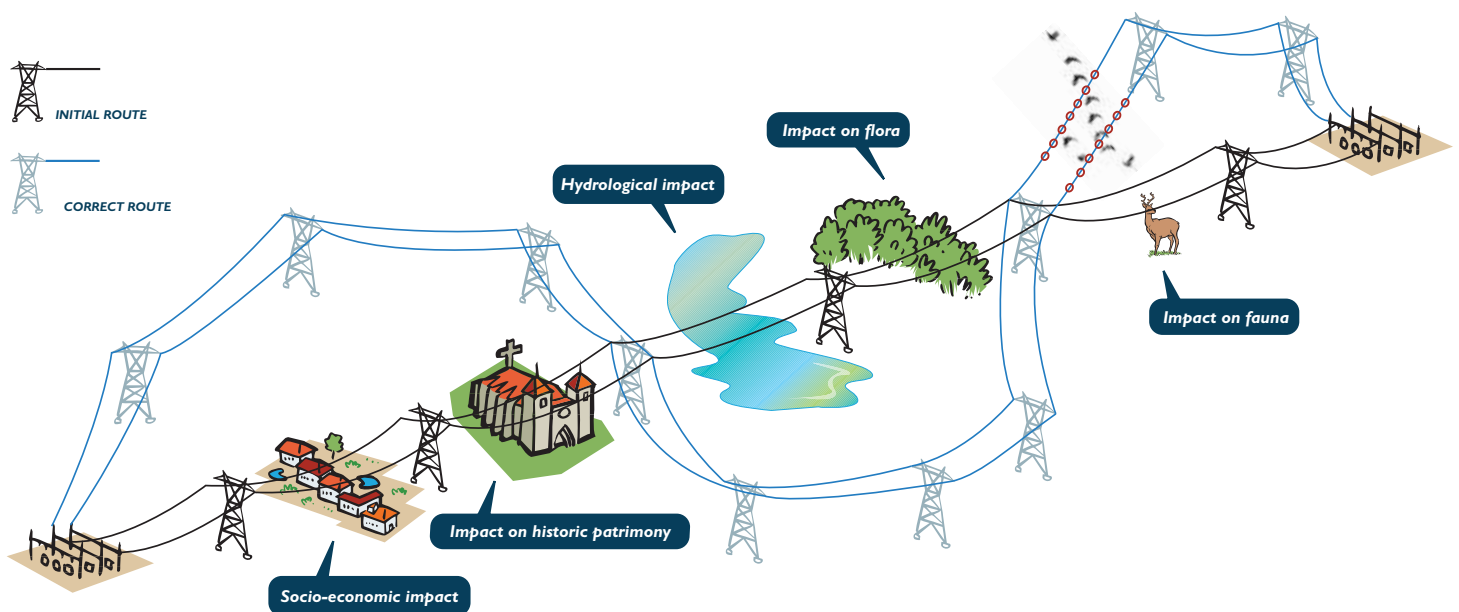
5.1. Environmental activities regarding facilities in the planning phase

Planning

During 2010 the environmental viability of the Electricity Planning 2012-2020 proposal was analysed. As a result, those projects deemed unviable have not been included in the planning proposal presented to the Ministry of Industry, Tourism and Trade (MITYC).

Additionally, Red Eléctrica continues to collaborate with MITYC on the Strategic Environmental Evaluation Process regarding electricity planning. During 2010, work continued on the calculation of indicators that allow the evaluation of environmental effects (positive and negative) derived from the execution of the Infrastructures Planning 2008-2016.

In addition, Red Eléctrica collaborates with several autonomous communities in the development of Regional Electricity Infrastructure Plans that allow the planning of the electricity sector to be shaped and articulated upon the territory by means of the reserving of those corridors necessary for its development.



Along these lines the following works are being carried out:

- **“Feasibility Study of Electricity Corridors in Castilla-La Mancha”**: Initiated by the Agencia de Gestión de la Energía de Castilla-La Mancha (AGECAM - Castilla-La Mancha Energy Management Agency) and whose results have already been incorporated in the Spatial Development Plan of Castilla-La Mancha, managed by the Department of Land and Town Planning.

- “Electricity infrastructure Corridors” in the permitting proceeding submitted to the Ministry of Industry, Energy and Mines of Madrid by means of an Infrastructure Plan.

In addition, the communities of Murcia, Valencia and Catalonia are currently being worked with in order to commence the development of similar works.

Projects

During 2010, environmental permitting proceedings for **39 projects** were begun (those included in the following table and 12 consultation documents presented to the various relevant environmental organisations concerned, for those projects not subjected to regulated procedures).

Proceedings initiated	2008	2009	2010
Initial document	116	33	13
Environmental document	52	29	14
Total initiated	168	62	27

Environmental authorisation for the following **43 projects** was obtained:

Positive Environmental Impact Declaration ⁽¹⁾

Moncada substation 400/25 kV (ADIF)
400 kV Moncada-Olmedilla line
Belinchón substation 400 kV
Santa Cruz de la Zarza substation 400/25 kV (ADIF)
400 kV Belinchón line-Morata-Olmedilla line
400 kV Belinchón line-Minglanilla-Morata line
400 kV Belinchón-Santa Cruz de la Zarza line
Brovaes substation 220 kV
220 kV Balboa-Brovaes line
EPIA accesos 400 kV Salas-Grado line
EPIA accesos 400 kV Grado line-Soto-Tabiella line
Tabernas substation 400/220 kV
400 kV Tabernas line - Litoral-Caparacena line
220 kV Tabernas-Benahadux line
400 kV Aldeadávila-F. Portuguesa line
220 kV Rocío-Aljarafe line
Calamocha substation 220 kV
220 kV Calamocha-Mezquita line
Enlargement of Catadau substation 220 kV
220 kV Bernat-Catadau line
220 kV María-Fuendetodos line
Santa Llogaia converter station
400 kV Santa Llogaia-French frontier line
400 kV Boimente-Pesoz line
Solórzano substation 220 kV
Cicero substation 220/55 kV
400 kV Solórzano line - Penagos-Abanto line

Environmental Resolution ⁽²⁾

Extension of Tres Cantos substation 220 kV
220 kV Cereal-Tres Cantos circuit
Carmonita substation 400 kV (ADIF)
400 kV Carmonita line - Almaraz-San Serván line
Pinofranqueado substation 400 kV
400 kV Pinofranqueado line - Aldeadávila-Arañuelo line
Repowering of 400 kV Pierola-Vic line
Galdar/Agate substation 66 kV
66 kV Galdar/Agate-Guía line
Galapagar 400 kV phase shifter
Repowering of the 220 kV Loeches-Coslada line
Repowering of the 220 kV Bellissens-Begues line
Repowering of the 220 kV Constantí-Penedés/Montblanc line
Repowering of the 220 kV Entrerríos-Montetorrero line
Repowering of the 220 kV Loeches-Coslada line
Modification of 220 kV Penedés-Viladecans section of line (2nd version)
Modification of 400 kV Galapagar-Tordesillas section of line
Modification of 220 kV Vandellós-Rubí/Pierola-Vic section of line
Modification of 220 kV Siero-Puente de San Miguel line (7-9)
Modification of 220 kV Siero-Puente de San Miguel line (53-55)
Modification of 220 kV Can Jardí-Pierola line (325-327)

⁽¹⁾ Authorisation resulting from the complete process of the Environmental Impact Assessment (Environmental Impact Study).

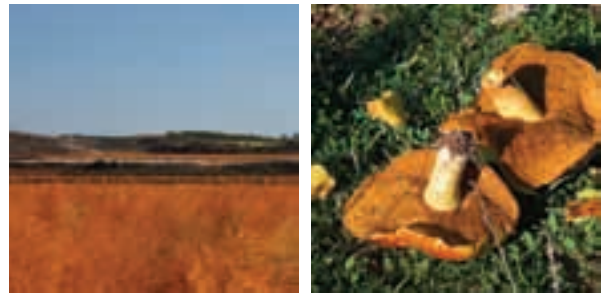
⁽²⁾ Authorisation resulting from the permitting proceeding of an Environmental Document (Environmental Impact Study summary).

Projects exempt from regulated environmental permitting proceedings (after publishing consultation document)

- 66 kV Bco. Tirajana - Carrizal line and 66 kV Arinaga substation
- Repowering of Les Franqueses-La Roca line (T de La Roca)
- Modification of 220 kV Astilleros-Penagos line (24-26)
- Modification of 220 kV Mudarra-T de Renedo line (68-80)
- 220 kV Renedo-Las Arrolladas line (11-112)
- Modification of 220 kV Juneda-Mangraners line (5-8)
- Modification of 400 kV Almaraz-Villaviciosa lines1 and 2 (32-35)
- 220 kV Almaraz-Casatejada lines1 and 2 (26-29)
- 220 kV Almaraz-Talavera/Almaraz- Torrijos line (27-30)
- Modification of 220 kV Jose María Oriol-Cáceres line (93-96)
- Modification of 220 kV Sabiñánigo-Sangüesa line (536-443)
- Modification of 220 kV Abadiano-Sidenor-Mondragón line (79.4-79.8)
- Modification of 220 kV Mondragón-Zumárraga line (22-25/29-31)

Cancelled projects

- Luminabaso substation 400/25 kV (ADIF)
- 400 kV Luminabaso line - Gatica-Güeñes line



The evolution of the conclusion of the environmental permitting proceedings regarding new facility projects over the last three years was the following:

Completed proceedings	2008	2009	2010
Positive Environmental Impact Declaration	6	12	15
Administrative Resolution	5	22	17
Total	11	34	32
Finalised Environmental Impact Studies	14	33	36

At year end, another 232 proceedings are at some stage or other of the environmental permitting stage.

We are committed to obtaining an environmentally responsible investment in the new facilities of Red Eléctrica. During 2010, 10% of the newly planned buildings of Red Eléctrica were defined as having integration with the surroundings as an environmental objective (*Objective n°4 of the Environmental Programme, 60% fulfilment*).

Along these lines, the criteria were established that allow a greater adaptation of buildings to the characteristics of the landscape according to specific geographical zones where these could be located in the future (*Goal 4.1: 100% fulfilment*). In addition the incorporation of these standardised criteria in the new projects of Red Eléctrica began, although this goal began late, which prevented it achieving the expected 10% (*Goal 4.2: 0% fulfilment as a result of not reaching the critical level of 5%*).

These activities will continue with the aim of achieving the standardisation of 100% of the buildings over the next three years. For 2011, the engineering and design of eight buildings is forecasted to be carried out.

5.2. Environmental activities in facilities under construction

We carry out environmental monitoring of the construction of new electricity lines and substations as well as renovations, upgrading and enlargements of those facilities already in service. This supervision consists mainly of checking the application of preventive and corrective measures defined in the project and verifying their effectiveness.

Following the line of work of 2008 and 2009, in 2010 reinforcing the environmental supervision continued regarding construction activities with the aim of ensuring the suitable fulfilment of the environmental requirements and verifying the effectiveness of the implemented preventive and corrective measures.

The greatest effort has been made regarding the supervision of new lines and substations, increasing the contracting of companies specialised in works supervision, which provide field support for the Red Eléctrica technician.

Increase in the contracting of companies specialised in works supervision

Environmental supervision (new facilities)

		2008	2009	2010
SUBSTATIONS	Total works supervised (*)	17	36	45
	Permanent environmental supervision (contracted)	2	7	23
	Contracted supervision %	11.76	19.44	51
LINES	Total works supervised (km) (*)	1,154.50	990.05	1,534.8
	Permanent environmental supervision (contracted) (km)	753.76	607.83	1,437.7
	Contracted supervision %	65.28	61.39	93.7
	Total works supervised (*)	27	33	55
	Permanent environmental supervision (contracted)	11	17	39
	Contracted supervision %	40.74	51.51	70.9

(*) The number of works supervised corresponds to the number of works in progress.

Activities regarding the construction of new lines and substations susceptible to generating environmental aspects are the following:

Activities that generate environmental aspects

Storage and transfer of oils and fuels

Storage and waste management

Work camps (substations)

Land compacting

Clearing, pruning and felling

Excavation and filling works

Concreting and cleaning containers

Hanging/laying of conductor and grounding cables (lines)

Equipment assembly (substations)

Use of machinery

The environmental aspects which are significant in the construction of new lines and substations are those detailed in the following table:

Significant environmental aspects in the construction of lines and substations

	Environmental aspect susceptible to impact	Impact
Affecting fauna ⁽¹⁾	Biological	Altering population behaviour
Affecting flora	Biological	Eliminating vegetation
Affecting soil	Physical	Possible modification of physical characteristics of soil, erosion etc.
Affecting historical and cultural heritage	Socioeconomic	Potential landscaping impact, affecting patrimonial sites, crops, etc.
Risk of fire ⁽¹⁾	Physical/Biological/Socioeconomic	Potential degradation
Risk of oil and fuel spillage during use of machinery ⁽¹⁾	Physical	Potential contamination of soil and water sources
Risk of oil and fuel spillage during storage and transfer of oils and fuels ⁽¹⁾	Physical	Potential contamination of soil and water sources
Risk of oil spillage during assembly of equipment ⁽¹⁾	Physical	Potential contamination of soil and water sources
Risk of affecting water during land movements ⁽¹⁾	Physical	Potencial contaminación de suelos y aguas
Risk of affecting birdlife ⁽¹⁾	Biological	Potential collisions
Non-hazardous waste	Physical	Generation of waste
Hazardous waste	Physical	Generation of waste

(1) Significant aspects in less than 50% of works.

As in previous years, we have applied preventive and corrective measures regarding new lines and substations trying to reduce the effect that the construction of the installation might cause to the environment.

In general, we commit ourselves to carrying out all the preventive and corrective measures covered by the Environmental Impact Studies and we assume as requirements those new measures that are included in the Environmental Impact Declarations.

Preventive Measures

- Storage of topsoil
- Hoisting of towers with boom crane
- Installation of bird flight-diverter spiral devices
- Archaeological survey
- Relocating of nests
- Biological stoppage
- Signage/markings off of habitats
- Hanging of lines by hand/helicopter
- Increasing height of towers

Corrective measures

- Landscaping actions
- Relocating of flora species
- Regeneration of pathways
- Forest repopulation
- Restoration of slopes by use of hydro-sowing and topsoil

Below the most noteworthy preventive and corrective measures carried out during 2010 are detailed:

Protection of flora and fauna

Noteworthy measures during the year were the following:

Protection of flora: Preventative and corrective measures

Modification of the project design during works

Udalla 400 kV Incoming and outgoing line

Compacting of towers with the distribution line in order to avoid the felling of oaks and Holm oaks (*Quercus ilex* and *Quercus rotundifolia*) in a wooded/scrubland area of public interest.

400 kV Sentmenat-Vic-Bescanó line

Increase in the height of towers in order to eliminate a tower located in the SAC protected area of Guilleries-Savassona. This has avoided the need to open an access road and reduced land movements, and reduced the impact on numerous holly trees (*Ilex aquifolium*).

400 kV Sentmenat-Vic-Bescanó line

Relocation of a tower (displacement of the route) to avoid the impact on holly trees (*Ilex aquifolium*).

400 kV Trives-Aparecida line

Relocation of 3 towers to avoid the felling of various chestnut trees (*Castanea sativa*), some of large dimensions.

400 kV Soto –Penagos line

Increase in the height of 70 towers in order to minimise the impact on flora, mainly avoiding the felling of leafy specimens.

Relocation of specimens

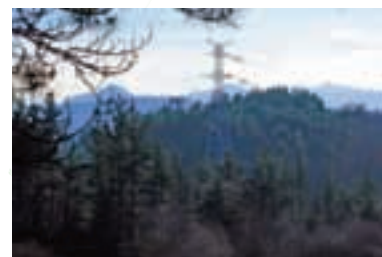
220 kV Santa Ponsa substation

220 kV Valldurgent substation

Transplanting of carob trees present in the area (18 in total) in order to assist in the landscaping actions in the area.

400 kV Soto –Penagos line

Transplanting of holly trees (*Ilex aquifolium*) affected by towers.



400 kV Soto–Penagos line.
Transplanting of holly trees

Marking and protection of habitats and areas containing protected species

220 kV Calamocha-Mezquita line

Botanical research prior to works and marking off of the access paths to protect the gypsophila flora and other indigenous vegetation.

Hoisting with a boom crane

This type of hoisting requires less cleared surface and narrower access routes, representing a lesser impact on the land and existing flora. A total of 187 towers have been hoisted with a boom crane.

220 kV Cártama-Alhaurín-Los Montes line

400kV Trives -Aparecida line

400kV Soto-Penagos line

400 kV Sentmenat-Vic-Bescanó line

Protection of flora: Preventative and corrective measures

Hanging by helicopter

A total of 94 km of line were hung by helicopter. This cable hanging technique avoids the need to open a corridor for cable hanging, hence avoiding the need to fell the vegetation.

400 kV Soto-Penagos line

400 kV Penagos-Güeñes line

400 kV Zierbena-Abanto line

400 kV Pesoz-Salas line

400kV Senmenat-Vic-Bescanó line

Manual hanging

400 kV Cabra-Guadame line

Manual hanging of line in a 4.5 km stretch, avoiding the need for vehicles and heavy machinery to access the area and therefore protect the existing flora. As a result of this measure, no impact was caused on the natural habitats of interest: *Salix alba* and *Populus alba* Riparian forests nor on thermo-Mediterranean riverside shrub land and riparian vegetation where the facilities cross the Guadalquivir y Guadajoz rivers respectively.

220 kV Cártama-Alhaurín-Los Montes line

Manual hanging of line in a 0.8 km stretch to protect two areas of unique Mediterranean shrub land in the area, containing species such as the Mediterranean Fan Palm (*Chamaerops humilis*), Purple Jerusalem Sage (*Phlomis purpurea*), Black Thorn Shrub (*Rhamnus oleoides*), Rockrose shrub (*Cistus albidus and monspeliensis*) and abandoned almond trees.

Udalla 400 kV line Incoming and outgoing

Manual hanging of a 2.2 km stretch of line.

400 kV Avenas-Requena line

Use of special techniques in order to carry out works

Spanish peninsula – Balearic Island interconnection

Opening a trench by means of a “trenching technology”, technique that minimises the impact on posidonian sea grass meadows (*Posidonia* sp.).

Restoration of natural spaces and areas affected by works

400 kV Sentmenat-Vic-Bescanó line

Decompacting and adapting of 6,000 m² of platforms, laying of 4,675 m² of coconut netting, hydro sowing of 30,500 m² (platforms and slopes) and 5,000 plants (*Brachypodium retusum*) were planted in the area around the towers located in the priority habitat of “Thero-Brachypodietaea” and hydro-sowing was not carried out in order to avoid the introduction of species alien to it.

400 kV Pesoz-Salas line

400 kV Pesoz-Sanzo line

Restoration of access paths and areas affected by land movements. Adding soil containing vegetable matter and sowing by hand. Part of the terrain restored belongs to the SAC Sierra de Lagos.

Protection of flora: Environmental improvement measures *

400 kV Penagos-Güeñes line

Improvement of 20 ha of pasture lands in the Armañón Natural Park (manual clearing, lime spreading and fertilizing).

(*) These improvement measures are not related to the potential or real effects of the facilities, but are related to an improvement in the biodiversity in the vicinity of these facilities.

Protection of fauna: Corrective and preventive measures

Relocation of specimens

Spanish peninsula – Balearic Island interconnection. Submarine section

The noble pen shell (*Pinna nobilis*) affected by the project were recovered and relocated.

Fencing off to protect species

Santa Ponsa substation

Fencing off work areas to avoid impacts on the spur-thighed tortoise (*Testudo graeca*).

Biological stoppages

400 kV Penagos-Güeñes line

Stoppage of works from February to August in a critical area of 1.3 km owing to the presence of the Egyptian Vulture (*Neophron percnopterus*).

Penagos. Var Piloña line

Stoppage of works from May to September due to the presence of the Egyptian Vulture (*Neophron percnopterus*).

Light pollution studies

Morvedre 400 kV Converter station

Execution of a light pollution study to prevent the effect on the fauna of the “Marjal dels Moros” wetlands. No impact on the same was detected and it was not necessary to modify the lighting systems.

Other measures

400 kV Fuendetodos- Mezquita line

Dismantling of a rubbish dump in the vicinity of the route of the line (to avoid impact on birds that might frequent the dump) and restoration of the area.

During 2010, 228 km of line has been marked, corresponding to 132 km of newly constructed line.

Socio-economic measures

Landscape protection

Minimising visual impact

400 kV Penagos-Güeñes line

Modification of the route of the line and dismantling of three towers near population nuclei.

400 kV Segovia-Galapagar line

Its construction has allowed the dismantling of 78 km of existing line crossing various population nuclei.

Landscaping restoration and adaptation

Santa Ponsa converter station

Landscape adaptation of the building and its surroundings: building painted in ochre colour, installation of dark green Majorcan type vents, construction in dry stone of the perimeter wall and exterior landscaping.

Penagos substation

Planting of vegetation screen on two sides.

Muruarte substation

Planting of vegetation screen, hydro-sowing and landscaping of the substation access and entrance.

Codonyers substation

Restoration of substation slopes and the slopes and platform of the aerial-subterranean converter tower. A total of 2,000 m² have undergone hydro-sowing.

Villanueva de los Escuderos substation

Restoration of slopes.

Benahadux substation

Replanting of vegetation on interior slopes using aromatic species and 38 Mediterranean Fan Palms (*Chamaerops humilis*) of about 1.20 m high.

Other protection measures regarding socio economic environment

Preventive measures

Spanish peninsula–Balearic Island interconnection.

Stoppage of works during the tourist season (May-October).

Corrective measures

Restoration of paths used during the construction of the facilities. Surface course mix was added in the cases where it was considered necessary.

400 kV Pesoz-Salas line

400 kV Pesoz –Sanzo line

400 kV Senmenat-Vic-Bescanó line

Complementary measures

400 kV Penagos-Güeñes line

Improvement of trails in the Armañón Natural Park (trails not affected by the project).

Archaeological heritage

During 2010 archaeological supervision was carried out during works involving the construction of 22 lines (with permanent presence of an archaeologist during the earth movement phase in 16 of these), and in 3 substations (with permanent presence of an archaeologist during the earth movement phase in 2 of these).

As special actions the following are noteworthy:

Protection of archaeological–ethnological heritage

400 kV Sentmenat-Vic-Bescanó line

The limits of the possible heritage sites near the works were marked off. Excavation and protection works were performed in the area of a roman road in the vicinity of an electricity tower (in the municipality of Centelles).

Morvedre submarine cable (Spanish peninsula–Balearic Island interconnection project)

Impacts occurred on the secondary galleries of ancient ovens. The layout plans for the galleries were obtained in order to study the route and assess the possible impacts. A measure to negotiate around the galleries was defined in order to avoid the destruction of these without modifying the route.

400 kV Trives-Aparecida line

With the object of avoiding an impact on a fort, an alternative route was designed for the line. Due to the fact that the new route could impact a well (47 m from the tower), an new archaeological study was carried out and it was communicated to the Heritage Dept. of the Xunta, who authorised its construction. The area was marked off and the works were subject to permanent archaeological supervision.

Complementary measures for the improvement of the archaeological heritage *

Regarding the construction of the 400 kV Penagos-Güeñes line, an archaeological study of the Biroleo and Peruxtote sites in the Natural Park of Armañón was carried out.

() Not related to the potential or actual impact of the facility, the actions are directed to improving the biodiversity of the surroundings of the facilities.*

Additionally, paleontological supervision for the 220 kV Jalón-Los Vientos line was carried out.

Social and environmental integration programmes for new facilities

REMO project

Work continued on compensatory measures corresponding to this project although they are not yet completed.

- **Activities to evaluate the effect of underwater activities on the sea bed.** In the summer of 2010, actions began, by the Universidad de Sevilla, to carry out monitoring on those infrastructures installed for the mooring of boats dedicated to underwater activities. It is anticipated that the results of the impact, positive or negative, of these activities on the different components of the marine environment shall be available in 2011.
- **Design and equipping of the migration monitoring station in the Strait of Gibraltar:** After the accumulated delay caused by the difficulty in locating an appropriate location in El Estrecho Natural Park, due in great measure to the protection regulations of the Park and the conditions for the implementation of new facilities in its area. In 2010 an agreement with the Ministry of Defence for the location of a siting a monitoring station in its former dependencies within the Park was signed.



5.3. Environmental activities in facilities in service

The following list indicates the activities, carried out in facilities in service, capable of generating environmental issues.

Activities that generate environmental aspects

Presence of the buildings
Presence of the line
Presence of the substation
Energy transmission and transformation
Maintenance of gardens/green areas and electricity facilities
Maintenance of security corridors
Maintenance of electricity towers
Use of machinery in line maintenance
Use and maintenance of equipment:
• Generators
• Fuel tanks
• Evaporative condensers
• Air conditioning equipment
• Intensity transformers and capacitor banks
• Power transformers
• Auxiliary transformers
• Oil collection pits
• Equipment with sulphur hexafluoride
Transfer of oil for equipment maintenance
Collection and/or storage of contaminating material
Consumption of natural resources
Waste



Regarding the evaluation carried out on the environmental aspects during the year, those which proved most **significant** are the following:

Significant environmental aspects ⁽¹⁾

Significant environmental aspects ⁽¹⁾	Environmental aspect susceptible to impact	Impact
Clearing, pruning and felling	Biological	Elimination of flora
Consumption of electricity and paper	Physical	Reduction of natural resources
Emissions of greenhouse effect gases (SF ₆)	Physical	Atmospheric contamination
Hazardous waste	Physical	Waste generation

Significant environmental aspects occasionally detected ⁽²⁾

Significant environmental aspects occasionally detected ⁽²⁾	Environmental aspect susceptible to impact	Impact
Birdlife collisions	Biological	Potential effect on the species
Leakages or spillages from machines containing a small volume of oil.	Physical	Potential contamination of soil and water
Leakages or spillages from power transformers.	Physical	Potential contamination of soil and water

(1) Significant aspects in the maintenance phase or in the majority of the regional offices (territorial distribution of facilities) and work centres.

(2) Significant aspects in less than three regional offices.

In 2010 a revision of the normal and accidental aspects identified was carried out from the date when the environmental management system of Red Eléctrica was implemented, with the following result:

- The group of aspects which were defined has been maintained.
- Some aspects were redefined so as to simplify them to make them easier to understand.
- Some evaluation criteria were redefined to better specify those which could have significant environmental impacts.
- Two new aspects were defined which were considered indirect and whose result was insignificant in their first evaluation:
 - **Collaboration with stakeholders:** considers the number of organisms or institutions with which it collaborates and the activities that are carried out with them. It allows the evaluation of the capacity of the organisation to promote activities of an environmental nature by third parties.
 - **Emissions associated to the consumption of electrical energy:** considers the emissions and the percentage of the demand that is covered by renewable energies. It allows the contribution of these energies in the reduction of greenhouse gas emissions to be evaluated.

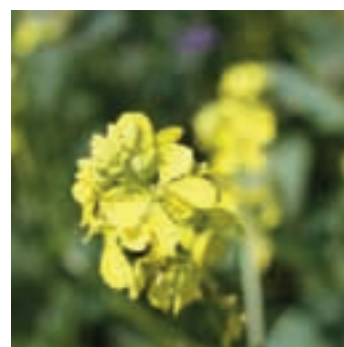
Of all of the environmental activities carried out during the maintenance of facilities in 2010, the following are noteworthy:

Activities directed to the protection of biodiversity

During 2010, the biodiversity strategy of Red Eléctrica was defined (*Objective n°5 of the Environmental Programme, 90.2% fulfilled*).

This document, that acts as a guide regarding internal regulations (*Goal 5.1: 100% fulfilment*), defines the guidelines and action criteria that must be followed on the part of the Company so that the conservation of biodiversity is integrated into the strategy of Red Eléctrica. This is based on five main pillars:

1. Integrate the conservation and sustainable use of biodiversity in the strategic plan of the company.
2. Establish mechanisms that assure the protection and conservation of environmental values in the activities carried out by the Company, especially in sensitive natural surroundings.
3. Promote a framework of communication and collaboration with stakeholders, increasing the visibility of the Company's commitment towards biodiversity conservation.



4. Reinforce the recognition on behalf of the institutions and of the national and international sustainability indexes.
5. Contribute to and encourage the participation in research, educational and awareness projects regarding matters concerning biodiversity conservation.

Another one of the goals of this objective consisted of the creation of working groups in 17 autonomous communities and the establishment of 3 agreements for the execution of projects starting from 2011 (Goal 5.2: 70.59% fulfilment). Activities with 12 autonomous communities were carried out and 3 collaboration agreements were signed with Aragon, Catalonia and Castilla y Leon.

Forest fire fighting and prevention and the protection of flora

In addition to the R&D&i programmes associated to the protection of flora (see section 6), noteworthy too are the following fields of action:

- **Predictive maintenance** through annual inspection and revision of the facilities:
 - Intensive - on foot (critical points)
 - Normal - on foot (2/8 of the facilities)
 - Intensive - from the air (1/8 of the facilities)
 - Normal - from the air (5/8 of the facilities)
 - LIDAR (Laser Imaging Detection and Ranging) - (specific facilities)
- **Preventive maintenance:** Preventive tree surgery maintenance by means of clearing land, timely pruning and felling with the least possible impact and fulfilling environmental safety distances and environmental factors of administrative authorisations.
- **Collaboration agreements:** At present signed agreements exist with Andalusia, Castilla-La Mancha and Aragon regarding forest fire fighting and prevention, the objective is to establish these agreements with each autonomous community.
- **Training and awareness:** Continuing with the task, initiated in 2008, to improve communication regarding forest fire fighting and prevention. During 2010 collaboration was carried out with INFOCA regarding the production of informative material concerning forest fire fighting and prevention that was distributed in schools in all the provinces of Andalusia. This was done within the framework of the agreement regarding fire prevention established with this autonomous community.



- **“Pastureland grazing as an alternative technique for the maintenance of electricity line security corridors” project.** Launched at the end of 2010, and carried out in conjunction with the Government of Aragon and the Official School of Technical Forestry Engineers, this consists of analysing controlled grazing as a tool for the maintenance of electricity line security corridors. Faced with the situation of the abandonment of rural areas and the necessity to secure effective measures in the prevention of forest fires, cattle management appears to be a clear alternative for the future. With this project Red Eléctrica seeks to offer alternatives that combine the creation of rural employment with the environmental benefit associated to the clearing and control of vegetation to reduce the spread of forest fires.

Protection of fauna

During 2010 some 228 km of line was marked with bird flight diverters, 96 km of this corresponded to lines in service.

The **Sustainability Laboratory** is a strategic tool whose objective is to establish a design and development space for sustainable projects based on dialogue and permanent collaboration with local communities. The aim of this collaboration is to secure a better conciliation between the interests of the social and environmental agents with the permanent presence of the company in the territory. Conciliation is carried out by means of the development of programmes and projects that promote sustainability and strengthen the integration of the company and the benefit to society. The activities which have been carried out through the Sustainability Laboratory are the following:

- **LIFE project agreement for the conservation of biodiversity in Western Iberia: “Campanarios de Azaba Reserve”:** Its objective is that the Campanarios de Azaba Reserve acts as a supply area for biodiversity as it is a pivotal enclave of spaces belonging to Red Natura 2000 which contributes to the improvement of populations of large birds (Black Stork, Black Vulture and Imperial Eagle), invertebrates and other species of maximum conservational interest such as the Iberian Lynx.
- **LIFE Project conservation and management of Special Protection Areas for Steppe birds in Andalusia:** Carried out in collaboration with the Ministry for the Environment, Ministry for Agriculture and Fisheries, ASAJA, COAG, UPA, the Association of Valle del Guadiato Municipalities, SEO, EGMASA, DAP, ENDESA and Fundación Enresa. Began in 2010 it is foreseen to be concluded in 2013. The project consists of the initiating of a series of measures to improve the situation in which various species of Steppe birds find themselves in and the project focuses on:



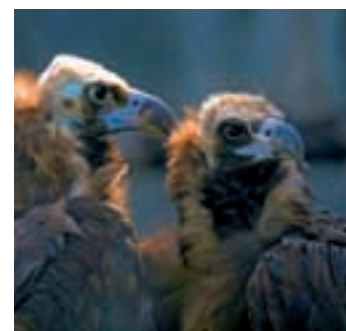
the Great Bustard, Little Bustard, Lesser Kestrel, Montagu's Harrier, Common Stone Curlew, Collared Pratincole, Black-bellied Sandgrouse and the European Roller. Implies the participation of 120 owners of affected land. To date, an agreement has been signed between the promoter and the participants and also a Project webpage has been set up.

- **Support for the sustainable development of the Valle del Castillo de Chuecos area:** Collaboration for the development of the Area management plan, promoting fire prevention activities and erosion process activities.
- **Study on the state of the Stone Curlew population (*Burhinus oedicnemus distinctus*) on the island of Gran Canaria and the threats to its conservation (2010-2012):** This is a project which is carried out in collaboration with the Biodiversity Service of the Canary Islands Government and Birding Canarias. Its objective is to ascertain the state of the population of this species, its distribution pattern and determining the factors that have negative effects on their conservation. To date, after conducting a census of the non-reproductive population, characterising the habitat and sampling sections of electricity line of Red Eléctrica, no accidents due to collision with those lines sampled were detected.
- **Support programme for mountain agriculture with activities regarding the improvement of the Brown Bear and the Wood Grouse habitat, compatible with the rural development of Redes Natural Park (Asturias):** a project which began in 2008 and is managed with the collaboration of the Fund for the Protection of Wild Animals (FAPAS). Its objective is to support the feeding of both these species by means of the planting of 2,000 fruit trees (cherry, chestnut and cider apple); and promoting mountain beekeeping, through the positioning of a pollination station with 30 beehives.



Other activities carried out throughout the year regarding biodiversity were:

- **Programme for the reintroduction of the Black Vulture (*Aegypius monachus*) in Catalonia:** This project is coordinated by the Rehabilitation Group of Indigenous Fauna and its habitat (GREFA), the Autonomous government of Catalonia (in collaboration with the Autonomous government of Extremadura, the Community of Madrid and the Caixa Catalunya Foundation). The project is based in the pre-Pyrenees area located in the Lerida region and includes field actions (marking and monitoring, control cameras, etc.) as well as dissemination and educational activities (November 2008 – September 2012). The programme was started for the recovery of the vultures in Europe; this began in France with Spanish Griffon Vultures and continued with the development of recovery programmes with various administrations in Italy, France and Spain. The aim is to create new



colonies forming natural corridors in the Mediterranean basin and the reintroduction of the species in Catalonia. The results at present are highly satisfactory having consolidated a nucleus formed by 22 individuals, with the forming of 4 stable pairs and producing the **first recorded successful breeding of the Black Vulture in the Pyrenean massif for more of a century**. Similarly, the effectiveness of the nesting platforms have been obvious as one of them is being used as a nest by a reproductive pair. The mortality rate of the released specimens has been reduced and the flight communication passage between Black Vulture colonies in Spain and France has been consolidated.

- **Captive breeding and gene pool of the Bearded Vulture (*Gypaetus barbatus*) (2010):** Collaboration with both the Government of Catalonia and TRENCA for the development of a new captive breeding module in the Pyrenean captive breeding centre and gene pool of the species in the Valcallent fauna centre (Lleida), Catalonia. To date, the construction of two breeding cages has taken place.
- **Conservation of the Lesser Grey Shrike (*Lanius minor*) in Lleida:** During 2010 and in collaboration with both the Government of Catalonia and TRENCA three release cages and one breeding cage were constructed as an urgent conservation measure.
- **Installation of nesting boxes for the Common Kestrel (*Falco tinnunculus*):** During 2010, in collaboration with GREFA, four nesting boxes were installed in the Viladecans substation (Barcelona), with the aim of improving the nest building base of this species and the occupation of these nesting boxes has been a success.
- **Installation of nesting boxes for the Soprano Pipistrelle Bat (*Pipistrellus pygmaeus*):** During 2010, and in collaboration with the Valencia Government, four nesting boxes were installed to improve the availability of nests for this species of bat in the Turia Natural Park Valencia and the occupation of these nesting boxes has been a success. This activity will continue in 2011.



Additionally, a large number of R&D&i projects are underway associated to birdlife protection. (See section 6).

Activities aimed at the prevention of contamination

During 2010 the following improvements regarding the facilities were carried out (Objective nº6 of the Environmental Programme regarding improvement activities in substations for the prevention of soil contamination, 69.13% fulfilled).

- Adaptation of the leakage containment systems for power transformers in five substations.

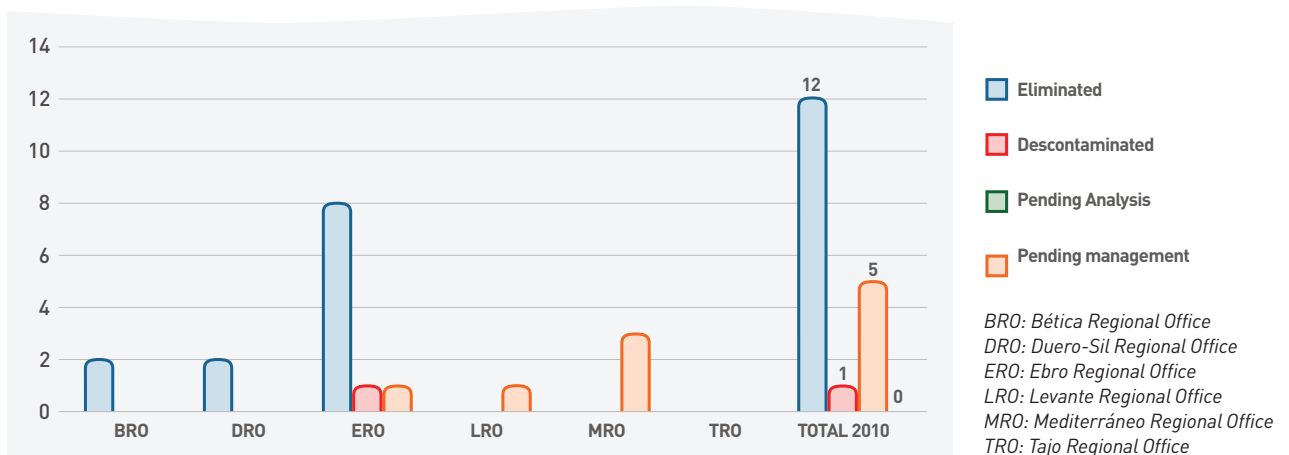
- Adaptation of the leakage containment systems for auxiliary equipment in eight substations.
- Oil-proofing of oil collection pits in two substations.
- Cleaning activities regarding gravel or soil contaminated with hydrocarbons in two substations.
- Improvement in the storage of waste in four substations.

In order to achieve a greater efficiency, the Management has decided not to include these improvement activities as an objective of the Environmental Programme until a plan has been prepared with all the pending measures. This will make it possible for it to be integrated into the corresponding annual programmes of the areas concerned, so that those areas are able to drive its fulfilment.

According to that established by current legislation, the plan for the elimination / decontamination of equipment with PCB (auxiliary and power transformers with more than 50 ppm) has been concluded within the established time limit.

The only question still to be confirmed by means of the corresponding analytical processes to be carried out in 2011 is the effectiveness of the decontamination of a power transformer; 2 shunt reactors and 2 auxiliary transformers.

Evolution of the Plan for the decontamination/elimination of PCB in 2010



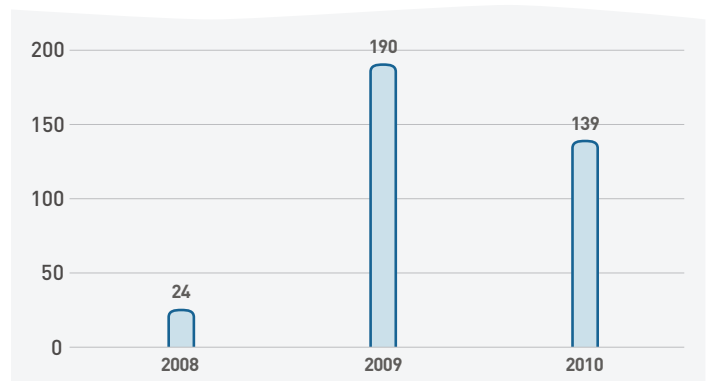
The environmental maintenance technicians have carried out a total of 139 environmental supervision visits to 105 substations different to those already supervised since August 2008, the year in which this activity began. (Objective n°2 of the Environmental Programme regarding the analysis of the environmental risk in 180 substations of Red Eléctrica, 58.33% fulfilled).

It can be concluded that the improvement points mainly continue to be focused on:

- Environmental authorisations from the Administration (wells, septic pits and the production of hazardous wastes).
- Equipment and potentials impacts (adaptation of the leakage and spillage containment systems of hydrocarbon from power and auxiliary transformers).
- Internal waste management (storage, segregation and labelling).

The results of these supervisions have allowed the identification of environmental improvement activities to be considered not only in the planning of renovation and improvement activities, but also in the maintenance programmes that will be included in the plan of pending activities mentioned in previous paragraphs.

Evolution of environmental supervisions



Similarly, during the year, scheduled inspections were carried out on all the insular and a part of the peninsular assets acquired at the end of 2010 and which will be considered from an environmental perspective as of 2011. The necessary dedication of resources to these supervisions condition the total fulfilment of the objective in which these newly acquired facilities were not considered.

Activities associated to noise pollution

During 2010 no measurement regarding noise pollution was carried out.

Activities associated to electromagnetic fields

During 2010 a measurement of electromagnetic fields was carried out in the municipality of Ortuella (Vizcaya) with results recorded below those recommended by the European Union.

In addition, consultations made by stakeholders have been answered (4 in 2010) and we took part in various forums to give information and to clarify those questions that are of the biggest concern to society. This year, noteworthy were the following activities:

- Participation in the «Environmental civic forum» of the municipality of Mieres, associated to the project for the new CAUDAL 220 kV substation and its incoming and outgoing lines.
- Presentation on EMF (Electromagnetic Fields) to the Heads of Civil Defence for Castilla y León.

Activities associated to greenhouse gas emissions

In March 2008, Red Eléctrica signed a **Voluntary agreement with the Environmental Ministry for the reduction of the emissions of sulphur hexafluoride (SF₆)** in the electricity sector, together with the Electrical Manufacturers Association (SERCOBE) and the Spanish Electricity Industry Association (UNESA).

During 2010, Red Eléctrica de España has carried out various works regarding the requirements contemplated in said agreement and for the improvement in the integral management of SF₆ in the facilities of Red Eléctrica. (Objective nº3 of the Environmental programme regarding the control and compensation of 20% of emissions in Red Eléctrica. 100% fulfilment). Thanks to these works a technical management training programme has been defined regarding the management of SF₆ and is due to be rolled out in 2011. (Goal 3.1: 100% fulfilment).

In relation to the training of personnel for the handling and management of SF₆ (a legal requirement), the relevant official bodies of the autonomous communities have not yet committed themselves regarding the requirements which must be fulfilled by the trainers, the courses, the evaluations and the registry of trained personnel. In spite of this, and with the aim of fulfilling the commitments adopted through the voluntary agreement, during 2010 the training schedule was drawn up and it is anticipated that the courses will be rolled out in the second quarter of 2011.

Direct greenhouse gas emissions

A Tonnes (t) of CO₂ equivalent

B Total number of employees

indicator A/B

Year	SF ₆			CO ₂		
	2008	2009	2010	2008	2009	2010
A	48,455.00	65,764.28	61,500.50	1,995.00	2,437.00	1,714.73
B	1,787	1,886	1,944	1,787	1,886	1,944
indicator	27.1153	34.8697	31.6361	1.1164	1.2922	0.8821

Greenhouse gas emissions (t CO₂ equivalent) *

	2008	2009	2010
Direct emissions			
SF ₆ emissions ⁽¹⁾	48,455	65,764	61,500.5
Emissions associated to the use of fleet vehicles ⁽²⁾	1,995	2,437	1,715 ⁽⁵⁾
Indirect emissions			
Emissions associated to electrical energy consumption ⁽³⁾	4,403.5	3,881	2,957
Emissions due to losses from electricity transmission ⁽⁴⁾	1,073,518	861,859	723,540
Totals	1,128,371.5	933,941	789,712.5
Emissions compensated as a result of planting trees ⁽⁶⁾	-	-2,430	-30,900

(1) Taking GWP to a 100 year horizon: 22,800 (Source IPCC, Intergovernmental Panel on Climate Change: 4th assessment report).

(2) Source used for the calculation: GHG Protocol initiative.

(3) The emission factor used was that calculated by REE taking into account the energy mix of each year and associating to each generation technology an emission factor in accordance with the values set out in the 2005-2010 Spanish Renewable Energies Plan.

(4) A part of the energy generated by companies does not reach the distribution network but is lost in transmission. Losses are related to: the location of generation points with respect to the consumption points, the amount of energy demanded in the year, the yearly energy generation mix (percentage of each generation technology in the total energy generated), international exchanges and the demand curve. Practically none of these factors are controllable by REE, whereby its reduction is difficult. However, REE works to identify and improve those which depend on their management. We consider this information of relevance, in the same way as the emissions associated to electrical energy consumption. CO₂ is not emitted during REE activities as they take place at the different energy generation points. The emission factor calculated by REE is used.

(5) In 2010, a total of 5,888,712 km was recorded.

(6) During the full life cycle of the tree. 1 tree = 300 kg of CO₂ during its life-cycle.

(*) This inventory does not include all the emissions that have been identified for REE. During 2011, a revision and inventory adjustment project will be carried out and the data that was possible to obtain during 2010 will be collated, its inclusion has not been considered in this fiscal year in order to maintain a period of three years which are comparable and therefore enable the evolution of the emissions to be appreciated.

Within this actual objective for the control and compensation of emissions, the project “**Bosque de Red Eléctrica**” (Red Eléctrica Forest) was defined. This project, which is permanently on-going, began in 2009 and in addition to the compensation of CO₂ emissions it aims to recover deteriorated natural areas through the planting of trees. In 2010 work was undertaken regarding the reforestation of 85 ha of highland areas, property of the Aragon Government (Montes de Castelfrío – SAC – and Ejulve (Teruel)), that had been affected by a fire in July 2009. Land preparation works have been carried out with the planting of 70,000 Pines (*Pinus sylvestris*) and 10,000 Mountain Ashes (*Sorbus* sp.) and in addition the sowing has taken place, using protective sleeves, of 23,000 Oaks (*Quercus ilex* and *Quercus faginea*).

Having reached the equivalent of 49% of the direct emissions of the inventory emissions (4% of the total inventoried emissions) results, through the plantation of these 103,000 trees, have far exceeded the compensation objective for the year. (*Goal 3.2: 100% fulfilment*).

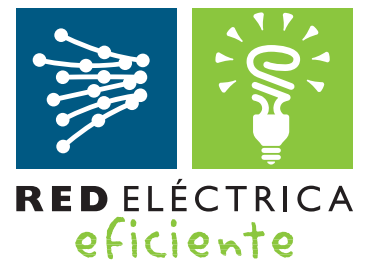
5.4. Efficiency in the use of natural resources

During our daily work we consume natural resources that form part of our environment, an excessive consumption of these resources would represent their ultimate exhaustion. We are conscious of this fact and therefore we attempt to work within guidelines focused on the reduction of basic consumptions such as water, electricity, paper, fuel, etc.

Energy efficiency

5 March, World Energy Efficiency Day, the brand Red Eléctrica eficiente was presented to all Red Eléctrica employees under the motto "Use energy wisely".

The objective of the event was to inform the management team and employees of the creation of the brand Red Eléctrica eficiente and its objectives. Additionally the presentation was centred on conveying that the key to success of the initiative is to internalise the efficiency criteria at a corporate level within all activities carried out by Red Eléctrica.



Acknowledgements

For yet another year, Red Eléctrica has participated in the international benchmarking sessions regarding corporate responsibility organised by the Excellence Sustainability Club and that are held with the objective of contributing to corporate excellence and the progress of society.

The sessions served as a think-tank to share experiences regarding energy efficiency matters. The Excellence Sustainability Club granted the jury's **special mention** to the Brand "Red Eléctrica eficiente".

Most relevant projects under the brand "Red Eléctrica eficiente"

A great number of projects and initiatives are encompassed under the criteria of the brand. In addition to those initiated in 2009, the following were new in 2010:

- a) The main idea behind the scope of **communication and awareness** is to inform society about the most adequate use of energy and raise awareness about the importance of the efficient use of this limited resource:
 - Intelligent Electrical Energy Consumption Guide.
 - Exclusive web space dedicated to the electric vehicle: in this space Red Eléctrica's

vision concerning the electric vehicle is explained, as well as the most significant projects in which it takes part.

- Energy efficiency project in la Raya: project carried out together with the Agrupación Europea de Cooperación Territorial Duero-Douro (AECT). Its objective is the improvement of energy efficiency in rural environments by means of carrying out energy audits in 107 municipalities of Zamora and Salamanca along the banks of the Duero River.
- “Sustainable and efficient use of energy” news bulletin published on the Red Eléctrica employee portal.
- The exhibition “The electricity highway behind the wall socket”. An interactive journey that invites the visitor to participate, experiment and discover what electricity is, how it is generated and transported and how to consume it in a sustainable way. The exhibit also counts on a projection room, different interactive materials and a didactic area where it is possible to participate in different workshops.
- Informative awareness sessions: A total of 30 sessions were held, amongst which the following are noteworthy:
 - Child focused awareness sessions regarding energy efficiency and sustainability (Zaragoza).
 - Informative sessions in Aldeadávila de la Ribera (Salamanca) regarding energy efficiency and climate change.
 - Informative sessions regarding “Energy efficiency in the electricity system: challenges and opportunities for the society on the Canary Island”.



b) The main objective behind the scope of **research and new technologies** is the development of new ideas that allow a more efficient use of energy, which on many occasions is linked to the development of new technologies.

- Projects associated to the electric vehicle:
 - Proyecto VERDE (Green Project) initiative, in conjunction with SEAT, for the development of a prototype electric vehicle which would allow an efficient integration of electricity into the grid.
 - DOMOCELL Project. Creation of a charging system in communal car parking garages that allows not only vehicle charging to be managed, but also the possibility of reintroducing energy back into the grid by means of the electricity stored in the batteries. (R&D&i project).
 - REVE Project (Regulating Electricity with Electric Vehicles). Analyses the technical and economic aspects derived from the contribution of all electric vehicles in use to guaranteeing the evacuation of wind power energy.
 - MERGE Project (Mobile Energy Resources in Grids of Electricity). Evaluates the impact of electric vehicles on European electricity systems, in particular, those



related to grid planning and operation, as well as to the electricity markets.

- VLPGO Association (Very Large Power Grid Operator Operators). Studies the effects of these vehicles on electricity systems.

- ADM (Active Demand-Side Management): Investigation regarding the conditions under which a more active participation of residential consumers could be obtained in the management of their demand. Specifically it deals with an investigation of an Active Demand-Side Management that consists of the set of measures that affect electricity consumption patterns by means of the active collaboration of consumers. 2010 saw the conclusion of the CENIT programme whose objective was to demonstrate that it is possible to manage residential demand acting specifically on home electrical appliances and intelligent charging, through the telemanagement of an infrastructure of advanced meters and to benefit the sustainability of the electricity system.
- Participation in the Spanish technological platforms for energy efficiency and the Digital Home: Red Eléctrica participates in these two sectorial platforms that aim to bring together knowledge from a wide selection of companies regarding energy efficiency and the digital home.

c) Within the scope of the **implementation of measures** are initiatives oriented towards the search for improved facilities and processes of Red Eléctrica in order to achieve a more efficient energy consumption in the workplace:

- Energy certification of buildings: Analysis of specific actions to initiate a progressive process of energy certification of Head office buildings under the scheme of the UNE EN 16.001 standard, integrating the energy variable in the management of processes and activities and consolidating the strategic backing for efficiency and the sustainable use of energy.
- Implementation of efficiency measures in buildings: In 2010 a multidisciplinary working group was set up whose objective is the standardisation of energy saving and efficiency criteria in maintenance centres, relay rooms and electricity substation centres. The measures are oriented towards the substitution of lighting systems, the incorporation of energy saving doors and windows and more efficient insulation systems; the installation of water reducing anti-splash nozzles; the installation of dual-flush toilet cisterns in bathrooms and this has been carried out in the following facilities: Head office, Albatross building, Tres Cantos building and the maintenance centres of Arañuelo, Guadame, Tajo de la Encantada, Lomba, La Mudarra, Siero, Gúeñes, Penagos, Fausita, Jijona, La Eliana, Loeches and Villaviciosa.
- Efficiency in IT systems: Definition of the sustainability policy of the corporate information systems, installation of new monitors and substitution of more efficient equipment in work stations and the definition of a consumption indicator of consumption for equipment in data processing centres.



- Energy efficiency analysis of equipment in substations.
- Charging points for electric vehicles. A pioneering initiative in Spain. To date, Red Eléctrica's facilities count on nine charging points distributed amongst Madrid, Seville and Valencia.

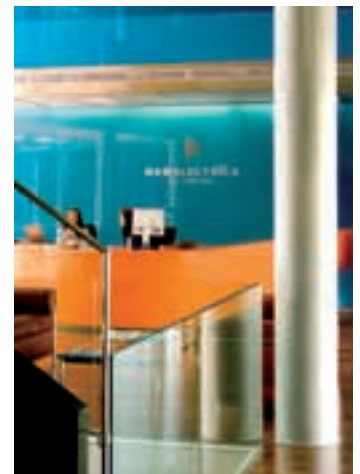
Other Red Eléctrica eficiente activities

- Creation of the exclusive section of the brand Red Eléctrica eficiente on the employee portal of Red Eléctrica "miRED" with sections such as: Update bulletin, agenda, information regarding branded projects, employee advice and links to the CO₂ Commitment calculator framed within the Action CO₂ project of the Fundación Entorno.
- Mobility Week: European mobility week was celebrated under the slogan "Move with intelligence and live better". Red Eléctrica participated in the various activities held during the week, offering a competition entitled, "Your city by bicycle".

Consumption of resources

Electricity consumption

Electricity consumption at the Head Office, the building in Tres Cantos and the extrapeninsular systems (Canary Islands and Balearic Islands), are not comparable to that of an average office. The Head Office comprises of a four-building complex dedicated to standard office activity. One of them houses the Electricity Control Centre (CECOEL) - where the coordinated operation and supervision in real-time of the generation and transmission facilities of the Spanish electricity system are conducted and also the Control Centre for Renewable Energy (CECRE) - to control special regime facilities (renewable energies and co-generation). Tres Cantos houses the Grid Control Centre (CECORE), a back-up system to the CECOEL system at the Head Office. The three control centres require electronic equipment and climate control systems which continually operate 24 hours a day, seven days a week. The extrapeninsular systems are comparable to that of CECORE (Tres Cantos).



	2008	2009	2010
Control centres (MWh)	3,028.521	3,090.109	3,141.881
Work centres (MWh)	10,872.067	10,825.378	10,745.418
TOTAL	13,900.588	13,915.487	13,887.299

As a rule the measures adopted for reducing the consumption are being efficient.

The data regarding the regional head offices is now available for the first time. If this data is considered (not included in the table), the total consumption was 7,058,290 kWh. Nonetheless, this data will not be used in comparisons until next year.

Worth noting in 2010 is the remodelling of the existing maintenance centre in La Eliana and the construction of the a new building in which several energy efficiency and savings means have been installed that have allowed a reduction of 8% in consumption compared to 2009.

As part of one of the goals contemplated in the improvement objective regarding efficiency in the consumption of natural resources (Objective nº1: 57.60% fulfilled), work has continued on the installation of electricity consumption meters. The level of fulfilment of goal 1.1 was 59%. It is foreseen to continue with this initiative during 2011 in line with the actions regarding climate change, energy efficiency and savings in natural resources.

Water consumption

The table below shows the evolution of water consumption in the period 2008-2010. The water consumed at the premises of Red Eléctrica comes from diverse sources; municipal water mains, wells, and cisterns.

	2008	2009	2010
Head Office (m ³)	18,161	22,508	18,083
Head Office (m ³ /employees)	22.01	26.36	20.36
Work Centres (m ³)	10,351	16,253	35,076.2
Work Centres (m ³ /employees)	25.18	37.71	54.47

The increase shown in the table is due to the availability of a greater number of metering points that now provide an improved record of real data. The true/real evolution of the consumption will be seen in the coming years.

Withdrawal by source (%)

	2008	2009	2010
Cisterns	0.62	1.05	1.65
Wells	30.73	65.16	45.66
Municipal water mains	68.65	33.79	52.69

In addition to the initiatives already mentioned in the section Red Eléctrica eficiente, in 2010 and as part of the objective regarding the improvement of efficiency in the consumption of natural resources set out in the Environmental Programme (*Objective nº1: 57.6% fulfilled*), work has continued regarding the installation of water

consumption meters at work centres (*Goal 1.2: 85% fulfilled*) and installation of water reducing anti-splash nozzles on the taps at all work centres (*Goal 1.3: 72.1% fulfilled*).

It is anticipated that this initiative will continue during 2011 in line with actions regarding climate change, energy efficiency and savings in the consumption of resources.

Paper consumption

The following table shows the evolution of the consumption of paper used to photocopy and print documents at all the work centres during the period 2008-2010.

Red Eléctrica has implemented a system based on a pay-per-use service, where the company contracted undertakes the full maintenance of the photocopiers installed in all the work centres and guarantees a more efficient use of them. Additionally, Red Eléctrica also has a document management system which provides easy access to information stored and reduces the number of paper copies.

	2008	2009	2010
Tonnes (t)	67.086	86.091	71.043
t/employee	0.037	0.046	0.036

A reduction in the consumption of paper was registered, due to a lower use of photocopying at the Head Office owing to the increased use of document scanning options, nonetheless, in overall terms the reduction has been significant in the majority of the Regional offices and work centres.

During 2010, and as a part of the “Red Eléctrica eficiente” initiative, 157 courses were imparted under the “Paperless Classroom” initiative. These courses were attended by an average of 10 people and each attendee was supplied with a PC Tablet as the sole working tool. This measure, in addition to reducing the consumption of paper and photocopier consumables, allowed the employees to have access to an electronic file that contains the course documentation in digital format, and which in turn facilitates access to the course material and also saves in physical storage space. This measure represented a **savings equivalent to 785 kg of paper**.

The following table shows the evolution of the consumption of paper used for publications during the period 2008-2010.

	2008	2009	2010
Tonnes (t)	78.478	49.961	64.640
% FSC *	46	25	42

** Ecologically certified paper in accordance with Forest Stewardship Council standards.*

As of 2010 all corporate brochures and informative signage/posters are printed on FSC certified paper (100% recycled).

Another of the effective measures put in place in prior years is the distribution in electronic format of corporate publications and reports such as the Annual Report, the Corporate Governance Report and the Corporate Responsibility Report by means of USB storage devices.

Fuel consumption of fleet vehicles

The following table shows the evolution of the fleet vehicle fuel consumption during the period 2008-2010.

Fuel consumption of vehicles

	2008	2009	2010
A - GJ consumed	27,000	33,500	23,700
B - Total N° of employees	1,787	1,886	1,944
Indicator A/B	15.11	17.76	12.19

The drive for meetings to be held via video-conferencing is allowing the number of transfers between the various offices of Red Eléctrica to be reduced and, as a consequence, the fuel consumption and exhaust gas emissions associated to the use of vehicles as well.

At present, of the 129 rooms available, 56% are equipped for this practice. The estimation of savings is detailed in the following table:

	2008	2009	2010
Litres of fuel saved	28,057.12	27,925.52	28,530.88
tCO ₂ not emitted	75.19	74.85	76

One of the goals of the objective for an improvement in the efficiency of the consumption of natural resources (Objective 1: 57.60% fulfilment) consisted of the definition of Red Eléctrica's Sustainable Mobility Plan (Goal 1.4: 0% fulfilment). Although it was not possible to be carried out in 2011, due to the complexity in the coordination of the different areas concerned, its continuity is anticipated within the guidelines of environmental action regarding climate change, energy efficiency and the saving of resources.

Along this line, in the head office a transportation service for employees is available, with a daily movement of 20% of the personnel, which avoids the emission of 76 tCO₂ annually.

5.5. Waste

Both in maintenance activities and in the construction of new facilities different types of wastes are generated, these are separated, stored and managed in the most suitable way.

In the in-service facilities, wastes are basically generated by renovation and improvement activities, the execution of preventive and corrective maintenance programmes in machines, equipment and auxiliary services in substations, line maintenance, access corridors for towers and the management of accidents.

It is worth highlighting that the volume of waste generated in maintenance is directly related to the number of in-service facilities that exist and given that these have been increasing over recent years, this has also produced an increase in the volume of waste managed.

We attempt to reduce, as far as possible, the amounts of waste we generate. This is done through the improvement of our processes and extending the useful life in those cases where it is feasible, as is the case with the regeneration of transformer oil. However, it is very difficult to establish criteria or predict waste generation patterns and therefore its minimisation. In addition we work in order to ensure waste management is constantly improved, attempting to separate to the highest possible degree, searching for the best possible options amongst our suppliers and fostering best practices through training and awareness.

In general terms the amount of waste generated in 2010 increased considerably with respect to that of 2009.

The key causes of hazardous waste have been the following:

- Adaptation to the standardised criteria of REE and in some cases, to current legislation, of assets acquired in previous years, has represented an increase in the management of oil/water mixtures by the emptying of leakage and spillage containment systems for power and auxiliary transformers, prior to modification.
- The conclusion of the Plan for the elimination/decontamination of power and auxiliary transformers and equipment with PCB, to comply with the 1378/1999 and 228/2006 Royal Decrees, by which measures for the elimination and management of polychlorinated biphenyls, polychlorinated terphenyls are established and apparatuses that contain them, has represented an increase in the management of transformers, equipment and oil with PCB.
- Asset renovation and improvement activities along with the campaign for the removal of instrument transformers stored in the facilities, which are



classed as obsolete and are used for spares, have represented an increase in the management of electrical and electronic equipment with hazardous components: equipment containing oil.

- The campaign initiated in 2009 for the use of an Integrated Management System for the withdrawal of Ni-Cd accumulators, in tandem with the plans for their substitution at the end of their useful life, has represented the immediate withdrawal of these elements without needing to be stored prior to its management.
- The progressive substitution of silica gel impregnated with cobalt chloride at the end of its useful life, by silica gel without hazardous components, has contributed to the increase of the amount of inorganic chemical agents managed.
- The campaign for the collection of out-of-specification bottles of SF₆, which remained stored in the facilities and was carried out during the year, has represented an increase in the generation of pressurised containers.
- The management of accidents related to the leakage and spillage of oil from power and auxiliary transformers has also contributed to the increase in the management of oil/water mixtures by the draining of containment pits.

Regarding non-hazardous waste, the most significant increases are due to:

- Adaptation to the standardised criteria of Red Eléctrica and in some cases, to current legislation, of assets acquired in previous years, have represented an increase in management of sludge by the draining of septic pits, prior to their adaptation or substitution.
- Management of vegetable-based material in the Levante regional office that could not be given to the owners nor be incorporated into the land.
- Removal of non-hazardous waste from obsolete electric and electronic apparatuses (RAEE), as and when necessary, from the Mediterranean regional office.

Waste generated during maintenance activities

Non-hazardous waste	Quantities managed (t)			Indicator (t/total N° employees)		
	2008	2009	2010	2008	2009	2010
Septic tank sludge	73.149	230.000	371.410	4.1E-02	1.2E-01	1.9E-01
Scrap metal	1,372.185 ⁽¹⁾	312.226	No data ⁽⁷⁾	5.6E-04	1.7E-01	No data ⁽⁷⁾
Inert waste	1,634.100	321.298	19.400	9.1E-01	1.7E-01	1.0E-02
Paper and cardboard	76.565	68.061	68.376	4.3E-02	3.6E-02	3.5E-02
Toner ⁽²⁾	0.311	0.081	0.066	1.7E-04	4.3E-05	3.4E-05
Wood	124.688	12.129	14.760	7.0E-02	6.4E-03	7.6E-03
Vegetable-based waste ⁽³⁾	15.520	6.550	34.030	8.7E-03	3.5E-03	1.8E-02
Electrical and electronic waste	0.542	2.965	35.251	3.0E-04	1.6E-03	1.8E-02
Plastics	0.000	2.245	1.152	0.0E+00	1.2E-03	5.9E-04
Vegetable cooking oils	5.020	3.680	4.060	2.8E-03	2.0E-03	2.1E-03
Total non-hazardous waste	3,286.559	952.685	514.475	1.8E+00	5.1E-01	2.6E-01

Waste generated during maintenance activities

Hazardous waste	Quantities managed (t)			Indicator (t/total N° employees)		
	2008	2009	2010	2008	2009	2010
Used oil	156.978	174.538	187.758	8.8E-02	9.3E-02	9.7E-02
Oil/water mix	41.694	60.140	533.863	2.3E-02	3.2E-02	2.7E-01
Diesel/water mix	0.000	0.000	2.120	0.0E+00	0.0E+00	1.1E-03
Transformers and equipment with PCBs	46.834 ⁽⁵⁾	33.960	180.655	5.6E-04	1.8E-02	9.3E-02
Oils with PCBs	82.874 ⁽⁵⁾	5.674	66.675	5.6E-04	3.0E-03	3.4E-02
Lead batteries	0.582	0.378	1.468	3.3E-04	2.0E-04	7.6E-04
Nickel/cadmium accumulators	2.548	20.946	44.723	1.4E-03	1.1E-02	2.3E-02
Batteries	0.034	0.095	0.005	1.9E-05	5.0E-05	2.6E-06
Hazardous electrical and electronic waste: equipment containing oil	108.169	355.317	1,219.789	6.1E-02	1.9E-01	6.3E-01
Hazardous electrical and electronic waste: Other			12.579			6.5E-03
Florescent tubes	0.388	0.818	0.297	2.2E-04	4.3E-04	1.5E-04
Earth impregnated with hydrocarbons	161.127	480.322	478.864	9.0E-02	2.5E-01	2.5E-01
Recipients that have contained hazardous substances	0.985	9.251	5.784	5.5E-04	4.9E-03	3.0E-03
Absorbent materials. filtering materials. cleaning rags/cloths and protective clothing contaminated with hazardous substances	2.235	5.980	2.728	1.3E-03	3.2E-03	1.4E-03
Silica gel and other inorganic chemical products	0.444	0.570	3.196	2.5E-04	3.0E-04	1.6E-03
Non-halogenated solvents	0.000	0.000	0.069	0.0E+00	0.0E+00	3.5E-05
Halogenated solvents	0.000	0.000	0.016	0.0E+00	0.0E+00	8.2E-06
Water-based cleaning liquids	0.200	0.000	0.000	1.1E-04	0.0E+00	0.0E+00
Paint waste	0.000	0.053	0.043	0.0E+00	2.8E-05	2.2E-05
Insulation material (with or without asbestos)	0.000	0.080	0.045	0.0E+00	4.2E-05	2.3E-05
Laboratory chemical products containing hazardous substances	0.075	0.420	0.050	4.2E-05	2.2E-04	2.6E-05
Gases in pressurised containers	0.014	0.762	4.078	7.8E-06	4.0E-04	2.1E-03
Waxes and used grease	0.000	0.000	0.009	0.0E+00	0.0E+00	4.6E-06
Total hazardous waste	605.181⁽⁶⁾	1,149.305	2,744.814	3.4E-01	6.1E-01	1.4E+00

(1) The large generation of scrap metal is directly related to the campaign for the adaptation of facilities.

(2) Since July 2006 the maintenance and replacement of equipment have been carried out through an external company that is in charge of their correct management. Only those toners that are not contemplated in the contract have been included in the figures.

(3) The majority of this waste has been handed over to the owners of the property, or has been incorporated into the land. In addition, other vegetable-based waste generated which was subject to the same treatment could not be quantified. It has not been taken into account as part of the non-hazardous waste total.

(4) Increase resulting from carrying out the decontamination/elimination regarding equipment containing PCB's.

(5) Data updated so as to include gases in pressurised containers.

(6) When producing this report, no data concerning the total volume of metallic waste managed was available. The information is being processed by the area responsible.

Types of management

Non-hazardous waste

Septic tank sludge	Treatment/Elimination
Scrap metal	Recycling
Paper and cardboard	Recycling
Wood	Valuation/Elimination
Vegetable-based waste	Incorporation into the soil/Valuation/Elimination
Vegetable cooking oils	Valuation
Non-hazardous electrical and electronic waste	Recycling

Hazardous waste

Used oil	Regeneration/Valuation
Lead batteries	Recuperation of lead/Elimination
Nickel/cadmium accumulators	Recuperation /Elimination
Batteries	Recycling/Elimination
Florescent tubes	Recycling
Earth impregnated with hydrocarbons	Elimination
Recipients that have contained hazardous substances	Recycling/Elimination
Absorbent materials, filtering materials, cleaning rags/cloths and protective clothing contaminated with hazardous substances	Valuation/Elimination
Silica gel	Elimination
Non-halogenated solvents	Regeneration
Paint waste	Valuation
Insulation material (with or without asbestos)	Elimination
Laboratory chemical products	Elimination

In the activities regarding the **construction** of new facilities or modifications to existing ones, waste is managed by the contractors. By means of the environmental specifications the requirements regarding their separation, storage and final management are communicated to them. The fulfilment of the requirements is reviewed during the work supervision visits and through control of the documentation.

Waste generated during construction activities

Non-hazardous waste

Excavation surpluses
Concrete surpluses
Flora/Forest waste
Paper and cardboard
Plastics
Wood
Scrap waste
Solid urban waste
Septic tank sludge

Hazardous waste

Paint waste
Absorbent matter and cloths contaminated with hazardous substances
Earth impregnated with hydrocarbons
Recipients that have contained hazardous substances

5.6. Environmental accidents

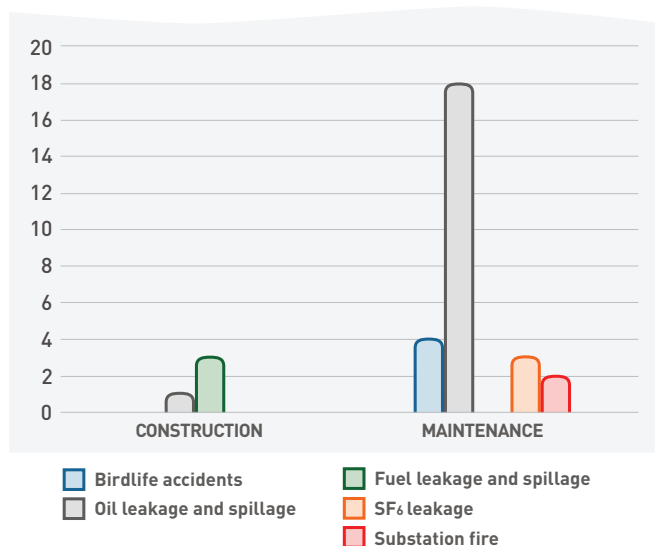
We are well aware of the consequences that an accident may have on the environment, and for this reason, we apply preventive measures to reduce the likelihood of them happening, or in the event they might occur; minimize the impact on the environment. Thanks to the application of these measures, the consequences of the accidents which have occurred in our facilities have only been of minor importance.

Accidents occurred with environmental impact over the last 3 years are detailed in the following table.

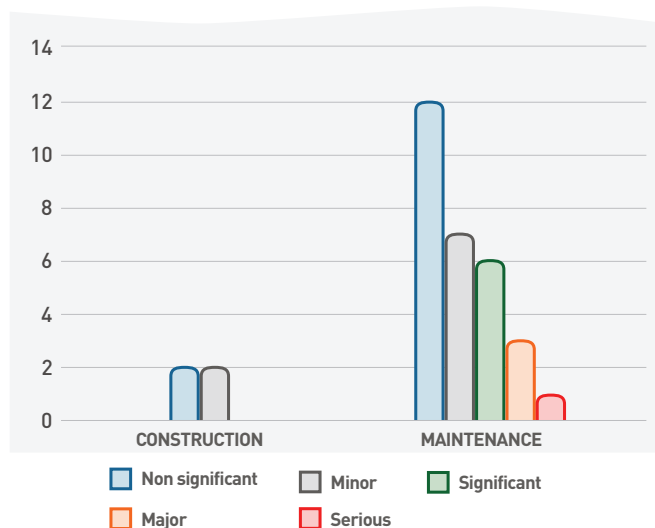
Accidents occurred

	2008	2009	2010
Accidents occurred during construction activities	1	3	4
Fires resulting from a fault in substations	0	1	0
Oil leakages and spillages due to error in the filling of transformers	0	0	0
Oil and Hydrocarbon leakages and spillages due to minor break downs during the use of machinery during construction works	1	2	4
Accidents occurred during maintenance activities	10	27	27
Fires due to line discharge	1	2	0
Fires due to fault in substations	1	0	2
Towers being brought down by weather conditions	-	4	0
Hydrocarbon and oil leakages and spillages during the use and maintenance of substation equipment	4	13	18
Oil leakage in lines	0	1	0
Floods	0	0	0
SF ₆ leakages due to explosion of equipment or other accidents	1	3	3
Collision of birdlife detected	3	4	4

Number of incidents per type 2010



Number of incidents per impact classification 2010



The only incident whose importance was considered serious was the collision of a Short-toed Snake Eagle with the 400 kV Guadame-Cabra line. This resulted in injury, whereby the accident was not actually considered as severe.

The following accidents were classified as having a major environmental impact:

- Puentes García Rodríguez Substation: Fire in transformer ATP1 and rupture of the casing with the subsequent spillage of all the oil which flowed towards the existing oil collection pit. The accident caused soil contamination and damage to cable conduits within the station as a consequence of oil, originating from the explosion, which caught light.
- Vic Substation: explosion in the TR9 400kV power transformer bushing and subsequent fire. The consequences were:
 - Analysis of the characteristics of the spillage containment system affected.
 - Refurbishment of the leakage and spillage containment system.
 - Management of accidental oil spillage incidents.

The rest of the accidents were of lesser importance and had no significant environmental consequences.

The data regarding the environmental risk assessment carried out in 2009 as a part of Red Eléctrica's Integrated Risk Management system, has been updated. The result of which shows the following:

- No new environmental risks have been identified.
- No modifications have taken place regarding the assessment criteria.
- The indicators have been updated with data corresponding to 2010.
- The report corresponding to 2010 has been prepared.



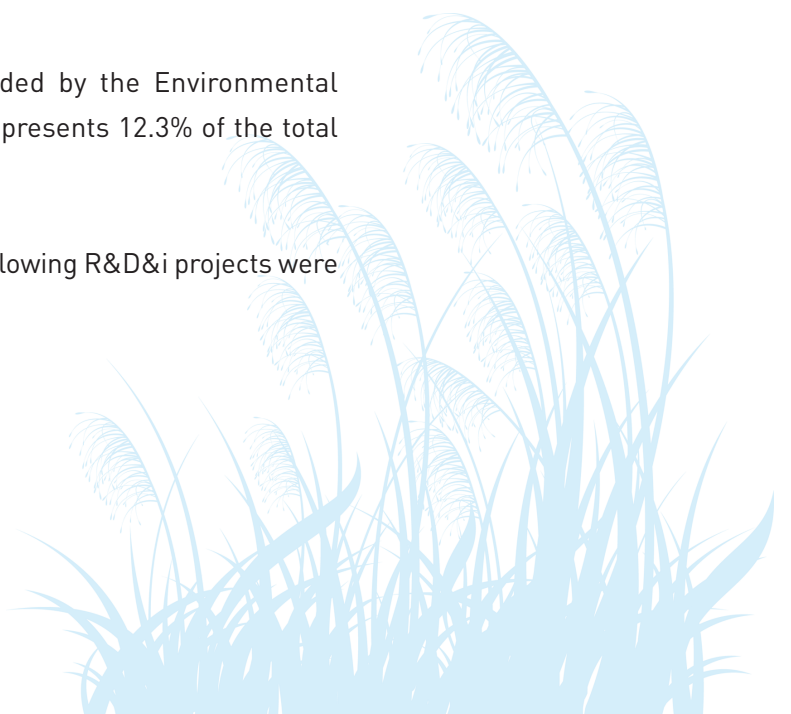
06

RESEARCH AND DEVELOPMENT

In regard to research, development and innovation, we work with prestigious research teams and achieve objectives and results that add value to our business activities.

During 2010 the expenditure in R&D&i spearheaded by the Environmental Department reached 618,489 euros. This amount represents 12.3% of the total expenditure on R&D&i.

With the collaboration of all the areas involved, the following R&D&i projects were carried out as set out in the following sections.



6.1. Forest fire fighting and prevention and the protection of flora

Vulcano Project

Carried out in collaboration with Iberdrola, ADIF and INECO. It began at the end of 2008 and it is expected to last until 2011. Its objective is the prevention of forest fires, by means of the development of a fire risk assessment methodology of electricity lines and railway networks with their surroundings during their life cycle. In 2010 the following tasks were carried out:



- Characterisation of the socioeconomic environment of the VULCANO project by means of a study carried out by APAS (Association for the Promotion of Sociocultural Activities), a non-profit organisation registered with the Ministry of Interior.

This study was carried out by means of two surveys: one aimed at the public in general, with more than 2,500 telephone samples, and the other focused on personalised interviews with public administration technicians and management staff specialised in fire fighting.

The results of the first survey showed Red Eléctrica as the company which was the best valued, from a rural standpoint, regarding the way in which it carries out its activities in relation to the environment.

More than half of the public administration technicians and those in positions of responsibility interviewed, indicated that the most noteworthy aspect was the maintenance carried out by Red Eléctrica on the security corridors for the electricity lines, and a few highlighted the communication between Red Eléctrica and the Administration as fluid and frequent.

- Drafting of the risk assessment model by means of the developments of statistical models regarding ignition, propagation, vulnerability and the integration and obtainment of risk rates. *(Objective 7 of the Environmental Programme regarding control of maintenance activities in areas classified as having fire risk in electricity line corridors. Fulfilment 100%)*
- Creation of the webpage for the VULCANO project www.proyectovulcano.es where all the results of the project can be found.
- During the month of November the first of the Technical Sessions, set out in the VULCANO project framework, was held with the participation of the project partners and management staff and technicians specialised in matters of forest fire prevention from the autonomous communities of Andalusia, Catalonia, Castilla-La Mancha, Madrid and Valencia. The session proved very worthwhile and served as a forum for the exchange of knowledge, experiences and problems.

“Modelling of the growth of forest masses” project

The work will be carried out jointly with Altran Technologies and the School of Engineering and Mountain Science of the Universidad Politécnica de Madrid. The project began in November 2010 and is expected to conclude in January 2013. The objective of the project is to obtain a forest growth simulation model to prevent possible incidents with high voltage lines with the aim of being able to ensure that the safety distance between the trees and the lines is not encroached upon. The present project originates from the need to count on a tool to predict the necessity for tree surgery in the proximity of the high voltage overhead lines and therefore continue improving in matters related to forest fire fighting and prevention.

6.2. Birdlife

Design of birdlife migratory routes in autonomous communities

Carried out in collaboration with Asistencias Técnicas CLAVE, the Doñana Biological Station (CSIC), the Junta de Andalucía (Andalusian Government), and Junta de Extremadura (Extremadura Government). Begun in September 2010, its anticipated conclusion is March 2011. Its objective is to identify the more frequented routes and those used by birds which are more prone to collide with the lines, in its regular migratory movements. Until now, the focal species have been identified and contact with interlocutors has begun. (Objective No.8.2 of the Environmental Programme for the execution of 2 R&D&i projects for nature conservation: Birdlife. Fulfilment 100%).

Collision detector

Carried out in collaboration with the Migres Foundation and the Research Foundation of the University of Seville. Began in September 2008, its conclusion is anticipated for March 2011. Its objective is the design of a detection system for possible impacts, to be installed on grounding cables and that would allow real-time detection of possible collisions and their location in order to act swiftly in the event of accidents. In 2010, laboratory tests were carried out on several of the individual components: sensors, processor and acquisition card, as well as the IT programs that make it work, using a stretch of line of 15 metres. Additionally, a prototype was installed on an actual stretch of line in the municipality of Tarifa (Cadiz). The detection algorithms tests performed provided



very satisfactory results. (*Objective No.8.1 of the Environmental Programme for the execution of 2 R&D&i projects for nature conservation: Birdlife. Fulfilment 100%*).

Improvements in the habitat of Steppe birds

Developed in collaboration with the Department of Biology of Doñana's Biological research station (CSIC) together with the Gypaetus Foundation and the area of La Noruela in Higuera de Calatrava (Jaén). Its aim is to design and test measures to minimise the impact of the lines on these birds (especially on the Great Bustard, *Otis tarda*) and to improve their habitat.

During 2010 the works in the agreed area, planting leguminous plants, delaying removal of weeds and undergrowth and improving watering holes and the marking of facilities have continued. At present it has been possible to confirm the birth and survival of a Great Bustard chick on the site.

In parallel, measures are being applied to provide shelter and additional food to numerous species, in addition to the Great Bustard population of the area, with the aim of **increasing biodiversity** in the area of the project. In this way, during 2010 the re-vegetation took place around the base of three towers by means of the sowing of seeds and the planting of indigenous vegetation (seedlings and shrubs) and the creation of shelters that have already been occupied by numerous species.



Testing a model of nesting deterrent for storks (*Ciconia ciconia*)

Project carried out in collaboration with Asistencias Técnicas CLAVE. The objective of the project is the design of a prototype device that deters the White Stork bird species from nesting and roosting on the electricity line towers. To date, three different types of deterrent devices have been installed on 18 towers of two electricity lines located in Andalusia and Castilla-Leon respectively.



TRAINING AND AWARENESS

We consider environmental training a strategic line in order to create a team which is increasingly concerned with protecting the environment. Training goes even further than the mere professional area, with the aim being to contribute to improving environmental habits in daily work and family life of every employee. In 2010, 5 different profiles of employees, in regard to environmental training needs, were identified during the drafting of the training plan and the training required for each profile was set out. Additionally, the Red Eléctrica training plan was defined within a horizon of 3 years. (*Objective 9 "Develop the Red Eléctrica environmental training plan". Fulfilment 100%*).

In 2010, **3.07%** of Red Eléctrica's staff received environmental training (in contrast to 15.39% in 2009) with a total of **7,182 hours** (in contrast with 3,109 hours in 2010). The decrease in the number of employees who received training and the increase in number of hours is due to the fact that during 2010 the training has been much more specialised and was directed towards employees whose activities are directly related to environmental matters, contrary to 2009 where the training was more generalised.

Environmental training areas

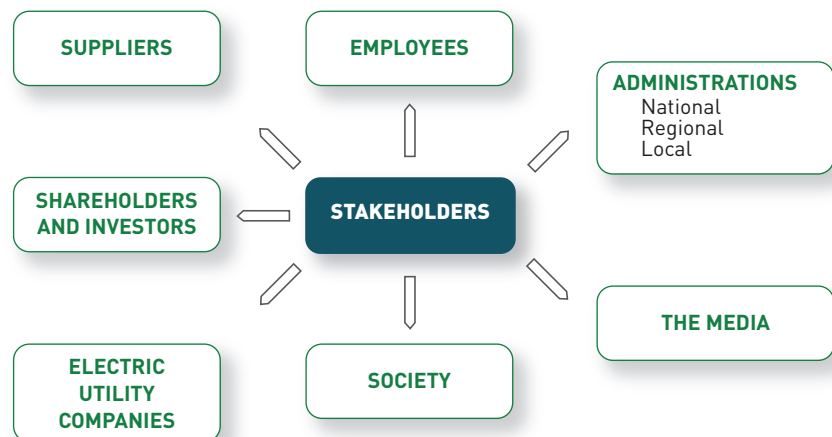
- Environmental education, sustainable development and corporate responsibility
- The environment and the electricity sector
- Iberian flora and fauna
- Waste management
- Agrarian and tree assessments
- Energy efficiency in construction
- Handling of SF₆ gas
- Climate change
- Light contamination
- Public Administration – Business relations
- Environmental management of works
- Management and conservation of nature areas

08

COMMUNICATION



Conscious of the social interest in the activities we carry out, we provide constant information to, and maintain dialogue with, all stakeholders.



We attend and monitor all stakeholder enquiries and claims of an environmental nature which reach us via electronic mail or the DÍGAME service (Shareholder Attention Centre) specifically provided for this purpose on our website www.ree.es.

During 2010, a total of 2 claims and 28 enquiries classified as of an environmental nature were received through the DÍGAME service.

Through **collaboration agreements**, we work with institutions to carry out R&D&i projects or activities related to the environment and sustainable development, of interest to both parties.

Collaborations with Public Administration

Public bodies

Autonomous Government of Castilla-La Mancha
(Department of Industry and Employment)

Collaboration / Agreements

Development of electricity infrastructures during the period 2002-2011.

Collaboration agreement for the development of electricity infrastructures.

Autonomous Government of Andalusia
(Department of Environment)

Life agreement for the conservation and management of special protection areas for steppe birds in Andalucía.

Collaboration agreement for the prevention and tackling of forest fires.

Autonomous Government of Castilla y León
(Department of Environment)

Framework Agreement for Collaboration.

Autonomous Government of Aragón
(Department of Environment)

Collaboration agreement for the reforestation of highland areas damaged by fires in the province of Teruel. Bosque Verde Project.

Collaboration agreement for the prevention and tackling of forest fires.

Autonomous Government of Castilla La Mancha
(Department of Environment and Rural Development)

Collaboration agreement for the prevention prevention and tackling of forest fires.

Extremadura

Protocol for the coordination of actions/activities associated to the Transmission Grid.

Generalitat de Catalunya

Definition of corridors or areas of lesser impact for the location of future electricity facilities.

Generalitat de Catalunya and Trencà

Collaboration agreement and actions within the "Captive breeding and gene pool of the Bearded Vulture (*Gypaetus barbatus*) project.

Conservation of the Lesser Grey Shrike.

As one of the environmental awareness actions geared towards stakeholders, in 2010 the arrangements for the V Environmental Sessions were begun, although in the end they were not held (*Objective No.10 regarding the execution of two environmental communication actions targeted at society, fulfilment 0%*). Although the actions were not carried out, one of the objectives of the sessions was to have created a working group that would allow the technical review of the book "50Hz Electric and Magnetic Fields".

In order to drive the actions for improvement of relationships with stakeholders, as of 2011 they will be addressed within a specific line of action designed to be implemented within a maximum of three years.

Collaborations with research centres

Institutions

CSIC. Biological Station of Doñana

Collaboration / Agreements

Framework Agreement for Collaboration.

Testing of measures on electricity transmission lines to minimize the possible impact on pseudo-Steppe birdlife. Pilot project.

University of La Laguna

Framework agreement for the development of joint action programmes in academic and research areas. University Master's regarding Renewable Energies.

Collaborations with other organisations

Organisations

Collaboration / Agreements

APIA (Environmental Information Journalist Association)	Environmental information.
Entorno Foundation	Agreement by which Red Eléctrica forms part of the companies that collaborate with the Entorno Foundation, Sustainable Development and Business.
Gypaetus Foundation	Project for the selection, creation and management of improved habitat areas for the Great Bustard and other Steppe species.
Migres Foundation	Bird collision detector on electricity lines. Pilot project. Framework Agreement for Collaboration.
Naturaleza y Hombre Foundation	Life Agreement. Conservation of biodiversity in the Campanarios de Azaba Nature Reserve.
GREFA (Group for the rehabilitation of indigenous fauna and its habitat)	Framework Agreement for Collaboration. Reintroduction of the Black Vulture in Catalonia.
SEO (Spanish Ornithological Society)	Environmental information.

Collaborations with education and communication centres

Organisations

Collaboration / Agreements

Association to the RedLife magazine	Sponsoring of the Great Bustard and the Lesser Kestrel
CONAMA Foundation	Sponsorship of the National Environmental Congress
Rural Studies Foundation (Fundación de Estudios Rurales)	Collaboration agreements
Nature Foundation (Fundación Naturaleza)	Collaboration agreements
Exhibition on landscaping and renewable energies Andalusia	Sponsorship
Electric vehicle meeting	Co-sponsorship

In addition, in 2010 we actively participated in working groups, congresses and debates organised by entities, bodies and associations of recognised prestige.

Organised by

Working Groups

CONAMA 2010

- Sustainable development of infrastructures
- Distributed generation – the energy producing city
- Innovation and new technologies regarding energy saving-efficiency and renewable energies
- Loss of biodiversity; responsibility and solutions
- New global agreement for the reduction of GEI emissions
- Local action plans against noise
- Why does the collection of waste continue to be a problem? Causes and solutions
- Protection of the ocean's biodiversity and sustainable use
- Practical solutions for comprehensive restoration. Comparative analyses of experiences.

CIGRÉ

- WG C3.06: "Environmental assessment of plans and programmes"
- WG C3.04: "Communication strategies within the sustainable development framework"
- WG C3.09 : "Corridor Management"
- WG C3.08: "External cost for power lines"

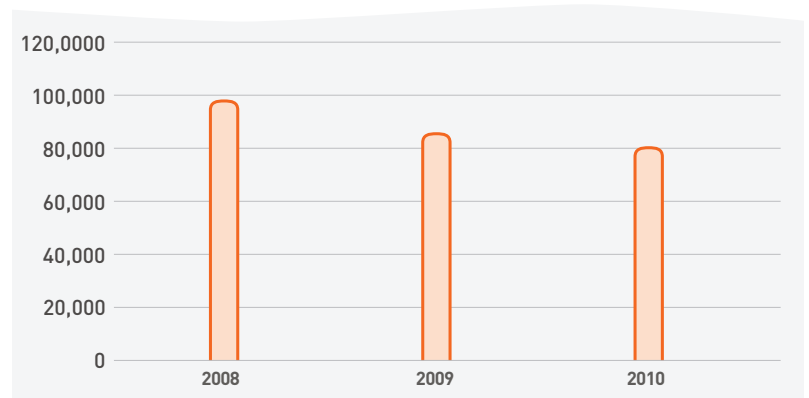
Organised by

Working Groups

AEC	Environmental committee
Excellence Club	Sustainability Excellence Club
UNESA	Working group on electromagnetic fields Distribution environment working group
Entorno Foundation	Working group on climate change and energy. CO ₂ action programme
International Energy Agency	Working group: Demand side management and climate change Working group: Investigation of energy efficiency offers and associated branding strategies Working group: Standardisation of indicators for measuring energy efficiency
Ministry of Science and Innovation	Working group: Spanish platform for energy efficiency
Asociación Multisectorial de Empresas Españolas de Electrónica y Comunicaciones (ASIMELEC)	Working group: Spanish platform for the digital home
Regional Government of Castilla-La Mancha	Working group on Regional Electricity Infrastructure Corridors in Castilla La Mancha
Autonomous Community of Madrid	Working group on Regional Electricity Infrastructure Corridors in Madrid

The number of registered visits to the environmental section of the corporate website (www.ree.es) was 80,100, which represents a 6.45% decrease with regard to 2009, and the number of publications distributed in e-format was 35,211, data that cannot be compared to the previous year since the statistic model used for calculating purposes has changed.

Visits to the environmental section



The main publications in 2010 were:

- Red Eléctrica y la Biodiversidad, 25 años (Red Eléctrica and Biodiversity, 25 years).
- Environmental Report 2009, validated by AENOR.
- Corporate Responsibility Report 2009.

09

COLLABORATORS



We consider our suppliers and contractors to be an essential link in the development of our activities and therefore, our commitment to the environment extends to each and every one of them as an integral part of our work team.

In their daily work, our collaborators also assume our commitment to respect the environment. Proof of this is shown in the increase in the number of suppliers who already have an environmental management system in place, certified by an external entity, or those who are in the process of starting to implement one.

Suppliers of those products or services that may have associated environmental impacts must undergo an environmental qualification process. During the qualification process they are required, amongst other requirements, that all their employees have at least a minimum environmental training. Additionally, REE's general conditions of contract include a clause that requires the contractor to have civil liability insurance with coverage for environmental damage for all those activities that may represent a possible environmental risk.

The evolution of the supplier behaviour regarding environmental matters over the last three years has been the following:

Services provided

Services environmentally qualified as having high impact risk

Assembly and hoisting of line towers	Other minor civil engineering on lines
Construction to increase capacity	Other minor civil engineering on substations
Construction of underground lines	Civil engineering on lines
Construction/modification of lines with lengths less than 15 km	Civil engineering on substations
Lines - Turn-key projects	Felling and pruning of trees
Substations - Turn-key projects	Hanging of second line circuit in the proximity of live facilities
Telecommunication facilities - Turn-key projects	Hanging and clamping of grounding cables or compound cables
Electro-mechanical assembly of substations	Hanging and clamping of conductors
Land movements in substations	

55% of the suppliers that provide any of the above services and which have passed REE's environmental qualification process have an environmental management system certified according to the ISO 14000 standard or another recognised standard.

Services suppliers' behaviour regarding environmental matters

	2008	2009	2010
No. of suppliers with environmental qualification	188	115	151
% of suppliers with a certified environmental management system (UNE-EN ISO 14001:2004 or EMAS registered) divided by suppliers with qualification	41	50	55

Products supplied

Products environmentally qualified as having high impact risk

Switches \geq 220kV	Power transformers \geq 220kV
Shunt reactors	Auxiliary services transformers
Powering systems	

38% of the suppliers that provide a product and which has passed REE's environmental qualification process have an environmental management system certified according to the ISO 14000 standard or another recognised standard.

Products suppliers' behaviour regarding environmental matters

	2010
No. of suppliers with environmental qualification	13
% of suppliers with a certified environmental management system (UNE-EN ISO 14001:2004 or EMAS registered) divided by suppliers with qualification	38

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LEGAL COMPLIANCE EVALUATION

The legal compliance evaluation carried out, has highlighted the existence of legal requirements that must be continued to be worked on in order to comply with them. These requirements are associated to the standardisation of underground water extraction and the disposal of waste from filtering septic tanks, all currently in the process of obtaining the corresponding authorisation.

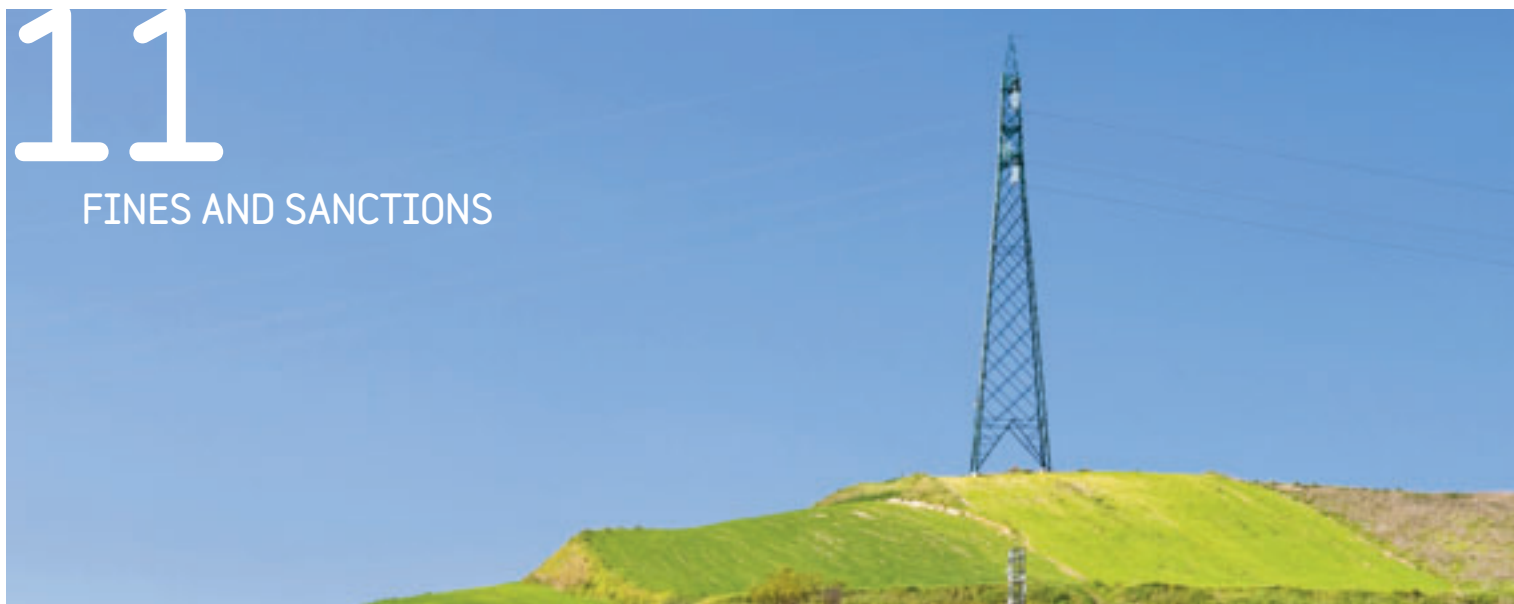
Additionally, some regional offices are in the permitting procedure for some of their installations to obtain authorisation as facilities that produce hazardous waste.

In order to identify and evaluate the relevant legal requirements, Red Eléctrica has in place a process that systematically covers all the phases of the activity; planning, construction and maintenance, and considers not only the requirements originating from European, national, autonomous and local regulations but also those obligations derived from the Environmental Impact Declaration and other administrative authorisations.

The actions carried out for the fulfilment of these requirements, are set forth throughout the different chapters of the Report, particularly in those sections regarding the protection and conservation of flora, fauna and the landscape.

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FINES AND SANCTIONS



The following table details the type of infringement committed and the total cost of the same in sanctions resolved with the payment of fines in the period 2008-2010.

Infringement committed	2008 (€)	2009 (€)	2010 (€)
Lack of maintenance of vegetation	1,805 ⁽¹⁾	300	-
Unauthorised felling and pruning	6,367 ⁽²⁾	720	-
Unauthorised construction of path	21,000	500	-
Fire due to line discharge	15,182	-	4,804
Abandonment of material/fire risk	91	2,735 ⁽⁴⁾	-
Unauthorised spanning of Protected Natural Areas	200	-	-
Unauthorised works in police areas	-	90.15	-
Obstruction of water way	1,858 ⁽³⁾	-	300
Activities with high probability of soil contamination	-	-	1,050 ⁽⁵⁾
Coste total €	46,503	4,345	6,154

(1) The amount corresponds to 10 cases.

(2) The amount corresponds to 4 cases.

(3) The amount corresponds to 2 cases.

(4) The amount corresponds to 2 cases.

(5) The amount corresponds to 5 cases.

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ENVIRONMENTAL EXPENDITURE



During 2010, we have made environmental investments in new facilities valued at **6,277,588.17** euros, equating to 0.27% of the total investments carried out in the transmission grid. These investments correspond to the execution of Environmental Impact Studies of all projects, implementation of preventive and corrective measures, environmental supervision of electricity facilities under construction and the application of compensatory measures related to environmental aspects.

Similarly, during 2010 we have incurred expenses for environmental protection and improvement totalling **18,866,104.90** euros, which corresponds to 2.60% of the total operating costs.

The evolution of environmental expenditure over the last three years can be seen in the following table:

Environmental expenditure

	2008 (€)	2009 (€)	2010 (€)
INVESTMENTS	5,078,780.39	4,427,759.53	6,277,588.17
Engineering and construction of facilities	5,078,780.39	4,427,759.53	6,277,588.17
EXPENDITURE	17,150,041.92	13,651,980.44	18,866,104.90
Development of methodology and systems	10,775.00	10,028.00	325,885.50
Environmental studies and analyses	-	-	112,382.5
Environmental activities in facilities in service	14,782,548.01	11,666,852.73	16,079,833.74
Prevention of contamination	832,781.96	642,310.87	870,686.43
Protection of biodiversity / Prevention of fires / Landscaping	13,394,886.05	10,439,651.12	13,969,816.55
Climate change	-	-	171,677.43
Energy efficiency and saving of resources	-	-	111,038.70
Waste reduction and management	554,880.00	584,890.74	956,614.63
Research and development	496,108.42	600,471.56	618,488.95
Training and communication	711,919.10	281,765.68	575,263.95
Environmental training and awareness programmes	41,814.95	38,941.00	18,782.47
Communication	670,104.15	242,824.68	556,481.48
Environmental taxes and levies	207,719.39	17,084.47	18,139.04
Expenditure regarding personnel dedicated to environmental activities	940,972.00	1,075,778.00	1,136,111.22

The following table shows the evolution of the expenditure and investments in environmental aspects as a percentage of the total expenditure and the investment in the transmission grid, respectively:

Percentage of investment and expenditure on the environment

		2008	2009	2010
% of investment in environmental matters ⁽¹⁾	Environmental investment / Total investment in transmission grid	0.82	0.60	0.27
% of expenditure in environmental matters	Environmental expenditure / Total operating costs	2.77	2.13	2.60

(1) The percentage of environmental investment has reduced due to the fact that total investment in the transmission grid in 2010 includes 1.421 billion euros for the transmission assets in operation that were acquired from electric utility companies.

In addition to the costs indicated above, Red Eléctrica pays out a significant amount of money in environmental taxes due to the presence of our electricity transmission facilities in the autonomous communities of Catalonia and Extremadura.

Environmental Taxes

	2008 (€)	2009 (€)	2010 (€)
TOTAL	1,097,240.05	1,088,964.30	1,097,240.05

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FREQUENCY OF THE ENVIRONMENTAL IMPACT DECLARATION

This Environmental Report is considered as having an environmental declaration nature and is published with the purpose of providing information to all stakeholders about Red Eléctrica's environmental behaviour regarding those activities carried out during 2010.

The Environmental Declaration is published every year in the form of an Environmental Report.

The Spanish Association of Standardisation and Certification (AENOR), with Head Offices at Génova 6 - 28004 Madrid, and Accredited Certifying Body Number E-V-0001, is the entity that verifies that the Red Eléctrica Environmental Declaration complies with the requirements set forth in Regulation (EU) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 relative to the voluntary participation by organisations in a Community Eco-management and Audit Scheme (EMAS).

The next Declaration will be presented and published during the first half of 2012.

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GLOSSARY OF TERMS

BIRD-SAVING DEVICES OR “SPIRALS”

A white or orange spiral made of polypropylene (PVC) in the shape of a spiral, measuring 30-35 centimetres in diameter and with a length of 1 metre, which is wound onto the ground cables or conductors to mark them and reduce the risk of accidents due to birds colliding with them.

[Own definition REE].

ELECTRIC FIELD

In a point in space, the force exerted on a static load located at that point. Expressed in volts per metre (V/m).

[50 Hz. Electrical and Magnetic fields REE and UNESA, 1998].

ENVIRONMENTAL ASPECT

An element of the activities, products or services of an organisation having or which may have an impact on the environment.

[Regulation (EU) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)].

ENVIRONMENTAL BEHAVIOUR INDICATOR

Specific performance indicators providing information on an organisation's environmental behaviour.

[Standard UNE-EN ISO 14031 Environmental management. General Guidelines].

ENVIRONMENTAL IMPACT

Any change in the environment, either adverse or beneficial, that is caused in full or in part by the activity, products or services of any organisation.

ENVIRONMENTAL MANAGEMENT SYSTEM

That part of the general management system that includes the organisational structure, the planning of activities, responsibilities, good practices, procedures, processes and resources to develop, apply, achieve, revise and maintain the environmental policy and manage the environmental aspects.

[Regulation (EU) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)].

ENVIRONMENTAL OBJECTIVE

A general environmental objective, which originates from the Environmental Policy and is set out as a goal to be fulfilled by the organisation and which, insofar as is possible, is measured.

(Regulation (EU) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)).

ENVIRONMENTAL POLICY

The general management and intentions of an organisation with respect to its environmental behaviour, put forward officially by its management teams, including the compliance with all the legal requirements applicable to environment matters, as well as the commitment to continuously improve environmental behaviour. It establishes a framework for the company's activities, environmental targets and objectives.

(Regulation (EU) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)).

MAGNETIC FIELD

In a point in space, the force exerted on a live element located at that point. Expressed in amps per metre (A/m). The international measuring unit is Tesla (T) or any fraction thereof, and in particular the microtesla (μT).

(50 Hz. Electrical and Magnetic fields. REE and UNESA, 1998).

NESTING DETERRENT

A device comprised of several elements made of galvanised steel, and of different sizes, that deters birds from nesting or perching on both the places where it is installed or on the device itself.

(Own definition of REE).

RED NATURA 2000 (NATURA 2000 NETWORK)

The European Natura 2000 Ecological Network is a coherent ecological network comprised of Areas of Community Interest to be designated as Special Areas of Conservation, said Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) for Birdlife, whose management shall take into account the economic, social and cultural requirements, as well as the special regional and local characteristics.

(Law 42/2007 of 13 December, on Natural Heritage and Biodiversity).

SIGNIFICANT ENVIRONMENTAL ASPECT

An environmental aspect having or which may have a significant impact on the environment.

(Regulation (EU) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)).

(Regulation (EU) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)).

SPECIAL AREA OF CONSERVATION (SAC)

An area which, based on the biogeographic region or regions where it is located, contributes greatly to maintaining or restoring a type of natural habitat (...) in a favourable state of conservation and which can help considerably in establishing the cohesion of Natura 2000 (...) and/or contributes noticeably to maintaining biodiversity in the biogeographic region or regions in question. For the animal species occupying extensive areas, the special areas of conservation will usually correspond to specific locations inside the area in which that species is naturally distributed, presenting the physical or biological elements that are essential for them to live and reproduce.

(Directive 92/43/EU, of May 21, on the Conservation of Natural Habitats and Wild Fauna and Flora).

SPECIAL PROTECTION AREA (SPA) FOR BIRDLIFE

An area of community interest for the protection of bird species listed in Annex I of the Council Directive 79/409/EU of 2 April 1979, on the conservation of wild birds.

VISUAL SIMULATION

An infographic technique (based on IT applications for graphical representation) applied in order to obtain a visual representation of a project, providing an approximate idea of what it will actually look like once completed, and showing the elements it consists of, as well as how it integrates into its environment.

(Own definition REE).

WASTE

Any substance or object belonging to any of the categories established in the appendix to the Waste Act, in which the owner disposes of or has the intention or obligation to dispose of. In all cases, the items listed in the European Waste Catalogue (EWC) will be classified as such.

(Law 10/1998, 2 April, on Waste).

AENOR Asociación Española de
Normalización y Certificación

**ESQUEMA EUROPEO DE ECOGESTIÓN Y ECOAUDITORÍA
(EMAS)**

Eco-Management and audit scheme (EMAS)

VDM-01/004

La Asociación Española de Normalización y Certificación (AENOR) a través de procesos de auditoría acreditados, certifica que:

The Spanish Association for Standardization and Certification (AENOR) through accredited audit processes certifies that:

RED ELECTRICA DE ESPAÑA, S.A.U.

tiene implantado un sistema de Gestión Medioambiental que cumple los requisitos del Reglamento (CE) nº 1221/2009

has implemented an environmental management system that complies with the requirements of the Regulation (EC) nº 1221/2009

para las actividades de:

for the activities of:

LA INGENIERÍA, LA CONSTRUCCIÓN Y EL MANTENIMIENTO DE LÍNEAS Y SUBESTACIONES ELÉCTRICAS DE ALTA TENSIÓN, Y DE SISTEMAS DE TELECOMUNICACIONES.

LA OPERACIÓN DE SISTEMAS ELÉCTRICOS.

LA SEGURIDAD FÍSICA DE INSTALACIONES.

LOS PROYECTOS DE INVESTIGACIÓN, DESARROLLO E INNOVACIÓN TECNOLÓGICA.

LA CONSULTORÍA Y LOS SERVICIOS PROFESIONALES EN LAS ACTIVIDADES ANTES DESCRITAS.

THE ENGINEERING, CONSTRUCTION AND MAINTENANCE OF HIGH VOLTAGE, TRANSMISSION LINES AND SUBSTATIONS, AND TELECOMMUNICATION SYSTEMS.

THE TRANSMISSION SYSTEM OPERATION.

THE SECURITY OF PEOPLE, BUILDING AND FACILITIES.

THE RESEARCH, DEVELOPMENT AND TECHNOLOGICAL INNOVATION PROJECTCS.

THE CONSULTING AND PROFESSIONAL SERVICES OF ABOVE ACTIVITIES.

que se realiza/n en o desde los establecimientos:

which is/are carried out in or from the establishments:

Sede Social
PO CONDE DE LOS GAITANES, 177
28109 - ALCOBENDAS
(MADRID)

VER DIRECCIONES INDICADAS EN EL ANEXO

y que la información incluida en la declaración medioambiental se ajusta a los requisitos expresados en dicho Reglamento y ha sido validada con fecha 2011-04-26.

and the information included in the environmental declaration complies with the requirement of that European Regulation and has been validated on 2011-04-26.

Fecha de validación: 26 de abril de 2011

Validation Date

AENOR Asociación Española de
Normalización y Certificación

Firma: D. Ramón NAZ PAJARES
Signature Director General de AENOR
General Manager of AENOR.

AENOR - Cl Génova, 6 - 28004 MADRID(España) – Teléfono: (+34) 914 326 090 – Telefax: (+34) 913 104 518 – www.aenor.es

Entidad de certificación acreditada por ENAC con acreditación nº ES-V-0001

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Normalización y Certificación

ANEXO

**ESQUEMA EUROPEO DE ECOGESTIÓN Y ECOAUDITORÍA
(EMAS)**

Eco-Management and audit scheme (EMAS)

VDM-01/004

Los Centros Certificados del Sistema de Gestión Medioambiental de acuerdo con el esquema europeo de Ecogestión y Ecoauditoría (EMAS) de RED ELECTRICA DE ESPAÑA, S.A.U. nº VDM-01/004 son los siguientes: *Activities within the scope of the Environmental Management System according to the Eco-Management and Audit Scheme (EMAS) RED ELECTRICA DE ESPAÑA, S.A.U. nº VDM-01/004 include the following:*

Delegación Regional Oeste CL ZALAETA, S/N EDF REE 15002 - LA CORUÑA (A CORUÑA)	Delegación Regional Norte AV DE ENEKURI, 60 EDF REE 48014 - BILBAO (VIZCAYA)	Delegación Regional Noroeste AV PARALELO, 55 EDF REE 08004 - BARCELONA	CECORE CL ISAAC NEWTON, 13 EDF REE 28760 - TRES CANTOS (MADRID)
Delegación Regional Sur CL INCA GARCILASO, 1 EDF REE 41092 - ISLA DE LA CARTUJA (SEVILLA)	Delegación Levante CL PUEBLA LARGA, 18 46183 - LA ELIANA (VALENCIA)	Demarcación Duero-Sil (35 Subestaciones) CR N-601, MADRID- VALLADOLID-LEÓN, KM 218 47630 - LA MUDARRA (VALLADOLID)	Demarcación Ebro (32 Subestaciones) CR ZARAGOZA-SARIÑERA, KM 9,2 50162 - VILLAMAYOR (ZARAGOZA)
Demarcación Mediterráneo (22 Subestaciones) CR ANTIGUA CASTELLBISBAL-RUBÍ, S/N PI CAN PI DE VILAROC 08191 - RUBÍ (BARCELONA)	Demarcación Tajo (24 Subestaciones) CR N-I MADRID-BURGOS, KM 20,7 28700 - SAN SEBASTIÁN DE LOS REYES (MADRID)	Demarcación Bética (24 Subestaciones) CR SEVILLA-UTRERA, KM 17 41500 - ALCALÁ DE GUADAIRA (SEVILLA)	Dirección de Red Eléctrica en Balears: CM SON FANGOS, 100 EDF A 2ª PLANTA 07007 - PALMA DE MALLORCA (ILLES BALEARS)
Dirección de Red Eléctrica en Canarias (Sede Las Palmas de Gran Canaria) CL JUAN DE QUESADA, 9 35001 - LAS PALMAS DE GRAN CANARIA (LAS PALMAS)	Dirección de Red Eléctrica en Canarias (Sede Tenerife) NUESTRA SEÑORA DE LA TERNURA (LOS MAJUELOS) 38108 - SAN CRISTOBAL DE LA LAGUNA (S.C. DE TENERIFE)		

Fecha de validación: 26 de abril de 2011
Validation Date

AENOR Asociación Española de
Normalización y Certificación

Por **AENOR**. El Director General
On behalf of AENOR. The General Manager

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Red Eléctrica works on selecting the most legible typographical font for their publications. The typographical font DIN has been used for the texts in this report.