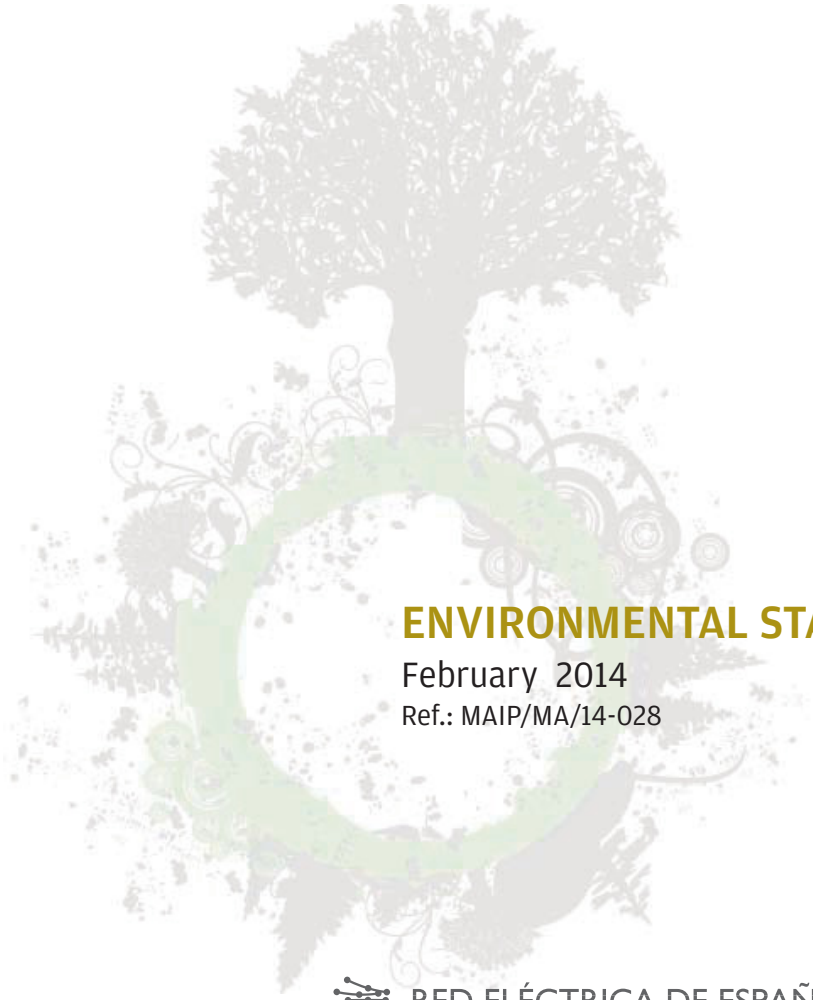

ENVIRONMENTAL STATEMENT 2013

February 2014

Ref.: MAIP/MA/14-028

RED ELÉCTRICA DE ESPAÑA

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1· 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.(1)

As operator of the Spanish electricity system (peninsular and non-peninsular), 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 comprises of electricity control systems which manage and supervise the operation of the system, a circuit of 42,008 kilometres of high voltage transmission lines and 5,210 substation bays with a transformer capacity of 80,695 MVA.

EVOLUTION OF THE FACILITIES (*)

		2011	2012	2013
LINES	**Kilometres of circuit**	**40,369**	**41,232**	**42,008**
	400 kV	19,671	20,109	20,641
	220 kV and less	20,698	21,123	21,367
SUBSTATIONS	**Number of bays**	**4,865**	**5,054**	**5,216**
	400 kV	1,253	1,319	1,374
	220 kV and less	3,612	3,735	3,842
	Transformer capacity (MVA)	**73,220**	**78,170**	**80,695**

(*) Data for the last three years revised and updated in 2013

All the activities we carry out are done so in accordance with a strict environmental policy, from a perspective of an ethical commitment 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 System in accordance with the UNE-EN ISO 14.001:2004 standard, certified since May 1999, and which has been 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.

(1) Clasificación Nacional de Actividad Económica - CNAE (Standard Industrial Classification) 35.12: Electricity transmission

We count upon an Environmental department which in December 2013 was comprised of 16 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 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 indexes due to the results obtained within the environmental, social, economic and corporate governance scopes.

Noteworthy amongst these are the following:

- Since 2005, Red Eléctrica continues to renew its presence in the Dow Jones Sustainability Index (DJSI). In 2013, the rating obtained was 80 out of 100, an improvement of 1 point on the previous year and rated only 10 points behind the highest ranking company world-wide in the energy sector. The DJSI Indexes evaluate social, environmental and economic management through more than fifty general and specific criteria for each sector. In the environmental scope the Company scored 66 points.
- In the assessment carried out by SAM (The Sustainable Asset Management), Red Eléctrica received recognition in the Sustainability Yearbook within the "Bronze Class 2013" category. A rating it has maintained over the last five years.

Similarly, noteworthy awards and recognitions in 2013 were the following:

- Award for Business Commitment in the inaugural edition of the **Biodiversity Conservation Awards** run by the Government of Valencia. The distinction was awarded to the Company in recognition of their involvement and continued commitment over the years regarding the funding and support for biodiversity conservation projects in the region of Valencia. An example of this is the project for the recovery of the Lesser Kestrel or the Biodiversity Week, amongst others.
- Inclusion in the **"Natural Capital Leaders Index"** developed by the GreenBiz Group and Trucost plc. This index recognises companies that demonstrate leadership in terms of natural capital and are pioneers in decoupling economic growth from the impact on natural capital. Red Eléctrica, the only Spanish company listed in the index in this edition, was selected as a Leader in Natural Capital Efficiency in the energy sector, that is, less impact on natural capital in their operations per million dollars of profit.

More information in the Corporate Responsibility section of the corporate website **www.ree.es,**

2· 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 utmost respect for the environment. This is achieved through ongoing 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 ongoing basis.
- Seek **leadership** in environmental matters in all the companies of the Group within their scope of activity.
- Ensure **compliance with environmental legislation, regulations and laws** applicable to the activities they carry out and adopt those **voluntary commitments** regarding environmental matters which are considered to be 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 the 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 on those initiatives which help reduce their loss.
- Adopt a clear commitment in the fight against **climate change**, promoting energy efficiency as a fundamental pillar
- Develop and provide ongoing actions regarding **training, awareness and motivation** concerning 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 Chairman's Office in October 2010

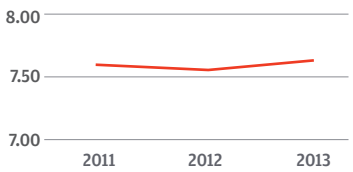
3· INDICATORS

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.

CORE INDICATORS

ELECTRICITY CONSUMPTION AT HEAD OFFICE

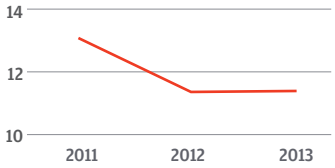
A	MWh consumed		
B	Nº employees at Head Office (*)		
Indicator	A/B		
Year	2011	2012	2013
A	8,603	8,788	8,566
B	1,133	1,161	1,121
Indicator	7.59	7.57	7.64



(*) La Moraleja and Albatros buildings.

FUEL CONSUMPTION OF VEHICLES

A	GJ consumed		
B	Total Nº of employees		
Indicator	A/B		
Year	2011	2012	2013
A	21,612	19,100	19,485
B	1,641(1)	1,649 (1)	1,672
Indicator	13.17	11.58	11.65



(1) In 2013 the data for 2011and 2012 was recalculated using the Nº of employees who make use of vehicles (without counting interns or collaborators)

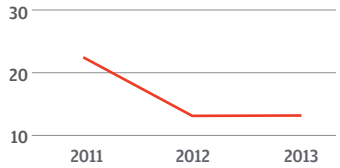
PAPER CONSUMPTION

A	Tonnes (t) consumed		
B	Total Nº of employees		
Indicator	A/B		
Year	2011	2012	2013
A	--	--	48.333
B	--	--	1,954
Indicator	--	--	0.025

In 2013 a new system for calculating paper consumption was used. No historical data is provided because it is not comparable.

WATER CONSUMPTION AT HEAD OFFICE

A	m^3 consumed		
B	Nº of employees at Head Office (*)		
Indicator	A/B		
Year	2011	2012	2013
A	17,969	10,947	10,983
B	813	848	841
Indicator	22.20	12.91	13.06



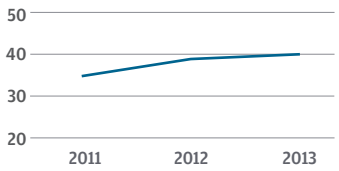
(*) La Moraleja building.

DIRECT GREENHOUSE GAS EMISSIONS

A	Tonnes (t) of CO_2 equivalent
B	Total Nº of employees
Indicator	A/B

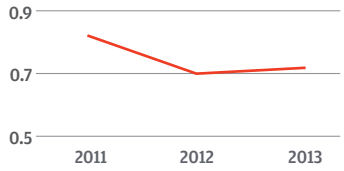
SF_6[(1)]

Year	2011	2012	2013
A	66,741	75,947	78,200
B	1,943	2,002	1,954
Indicator	34.3495	37.9491	40.0205



CO_2[(2)]

2011	2012	2013
1,563	1,381	1,410
1,943	2,002	1,954
0.8044	0.6898	0.7216



(1) The calculation of this indicator considers direct emissions derived from the activities that are: emissions from SF_6 gas leaks and the emissions derived from the use of fleet vehicles.
(2) The data shown is slightly different to that published in previous years as the emissions associated with the emergency power generators have been excluded, until the collation of all data has been completed.

HAZARDOUS WASTE

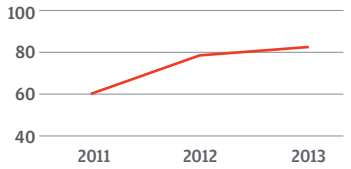
A	Tonnes (t) of hazardous waste generated		
B	Total Nº of employees		
Indicator	A/B		
Year	2011	2012	2013
A	2,016.763	2,052.323	2,170.337
B	1.943	2.002	1.954
Indicator	1.04	1.03	1.11

The "B" figures for the "Total Nº of employees" of the above core indicators (except in the case of "Fuel consumption of vehicles") include own staff as well as interns, and personnel of collaborators and contractors, for Red Eléctrica as a whole or those specific buildings indicated in each case.

ENVIRONMENTAL PERFORMANCE INDICATORS REGARDING ACTIVITIES

COMPLIANCE WITH THE ENVIRONMENTAL PROGRAMME

A	Environmental objectives fulfilled		
B	Total number of environmental objectives		
Indicator	A/B x100		
Year	2011	2012	2013
A	59.40	77.79	84.50
B	100	100	100
Indicator	59.40	77.79	84.50

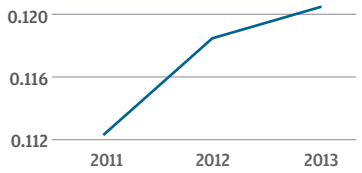


BIODIVERSITY: AREA OF LAND OCCUPIED

A	Area of land in Red Natura occupied by lines (m^2)	Superficie de líneas en Red Natura (m^2)
B	Total area of Red Natura (m^2)	Superficie total Red Natura (m^2)
Indicator	A/B x 100	A/B x 100

Líneas

Year	2011	2012	2013
A	$170.554*10^6$	$174.779*10^6$	$175.543*10^6$
B	$151,352.27*10^6$	$147,820.73*10^6$	$145,454.09*10^6$
Indicator	0.1127	0.1182	0.1207



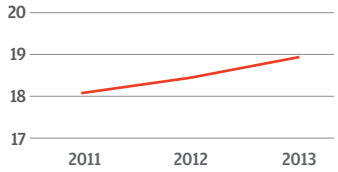
Subestaciones

2011	2012	2013
$72.1*10^4$	$62.35*10^4$	$72.70*10^4$
$151,352.27*10^6$	$147,820.73*10^6$	$145,454.09*10^6$
$4.764*10^{-4}$	$4.218*10^{-4}$	$4.999*10^{-4}$

Fuente de información propia

BIODIVERSITY: PROTECTION OF BIRDLIFE (1)

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		
Year	2011	2012	2013
A	532	548	564
B	2,929.491	2,971.8	2,978.5
Indicator	18.16	18.44	18.94

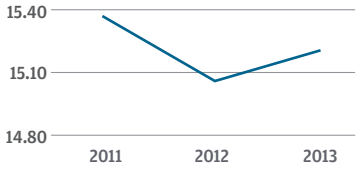


(1) Data related to the Spanish peninsula.

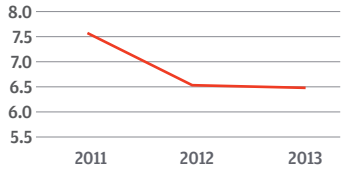
The objective of the indicator is not the marking of 100% of the lines that cross SPAs (Special Protection Areas for birds) as not all bird species present in these areas are susceptible to colliding with the cables. At this moment the elaboration of an indicator that better reflects the marking is being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

BIODIVERSITY: IMPACT OF FACILITIES

A	km of line in Red Natura		
B	Total km of line		
Indicator	A/B x 100		
	Lines		
Year	2011	2012	2013
A	4,263.85	4,369.48	4,388.57
B	27,740.55	29,0.65	28,814.26
Indicator	15.37	15.02	15.23

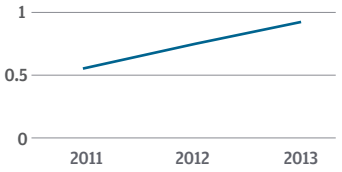


Nº of substations in Red Natura			
Total Nº of substations			
A/B x 100			
Substations			
2011	2012	2013	
46	41	41	
602	624	635	
7.64	6.57	6.46	



BIODIVERSITY/RELATIONS WITH INTERESTED PARTIES

A	Nº of Autonomous Communities (AC) with biodiversity projects		
B	Total Nº of ACs		
Indicator	A/B		
Year	2011	2012	2013
A	10	12	14
B	17	17	17
Indicator	0.59	0.71	0.82

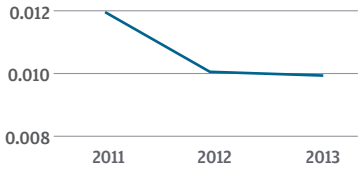


EMISSIONS

A	SF_6 emissions (t) (*)	Indirect emissions derived from transmission grid losses (tonnes of CO_2 equivalent)
B	SF_6 installed (t)	MWh transported
Indicator	A/B	A/B

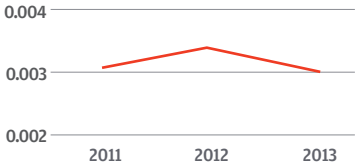
Emisión SF_6

Year	2011	2012	2013
A	2.927	3.332	3.430
B	245.415	332.541	350.221
Indicator	0.01193	0.01002	0.00979



Emissions derived from transmission grid losses

2010	2011	2012
800,530	875,259	748,945
255,179,000	251,901,014	246,206,000
0.00314	0.00347	0.00304



The most representative emissions related to the activity are the SF_6 emissions (direct) and the emissions derived from the losses in the transmission grid.
(*) In order to evaluate the SF_6 gas emissions in relation to the total SF_6 gas installed, it has been considered more appropriate to use the tonne unit of SF_6 emissions instead of calculating them in tonnes of CO_2 equivalent.

ENVIRONMENTAL COSTS

A	Environmental investment	Environmental expenditure	Environmental R&D+i expenditure
B	Total investment	Total expenditure	Total expenditure on R&D+i
Indicator	A/B x 100	A/B x 100	A/B x 100

Environmental investment

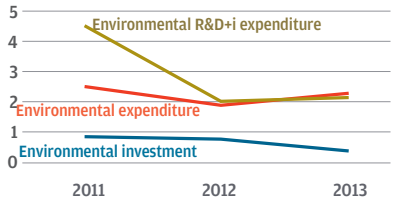
Year	2011	2012	2013
A	7,027,748.50	5,154,305.26	2,752,119.26
B	818,944,000	671,597,000	564,224,000
Indicator	0.86	0.77	0.49

Environmental expenditure

2011	2012	2013
20,306,267.73	16,380,072.06	20,620,760.88
829,576,000	907,757,000	884,078,000
2.45	1.80	2.33

Environmental R&D+i expenditure

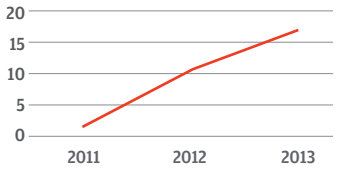
2011	2012	2013
319,172	147,799.26	305,867.75
7,217,687.96	7,638,254	14,230,765
4.42	1.93	2.15



TRAINING AND AWARENESS

A	Nº of employees who received environmental training
B	Nº of employees (*)
Indicator	A/B x 100

Year	2011	2012	2013
A	37	189	287
B	1,641	1,649	1,672
Indicator	2.25	11.46	17.17

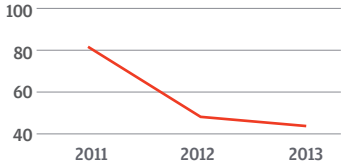


(*) Only Red Eléctrica personnel.

ACCIDENTAL SPILLAGE OF HYDROCARBONS

A	Nº of accidents involving oil or fuel spillages from in-service machinery and equipment
B	Total Nº of accidents
Indicator	A/B x 100

Year	2011	2012	2013(*)
A	22	6	3
B	27	12	7
Indicator	81.48	50	42.86



(*) Improvement of the classification system for incidents.

4· OBJECTIVES

The Environmental Programme of Red Eléctrica contains the set of environmental improvements which we intend to carry out throughout the term 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 as to how environmental issues are associated to the various activities, as well as the contribution of the objectives to environmental improvement.

The total fulfilment of the Environmental Programme is the result of the completion of the different objectives planned for each year (including multi-year objectives).

The contribution of each objective to the environmental programme is weighted according to its importance based on a total of 100 points.

To achieve each objective, a set of goals are defined. The annual fulfilment of each objective is the sum of the fulfilment of the goals which are foreseen to be carried out in the period of time established.

The global fulfilment of the Environmental Programme 2013 was 84.50%, representing an increase of 6.71 percentage points with respect to last year.

The following is a table which summarises the objectives addressed during 2013 indicating the contribution of each one of them to the Programme and their level of fulfilment for the year.

ENVIRONMENTAL PROGRAMME 2013

RESPONSIBLE ENVIRONMENTAL INVESTMENT

Aspect group / Associated processes	Scope of environmental improvement	Objectives	Character/ term	Weighting	Fulfilment	%	Page (1)
PRESENCE OF FACILITIES	Preventing the environment from being affected	Incorporation of landscape integration criteria into the design of new substations	Multi-year (2011-2013)	8	8	100	18
CONSTRUCTION PROCESS	Preventing the environment from being affected	Environmental certification of works supervisors in 2013	Annual	10	10	100	29

CLIMATE CHANGE, ENERGY EFFICIENCY AND THE SAVING OF RESOURCES

Aspect group / Associated processes	Scope of environmental improvement	Objectives	Character/ term	Weighting	Fulfilment	%	Page (1)
EMISSIONS	Reduction of greenhouse gas emissions	Conducting an emissions inventory of Red Eléctrica. Definition of specific objectives and the calculation methodology for its monitoring	Multi-year (2011-2013)	10	5	50	36
		Reduction of SF_6 gas emissions	Multi-year (2011-2013)	11	9.5	86.36	38
ENERGY EFFICIENCY	Activities regarding significant environmental aspects	20% reduction in energy consumption by 2020	Multi-year (2011-2013)	9	4	44.44	42

BIODIVERSITY

Aspect group / Associated processes	Scope of environmental improvement	Objectives	Character/ term	Weighting	Fulfilment	%	Page (1)
BIODIVERSITY	Preventing the environment from being affected	Reduce the risks of the existing facilities/installations on birdlife	Multi-year (2011-2013)	12	9	75	47
		Establish 17 actions regarding biodiversity matters in the 17 autonomous communities	Multi-year (2011-2013)	6	6	100	46
		Establish agreements to prevent and fight forest fires	Multi-year (2011-2013)	8	7	87.5	52

ENVIRONMENTAL ASPECT IMPROVEMENT OF TRANSMISSION GRID FACILITIES

Aspect group / Associated processes	Scope of environmental improvement	Objectives	Character/ term	Weighting	Fulfilment	%	Page (1)
MAINTENANCE PROCESS	Preventing the environment from being affected	Incorporation of Red Eléctrica's environmental criteria in the maintenance process of electricity line corridors (in existence at 31/12/10))	Multi-year (2011-2012)	18	18	100	49

IMPROVEMENT OF RELATIONS WITH INTERESTED PARTIES

Aspect group / Associated processes	Scope of environmental improvement	Objectives	Character/ term	Weighting	Fulfilment	%	Page (1)
COMMUNICATION/ AWARENESS	Activities regarding other aspects	Dissemination of compensation measures associated to Red Eléctrica projects	Annual	8	8	100	66

TOTAL FULFILMENT

100 **84.50**

(1) (1)In the different chapters of this report - pages indicated in the right-hand column of the table - reference is made to each objective, its level of fulfilment, and if it will continue or not.

5 · ENVIRONMENTAL ACTIVITIES

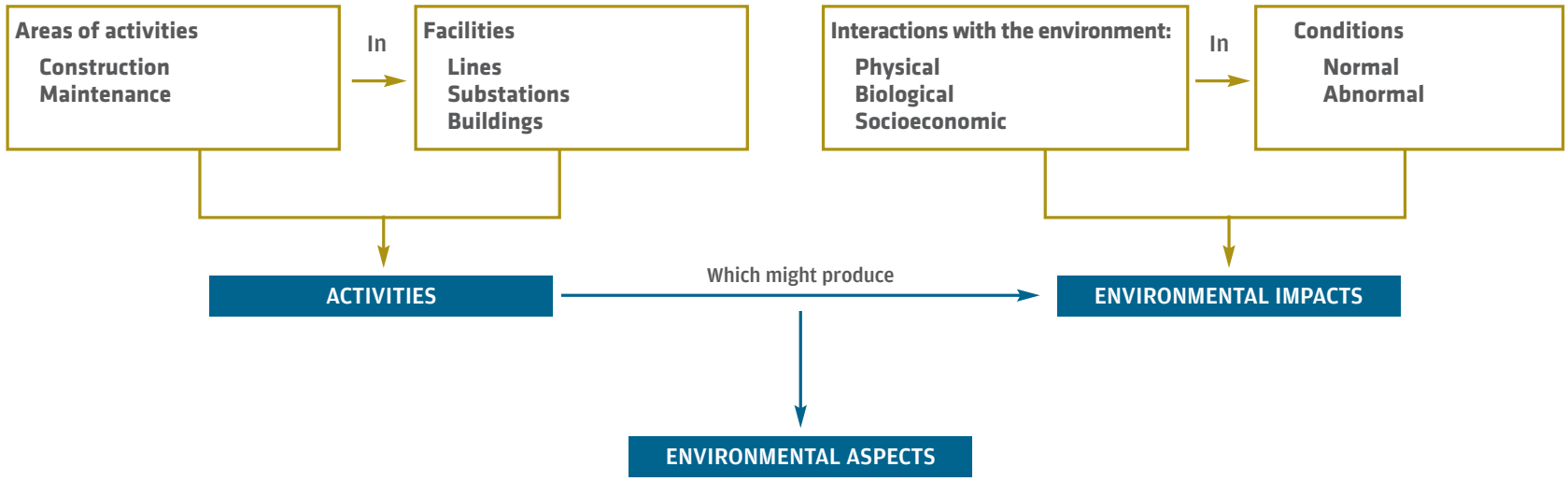
We work with the commitment to integrate environmental protection in the execution of our day to day tasks and activities.

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

5.1.1 · Planning

The development of the electricity transmission grid is essential to fulfil the European Union 20-20-20 objectives. The planned infrastructure is essential for the integration of new renewable energy, the commissioning of the high speed train lines, improved efficiency of the electricity system and to take full advantage of the existing renewable energy (thanks to grid meshing and international interconnections) and the electrification of the Spanish energy system, which facilitates the utilisation of renewable energy in a greater number of uses.

In addition, in 2013, 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.

5.1.2 · Project

During 2013, environmental permitting procedures for **14 projects** were begun:

	Permitting procedures initiated		
	2011	2012	2013
Initial document	17	6	8
Environmental document	13	8	6
Total initiated	**30**	**14**	**14**

The evolution of the conclusion of the environmental permitting procedures of the projects for new facilities in the last three years is as follows:

	Permitting process completed		
	2011	2012	2013
Positive Environmental Impact Statement	15	20	22
Environmental Resolution	6	10	11
Total	**21**	**30**	**33**

Environmental authorisation has been obtained for the following **33 projects:**

POSITIVE ENVIRONMENTAL IMPACT STATEMENT (1)

- Manzanares-Romica 400 kV Line
- Torrente 132 kV Substation
  Ibiza-Torrente 132kV Line
- Riudarenes 400/220/25 Substation (ADIF)
  Riudarenes-L/Sentmenat-Vic-Bescanó 400 kV Line
- Modification of the Penagos-Güeñes 400 kV Line
- Urso 220 kV Substation
  La Roda de Andalucía 220 kV Switchyard
  Urso-La Roda de Andalucía 220 kV Line
- Solórzano 400 kV Substation
  Solórzano-L/Penagos-Abanto 400 kV Line
- Arguineguín-Mogán 66 kV Line
- Ciudad Rodrigo 400 kV Substation
  Ciudad Rodrigo-Almaraz-Hinojosa 400 kV Line
- Gran Tarajal 132 kV Switchyard
  Puerto del Rosario-Gran Tarajal 132 kV Line
- Sagrajas 400 kV Substation (ADIF)
  Sagrajas-San Serván 400 kV Line
- Torrente-Santa Ponsa 132 kV Line (Ibiza-Mallorca)
- Modification of the Olite-La Serna 220 kV Line
  (Towers 187-201)
- Cala Blava 66 kV Substation
  Arenal-Cala Blava 66 kV Line
- Llucmajor-Cala Blava 66 kV Line
- Guadaira 400 kV Substation
  Guadaira-Don Rodrigo 400 kV Line
- Arta-Ciudadela 132 kV Line (Mallorca-Menorca)
- Modification of the Torremendo-San Miguel
  de Salinas 220 kV Line
- Llucmajor 220 kV Substation
  Llucmajor-Orlandis 220 kV Line
- Herreros 400 kV Substation
  Herreros-Segovia-Galapagar 400 kV Line
- Valdeolea (Nueva Mataporquera) 400 kV Substation
  Valdeolea-Herrera-Virtus 400 kV Line
  Modification of the Valdeolea-Cillamayor-Aguayo 220 kV Line
- Añover 220 kV Substation
- Aranjuez 220 kV Substation
- Aceca-Valdemoro 220 kV Line
- Añover-Aceca-Valdemoro 220 kV Line
- Aranjuez-Aceca-Valdemoro 220 kV Line
- Córdoba 400 kV Substation
- L/400 kV Córdoba-L/Cabra-Guadame

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

ENVIRONMENTAL RESOLUTION (2)

Modification of the Cordovilla-Orcoyen 220 kV Line Modification of the Cordovilla-Muruarte 220 kV Line
Repowering of the Alhaurín-Cártama 220 kV Line (Towers 1-2)
Repowering of the Casaquemada-Onuba 220 kV Line
Cañuelo 220 kV Substation Cañuelo-Los Barrios 220 kV Line
Puente Bibey-Trives-Aparecida 220 kV Line
Repowering of the Arañuelo-Valdecaballeros 400 kV Line
Repowering of the Andújar-Puertollano 220 kV Line
Modification of the Cordovilla-Orcoyen 220 kV Line Modification of the Cordovilla-Muruarte 220 kV Line
Repowering of the Alhaurín-Cártama 220 kV Line (Towers 1-2)
Repowering of the Casaquemada-Onuba 220 kV Line

(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)

Modification of the Caparacena-Tajo/Atarfe 220 kV line (Towers 123-127)
Repowering of the San Esteban-Trives 220 kV line
Repowering of the San Esteban-San Pedro 220 kV line
Modification of the Castejón-Muruarte (87-91) 400 kV line
Repowering of the Rubí-T.Celsa-Sant Just 220 kV line
Repowering of the Alhaurín-Cártama 220 kV line (Towers 1-2)
Repowering of the Logroño-El Sequero 220 kV line Repowering of the El Sequero-Quel 220 kV line
Modification of the Penagos-Güeñes (124-126) 400 kV line
Repowering of the Cártama-Tajo de la Encantada 220 kV line

The number of finalised Environmental Impact Studies during the year was 7.

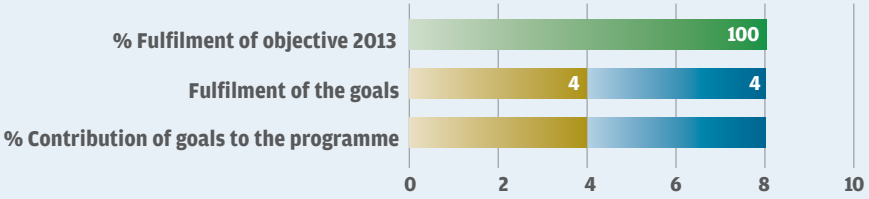
FINALISED ENVIRONMENTAL IMPACT STUDIES

2010	2011	2012	2013
36	39	23	7

At year end, **101 dossiers are at different stages of the environmental permitting process.**

Objectives associated with a responsible environmental investment (project planning phase)

OBJECTIVE 1- Incorporation of landscape integration criteria in the design of new substations



01.1 Definition of the three remaining building models
01.2 Start of the implementation of the existing models in 1 project

Description: Establish standard criteria to enable a better integration between substation buildings and features of the local landscape in accordance with the geographical areas where these can be located. .

Actions 2013: The engineering design of the Candelaria, North Coast, Volcano and Desert building models was completed. The implementation of the Desert model for the Sabinal substation was begun.

Status: Completed

Actions carried out in previous years:

2011: the landscape integration design of 8 model substation buildings was drafted: Mountain, Highlands, Valley, Campiña, North-west Coast, South-east Coast, Canary Islands and Balearic Islands.

2012: landscape integration engineering was performed in 11 buildings of specific types: High mountain GIS (Gas Insulated Substation), High mountain open-air; Balearic Islands GIS, Balearic Islands open-air; South Coast GIS, South Coast open-air; Valley GIS, Valley open-air; Canary Islands GIS, Ingenio GIS and Uplands GIS.

5.2 · ENVIRONMENTAL ACTIVITIES IN FACILITIES UNDER CONSTRUCTION

Environmental monitoring is carried out on 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, verifying their effectiveness and defining new measures, if considered necessary, based on the results obtained. Additionally, more and more resources are being assigned to tasks performed prior to construction, such as inventory of tree felling activities, and to tasks performed after and that are included in the environmental monitoring programmes put in place at the start of the operational phase, due to increased requirements included in the environmental permits.

In 2013, facilities in the construction phase were: 40 substations and 1,302.218 km of line.

With the aim of ensuring the suitable fulfilment of the environmental requirements and verifying the effectiveness of the implemented preventive and corrective measures, throughout the year, environmental supervision was carried out on 85 of the 86 works underway, in other words, 97.5% of the construction works in substations and 100% of the works regarding lines (this percentage also considers works regarding modifications of existing lines). The environmental supervision contracted with the aim of intensifying the control and monitoring, covered 70.93% of works.

ENVIRONMENTAL SUPERVISION (NEW FACILITIES)

		2011	2012	2013
SUBSTATIONS				
	Total number of works supervised	50	53	40
	Permanent environmental supervision (contracted)	33	36	26
	Permanent environmental supervision %	66	68	65
LINES				
	Total works supervised (km)	1,248.8	1,091.5	1,302.22
	Permanent environmental supervision (contracted) (km)	824.7	877.954	1,045.27
	Permanent environmental supervision %	66	80.4	80.27

Environmental aspects in the construction of facilities

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	Excavation and landfill works
Storage and management of waste	Concreting and cleaning of containers
Work camps (substations)	Hanging/laying of conductor and grounding cables (lines)
Land compacting	Equipment assembly (substations)
Clearing, pruning and felling	Use of machinery

Although the environmental aspects associated to the works of each activity are specifically evaluated, those that generally have a significant impact on the construction of new lines and substations are 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 ground	Physical	Possible modification of physical characteristics of ground, 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 ground and water sources
Risk of oil and fuel spillage during storage and transfer of oils and fuels (1)	Physical	Potential contamination of ground and water sources
Risk of oil spillage during assembly of equipment (1)	Physical	Potential contamination of ground and water sources
Risk of affecting water during land movements (1)	Physical	Potential contamination of ground and water sources
Risk of affecting birdlife (1)	Biological	Potential collisions
Non-hazardous waste	Physical	Potential impact due to inadequate storage
Hazardous waste	Physical	Potential contamination of grounds and water sources due to storage and management

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

Noteworthy preventive and corrective measures in construction

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 undertake to carry out all the preventive and corrective measures set out in the Environmental Impact Studies and we assume as requirements those new measures that are included in the Environmental Impact Statements.

In addition we have put in place the necessary measures to avoid or reduce potential impacts that can be detected during the course of work being carried out, although not having been contemplated in prior phases.

PREVENTIVE MEASURES

Storage of topsoill
Hoisting of towers with boom crane / helicopter
Hanging of lines by hand / helicopter
Installation of bird-saving spirals
Archaeological survey
Relocating of nests
Biological stoppages
Signage/marking off of habitats
Increasing height of towers

CORRECTIVE MEASURES

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

Below the most noteworthy preventive and corrective measures carried out during 2013 are detailed:

Protection of flora and fauna

Protection of flora: Preventative and corrective measures

Modification of the project design during works

Almaraz-San Serván 400 kV line	Increasing the height of the towers to provide adequate clearance of the line above native tree flora (Oaks).
	Study and modification of access roads to the towers to reduce the impact on tree flora (Oaks).
Brovales-Guillena 400 kV line	Modification of access roads to reduce effects on tree flora (Oaks) in the vicinity.
San Serván-Brovales 400 kV line	Increasing the height of the towers to provide adequate clearance of the line above native tree flora (Oaks). Modification of access roads to towers in order to reduce effects on tree flora (Oaks)..
I-O Abanto-L/Penagos-Gueñes - 400 kV line	Modification of areas for installation of tower anchorage points to reduce the effects on broadleaf flora (primarily cherry trees).

Signage and protection of habitats and areas with protected species

Mérida-San Serván 220 kV Line	Marking off of accesses and creating a boundary for areas occupied by works. Selection of access roads respecting the existing tree flora.
Almaraz-San Serván 400 kV line	Signage of access roads/paths in wooded areas with Oaks. Signage and marking off of accesses near endangered flora populations (populations of Orchids of the Serapias genus in the immediate vicinity of the accesses to towers 217-223).
Rocío-Aljarafe 220 kV line	Field survey for the presence of protected flora: *Armeria velutina* and *Loeflingia baetica*.
San Servan-Brovales 400 kV line	Marking of the work areas where there is the presence of catalogued flora.
Brovales-Guillena 400 kV line	Comprehensive field survey of the work areas where there is a presence of catalogued flora. (Towers 40, 41 and 42). Ongoing monitoring of works to prevent effects on protected flora/vegetation: Holm Oaks (*Querqus ilex*) and ensure that the felling and pruning of vegetation is restricted exclusively to that authorised (Effect on vegetation: pruning of 17 Oaks and Olive trees and 5 Wild Olive in the IBA 272 Valuengo reservoir. Pruning of Holm Oak in the IBA 271 Bienvenida-Usagre-Ribera del Fresno. Pruning of 69 Holm Oaks in the IBA 268 Fuente de Cantos-Montemolín. Pruning of 85 Holm Oaks and 6 Cork Oaks in the Sierra Norte Natural Park (SAC and SPA) and IBA 236 Sierra Morena de Sevilla. .
Puebla-Portuguese border 400 kV line	Marking of the work areas where there is the presence of catalogued flora. *Marsilea bastardae* and *Isoetes durieui*.
Guillena Substation 400 kV line	Marking of the work areas where there is the presence of uncatalogued endemisms for the conservation of the species in the area. *Rumex induratus*.
Salas-Grado 400 kV line	Comprehensive monitoring of works to avoid effects on protected flora: Yew (*Taxus baccata*), Holm Oak (*Querqus ilex*) and Butcher's Broom (*Ruscus aculeatus*) and ensure that the felling and pruning of vegetation is restricted exclusively to that authorised (Spans 8-9, 12 to 17 and 53 to 55).

Hoisting with a boom crane (*)

Hoisting with a boom crane	Tower 3 in an area with steep slopes with native vegetation and Wild Olive (*Olea europaea var. Sylvestris*).
Almaraz-San Serván 400 kV line	Assembly of towers with a boom crane: towers 1-47, 53-55 , 64-69, 71-78 , 81-84 , 89, 91-153, 155, 179-236, 239-240, 244-248, 260 fundamentally due to the presence of Oaks.
San Servan-Brovales 400 kV line	Section II: towers 77, 79, 88, 90, 91, 93, 97 and 98. Section III: towers 101, 103, 109, 116 to 123, 134 to 138 and 141 to 143. Damage to trees prevented and also damage to the watercourses and priority habitats these sections cross.
Salas-Grado 400 kV line and Grado Substation Soto-Tabiella 400 kV I/O line	Tower 29 on the Salas-Grado line and towers 14-4, 14-5, 14-6 and 14-15 kV of the 400 kV line for the Grado de Soto-Tabiella substation. Since the start of the installation of both lines, all towers were hoisted with a boom crane with the exception of tower 58, 14N and 14-17. Damage to land was avoided as well as damage to roads and tracks, watercourses crossed and to the wooded areas.
Brovales-Guillena 400 kV line	Of the towers currently hoisted and in place, 77% were hoisted with a boom crane. When hoisting in this way, damage to surrounding vegetation is reduced.
Puebla_Portuguese border 400 kV line	Tower 13. Area with a steep slope.
Abanto-L/Penagos-Gueñes 400 kV I/O line	Areas with a steep slope and with surrounding vegetation.

Izado y tendido con helicóptero(*)

Abanto-L/Penagos-Gueñes 400 kV I/O line	Hanging of line by helicopter between towers T12 and T19 in sensitive areas, a total of 2.65 km.
Grado de Soto-Tabiella 400 kV I/O line	Hanging of line by helicopter in the “Río Nalón (1200029)” SIC (Site of Community Importance) and an area with native trees.
Salas-Grado 400 kV line	Hanging of line by helicopter for towers 25-30 in the ‘Río Narcea (ES1200030)’ SIC.
	Transportation of material by helicopter to avoid the opening up of access roads for tower 29.

Hanging by hand

Almaraz-San Serván 400 kV line	Except in specific cases in croplands, manual methods were used for hanging the pilot cable for the totality of the line: 142 km.
San Servan-Brovales 400 kV line	For the entire length of the line. Damage to vegetation and land, due to the vehicles used for hanging cable and fording waterways, was avoided.
Puebla-Portuguese border 400 kV line	For the entire length of the line. Avoiding damage to vegetation and land, due to the vehicles used for hanging cable and fording waterways.

Planting of trees

LAlmaraz-San Serván 400 kV line	Transfer of lands to the Ministry of Agriculture, Rural Development, Environment and Energy of the Regional Government of Extremadura for their repopulation with endangered orchids.
Almaraz-San Serván 400 kV line	Reforestation programme as a compensatory measure proposed by the General Directorate for the Environment of the Regional Government of Extremadura in response to the report on access roads.
Puebla de Guzmán 400/200 kV substation	Planting of a vegetation barrier between the road and the substation. Pine trees and thicket.
El Sequero-Santa Engracia 220 kV line	Compensatory measure for the felling of trees carried out in the works for tower 6 = 50 Aleppo pine *(Pinus halepensis)*.
Palencia Engracia substation 220 kV I/O line	Accompanying measure not associated to felling works: Planting of 600 Holm Oaks (Querqus ilex) and Stone Pines (Pinus pinea) in the municipality of Magán. In 2013, a monitoring of the planting has been carried out, and the result was that 43% of the planted trees had taken root.

(*) Although measures have been classified for the protection of flora, in general they avoid effects on the land, waterways and other elements.

Protection of fauna: Corrective and preventive measures

Biological stoppages

400 kV Almaraz-San Servan line	Birdlife census in winter, pre-reproductive and reproductive periods. A professional dedicated exclusively to the monitoring of birds in the migratory, pre-migratory and wintering seasons. During 2013, 15 towers were subject to biological stoppages between the months of February and July. Work was allowed to continue on 10 towers given that the supposed effects on birdlife were dismissed. Species that were the main motive for these stoppages were White Stork (*Ciconia ciconia)*, Black Stork (*Ciconia nigra)*, Red Kite (*Milvus Milvus*), Black Kite (*Milvus migrans)*, Common Buzzard *(Buteo buteo)*, Booted Eagle (*Hyeraaetus pennatus*) and Short-toed Eagle (*Circaetus gallicus)*.
220 kV Andújar-Guadame line 2	The AAU (Autorización Ambiental Unificada) environmental body established a biological stoppage from 1 February to 15 July for the stretches of line between towers 17 to 24 and 37 to 42, due to the nesting of the Montagu's Harrier (*Circus pygargus)*. A census was carried out confirming its absence and a detailed report was submitted to the administration and this restriction was eliminated from the AAU
220 kV Mérida-San Serván line	Biological stoppage occurred between 1 March and 15 July, from tower 17 to tower 25, due to the nesting of the Imperial Eagle (*Aquila adalberti)* and the Bonelli's Eagle *(Aquila fasciata)*.
400 kV San Serván-Brovales line	Stoppage for 5 towers from 1 April to 15 July and 1 tower from 1 March to 15 July, due to the nesting of the Booted Eagle and the presence of Steppe birds.
400 kV Brovales-Guillena line	Stoppages: - towers 71 to 83, from 15 March to 15 July, due to the presence of Steppe birds. - towers 132 to 134, from 1 March 1 to 15 July, due to these towers being in the nesting territory of the Black Stork (*Ciconia nigra*). - towers 151 to 152, from 1 March to 15 July, due to the presence of the Golden Eagle (*Aquila chrysaetos)* and the Black Stork *(Ciconia nigra*). - tower 157 to 184, from 1 January to 31 July, due to the presence of the Golden Eagle *(Aquila chrysaetos*). - tower 185, from 1 January to 5 July, due to the presence of the Golden Eagle *(Aquila chrysaetos*) and the Black Stork *(Ciconia nigra)*. - tower 186, from 1 April to 5 July, due to the presence of the Black Stork *(Ciconia nigra)*. - tower 187 to 188, from 1 April to 23 August, due to the presence of the Black Stork *(Ciconia nigra)*. - towers 189 to 191, from 1 April to 5 July due to the presence of the Black Stork *(Ciconia nigra)*. - towers 192 to 196, from 1 April to 23 August, due to the presence of the Black Stork *(Ciconia nigra)*.
400 kV Puebla- Portuguese border line	The Environmental Impact Statement (EIS) includes a requirement for stoppage between 1 March and 12 August, due to the presence of Black Vultures *(Aegypius monachus)*, Griffon Vultures *(Gyps fulvus)*, Golden Eagles *(Aquila chrysaetos)*, Black Storks *(Ciconia nigra)*, Short-toed Eagles *(Circaetus gallicus)*, Eagle Owls *(Bubo bubo)*.

Installation of nests

400 kV Almaraz-San Servan line	Measures are still to be specified and defined with the Regional Government of Extremadura (Junta de Extremadura).

Installation of bird flight diverters

During 2013, **337.5 km of line was marked, from a total of 381.769 km of newly constructed line, representing the marking of over 88% of these lines**

Socioeconomic measures and the landscape

Protection measures of the socioeconomic environment

Special measures

Almaraz-San Serván 400 kV line	Continuous archaeological supervision. Displacement of tower T-132 to preserve an enclosed pig rearing area. Modification of access roads in order to keep existing dry stone walling
Andújar-Guadame 2 220 kV line	Increasing the height of towers 6 and 8 to avoid the placing of tower 7 in an area with archaeological remains.
	Construction of tower 37B to avoid crossing an area not contemplated within the project.
Abanto-L/Penagos-Gueñes 400 kV I/O line	Modification of access road to reduce the appearance of erosion processes on private land with an extremely steep incline.
	Modification, at the request of neighbours, of the placing of a tower where the line crossed an area with natural springs with a high rate of visitors.
	Modification of an electricity distribution line, to avoid the loss of supply (municipality of Castro Urdiales) in the case of accidents during the cable hanging works.
Grado 400 kV substation	Modification of drainage system (general and substation access). During times of high rainfall, projected drainage removes a high flow of water that muddies a registered farm road and carries mud into a gully affecting plots further down, affecting protected vegetation. The modification is designed so that water avoids the road and is reincorporated free of environmental impurities.

Hoisting with a boom crane

Mérida-San Serván 220 kV line	Reduction of the impact on Olive and vine crops.
Almaraz-San Serván 400 kV line	IHoisting with a boom crane in wooded areas with Oaks, croplands and lands affected by expropriation
Rocío-Aljarafe 220 kV line	8% of the towers were hoisted with a boom crane. Mainly to reduce the effects on cropland (orange trees).
San Servan-Brovales 400 kV line	Section II: towers 50, 51, 65, 66, 74, 76, 84, 87, Section III. Towers 124 to 133 and 140. Avoiding damage to land, croplands (wine vines: goblet-pruned and on trellises), reforestation and pastureland areas, and eliminating the need to fell productive broadleaved species.
Brovales-Guillena 400 kV line	Of the towers currently hoisted and in place, 77% were hoisted with a boom crane. When hoisting in this way damage to roads and areas surrounding the towers is reduced.

Hanging by helicopter

Abanto-L/Penagos-Gueñes 400 kV I/O line	Impact on a National road (N634) and a junction with the Bilbao-Santander motorway were avoided.

Other

Almaraz-San Serván 400 kV line	Decompacting of soil on farms which rear livestock in order to favour the natural regeneration of grassland
Cicero 220 kV substation	Supply and compacting of material to create an area for the loading of wood at the request of the Barcena de Cicero local government.
Abanto-L/Penagos-Gueñes 400 kV I/O line	Supply and compacting of material next to the worksite of the A-12 to improve loading/unloading activities in a livestock farming area..

Landscape restoration

Substations under construction

SanServán 400/220 kV substation	Restoration of the slopes of the new access road and perimeter of the substation and the Maintenance Building via the use of hydroseeding.
Puebla de Guzmán 400/220 kV substation	Planting of a vegetation barrier, Pine trees and thicket
Cicero 220 kV substation	Landscaping adaptation and gardening of the entrance to the substation. Planting of Oaks (10), Chestnut (10), Strawberry tree (35), Common Hawthorn (35) and Laurel (45).
Santa María de Grado 400 kV substation	Laying of topsoil and sowing of embankment slopes.
SE Peñarrubia 400 kV substation	Installation of 3-dimensional mesh net and coconut meshing on slopes. Planting of 5 Olive trees and various shrubs. Installation of a drip irrigation system.
Brazatortas 400/220 kV substation	Planting an area of 2 hectares with aromatic plants and Oaks. As a compensatory measure for the reconditioning of a cattle trail used for the transportation of transformers to the substation.

Substations undergoing maintenance

Maria de Huerva 220 kV substation	Landscaping adaptation, creating vegetation barrier in the exposed areas. Planting Aleppo Pine (100), Thyme (150) and Broom (150).
Xove 220 kV substation	Adaptation of slopes and runoff channels that converge towards the outer ditches of the substation.

Additionally, adaptation works were carried out on the slopes of the Puebla de Guzmán, Guillena, San Serván, Cicero and Peñarrubia substations.

Archaeological heritage

During 2013, archaeological supervision was carried out during works involving the construction of 15 lines (with permanent presence of an archaeologist during the earth movement phase in 13 of these, in the complete section of line, or in a part thereof), and in 6 substations (with permanent presence of an archaeologist during the earth movement phase in 3 of these).

As special actions the following are noteworthy:

Protection of archaeological – ethnological heritage

Andújar-Guadame 220 kV line	Tower 7 was eliminated due to the impossibility of its placement due to the discovery of a Roman kiln. Also Roman road and house were found in tower 8. Tower 8 was moved 40 metres due to the discovery of a wall and storage vessels belonging to the Bronze Age. Towers 6 and 8 were increased in height due to the new size of the line span. In the final placement of tower 8 archaeological some remains from the Bronze Age were discovered. The storage vessels and walls found were removed and turned over to the authorities. The location is in the Roman City of Isturgis.
Balboa-Brovales 220 kV line	Dismantling of the archaeological structures of tower 3 after the archaeological excavation to document the chronological time-frame and the paleo landscape of the finding. Structures corresponding to an agro-mining settlement.
San Serván-Brovales 400 kV line	In the vicinity of tower 37, a Chalcolithic site was marked off so as to not install anchorage points or bracing mechanisms within the site. The Regional Ministry of Culture of the Junta de Extremadura was notified of the unearthing, during the civil works, of a late Roman burial site located about 100 m from tower 79. The regional ministry issued instructions to stop work immediately until experts from the regional ministry could make detailed plans and check that the works did not affect the site.
Brovales-Guillena 400 kV line	An existing Roman Road near the access road to the tower 52 was marked off as a preventative measure. An existing farmland near to tower 58 was marked off as a preventative measure. Marking off of a corral, a rectangular stone enclosed pig rearing area and also an existing rectangular shelter near the entrance to tower 69. Marking off of an existing livestock rearing area in the platform of tower 51 and comprehensive monitoring during the civil works phase.
Manzanares 400/220kV substation	Restoration of a farmhouse leaving it in its natural state. In addition, 10 bird-nesting roof tiles and four nesting boxes for the Common Kestrel were installed. (*)

(*) Not related to the potential or actual impact of the facility, but the actions are focussed on improving the heritage of the surrounding areas of the facilities.

Restoration of affected areas

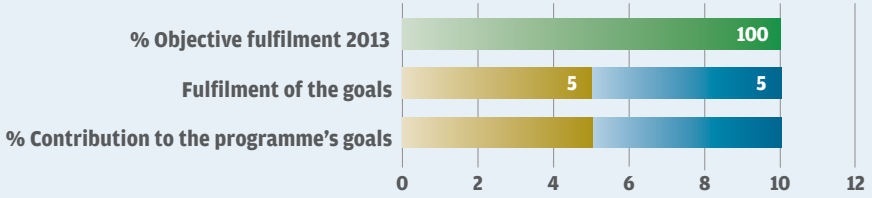
Restoration works are corrective measures which essentially mitigate the effects produced on the land, waterways, vegetation, socio-economic environment (roads, land enclosures, any other elements of properties) and the landscape.

Restoration of areas affected by the works

Almaraz-San Serván 400 kV line	Reconstruction of dry stone walling.
Alhaurín-Cártama I and II 220 kV line	Restoration of accesses, enclosures and other elements of the property.
Brovales 220 kV substation and enlargement of Brovales 400 kV substation	Restoration of the Cañada Real de Salvaleón (livestock migration routes).
San Servan-Brovales 400 kV line	Restoration of the platforms and accesses (roads, walls, fences, etc.) 60 concrete pipes have been installed to facilitate drainage gullies in the access path to towers 94, 95 and 96
Brovales-Guillena 400 kV line	As the cable hanging phase is finished, the following tasks are started: conditioning of access roads, creation of drainage ways/outlets, compacting of soil on the platforms of towers thus eliminating erosion channels generated by rainfall (towers T-151 and T-152). Protective meshing has been placed on the slope generated around tower T-152.
Brazatortas-Puertollano 220 kV line	Restoration of the slope of tower 30. Restoration has involved the installation of coconut matting and the manual seeding of the area. A mini dyke was built to prevent water from entering the platform of the tower.
Formentera-San Jorge 2 30 kV line	Restoration of the dune system.

Objectives associated with a responsible environmental investment (construction phase)

OBJETIVO 2 - Acreditación ambiental de supervisores de obra en 2013



O2.1 Establish the procedure and criteria for the technical environmental certification of works supervisors

O2.2 Qualify/certify 1 person per company for those companies whose awarded contracts and with work underway.

Description: Intensify the integration of environmental criteria into the construction of new facilities over a 3 year period.

Actions 2013: SThe technical specifications and benchmarks were included in the contracting terms and conditions for environmental monitoring companies and 40 people, corresponding to the total of 11 companies with monitoring work underway, have been qualified - all of them passing the theory test and a trial period that ensures they know the environmental criteria and meet the requirements set by Red Eléctrica in the performance of their work.

Status: Completed

Actions in previous years:

Implementation of the process for environmental certification of works in Red Eléctrica:

In 2011, all the documentation and internal regulations associated with the process for environmental certification of works were reviewed and the associated documentation began to be included in the request for tenders, a channel by which suppliers were informed of the start of this practice.

In 2012, the implementation of the environmental certification of works process was verified, which allowed the objective to be considered as completed.

5.3 · ENVIRONMENTAL ACTIVITIES IN FACILITIES IN SERVICE

The objective of the transmission grid is to connect the generation points to the areas of consumption, which means that the facilities are distributed countrywide.

To ensure their correct operation these assets require permanent ongoing maintenance, an appropriate renovation as well as the relevant repairs in the case of failure, and these activities must be compatible with the environment in which they are located. It is therefore necessary to be aware of both the existing natural values as well as those elements of the activity that can impede it from being able to act in the most respectful way possible.

Similarly, in its role as transmission agent and electricity system operator Red Eléctrica is oriented towards developing a more sustainable energy model, contributing to reaching the European 20-20-20 objectives, through the integration of renewable energies (developing the transmission grid needed for their evacuation and facilitating their integration into the system) and the activities to increase the energy efficiency of the electricity system. In addition, Red Eléctrica has undertaken to work on reducing its own emissions of greenhouse gases.

These activities take place within the overall framework of strategies that allow the environmental variable to be integrated internally into all works and contemplate participation and awareness amongst stakeholder groups.

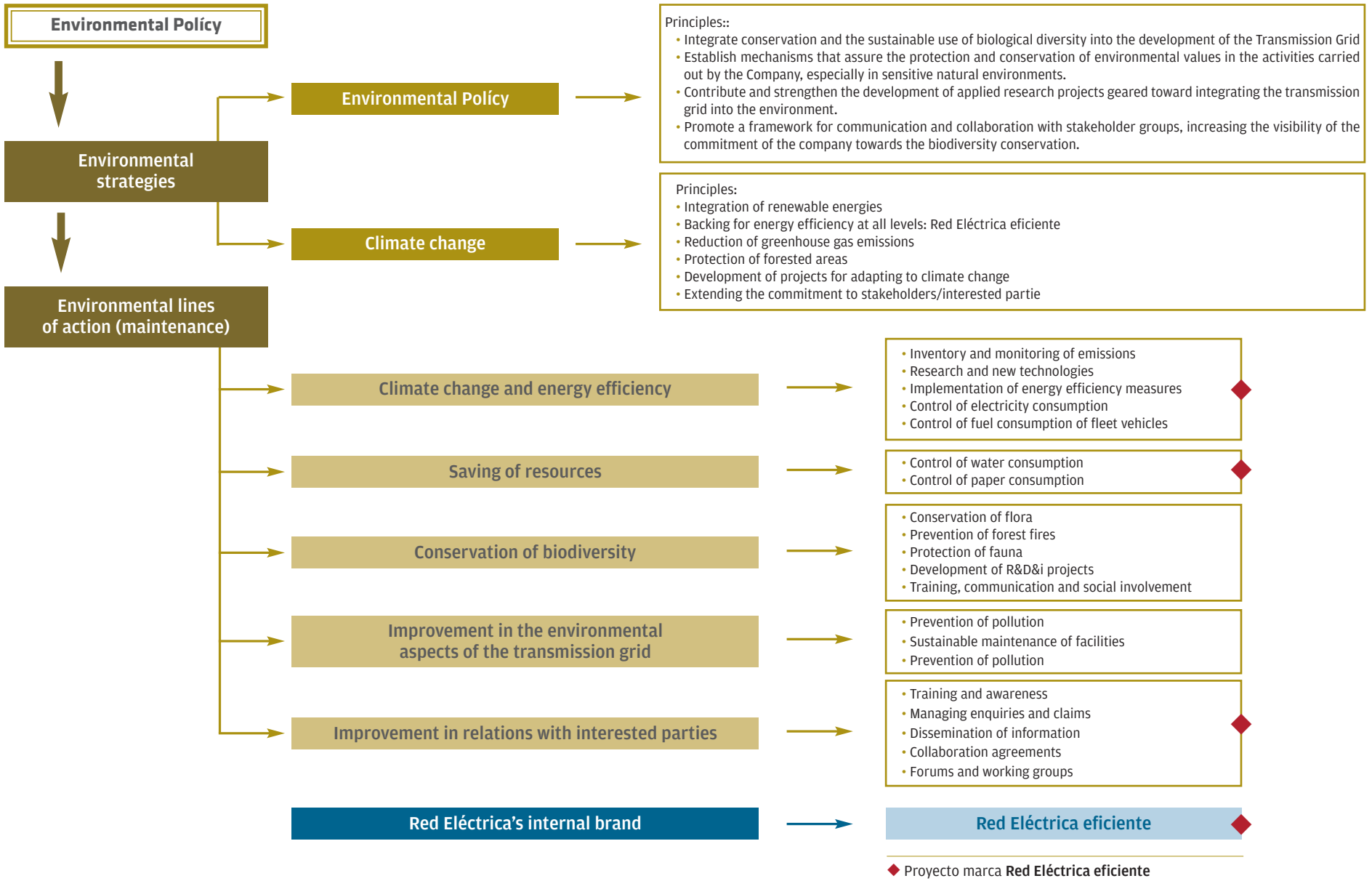
A part of the activities carried out are done so under the Company's internal brand **"Red Eléctrica eficiente"**, created to raise awareness and promote these initiatives within society and includes their participation.

This brand distinguishes all those actions that promote a better use of energy and resources. Encompassed within the framework of this brand are not only those initiatives for the reduction of basic consumption in daily activities, or for carrying out of communication and awareness raising campaigns but also to those associated to activities linked to demand-side management and other technical projects related directly to the Company's activity as operator of the electricity system. Detailed information can be found via the following link:

http://www.ree.es/es/sostenibilidad/energia-sostenible/energia-y-cambio-climatico

Throughout this section 5.3, the environmental aspects that generate the actions in each of the environmental lines to be considered in the maintenance phase shall be addressed:

- Climate change
- Energy efficiency and saving natural resources
- Conservation of biodiversity
- Improvement of the environmental aspects in the transmission grid facilities
- Improvement in relations with stakeholders/interested parties


Environmental Polícy
Environmental strategies
Environmental lines of action (maintenance)
Environmental Polícy
Climate change
Principles::
• Integrate conservation and the sustainable use of biological diversity into the development of the Transmission Grid
• Establish mechanisms that assure the protection and conservation of environmental values in the activities carried out by the Company, especially in sensitive natural environments.
• Contribute and strengthen the development of applied research projects geared toward integrating the transmission grid into the environment.
• Promote a framework for communication and collaboration with stakeholder groups, increasing the visibility of the commitment of the company towards the biodiversity conservation.
Principles:
• Integration of renewable energies
• Backing for energy efficiency at all levels: Red Eléctrica eficiente
• Reduction of greenhouse gas emissions
• Protection of forested areas
• Development of projects for adapting to climate change
• Extending the commitment to stakeholders/interested partie
Climate change and energy efficiency
• Inventory and monitoring of emissions
• Research and new technologies
• Implementation of energy efficiency measures
• Control of electricity consumption
• Control of fuel consumption of fleet vehicles
Saving of resources
• Control of water consumption
• Control of paper consumption
Conservation of biodiversity
• Conservation of flora
• Prevention of forest fires
• Protection of fauna
• Development of R&D&i projects
• Training, communication and social involvement
Improvement in the environmental aspects of the transmission grid
• Prevention of pollution
• Sustainable maintenance of facilities
• Prevention of pollution
Improvement in relations with interested parties
• Training and awareness
• Managing enquiries and claims
• Dissemination of information
• Collaboration agreements
• Forums and working groups
Red Eléctrica's internal brand
Red Eléctrica eficiente
◆ Proyecto marca Red Eléctrica eficiente

5.3.1 · Environmental aspects of facilities in service

Below the activities carried out in facilities in service that can generate an environmental aspect are identified:

Activities generating environmental aspects

- Presence of the building
- Presence of the line
- Presence of the substation
- Transmission and transformation of energy
- Maintenance of gardens and substation switchyards
- Maintenance of electricity line safety corridors
- Maintenance of electricity line towers
- Use of machinery in the maintenance of electricity lines
- Use and maintenance of equipment:
  - Diesel electricity generator units
  - Fuel tanks
  - Evaporation condensers
  - Climate control equipment
  - Intensity and capacity transformers
  - Power transformers
  - Auxiliary transformers
  - Oil collection pits
  - Equipment with sulphur hexaflouride
- Decanting of oil for the maintenance of machinery
- Stockpile and/or storage of contaminating material
- Office related activities

Aspect groups

Direct

- Biodiversity
- Consumptions
- Emissions
- Facilities
- Waste
- Discharges

Accidental

- Collisions
- Accidental emissions
- Explosions
- Leaks and spills of hydrocarbons
- Leaks and spills of hazardous substances
- Fire

Indirect

- Interested parties (1)
- Indirect emissions (2)

(1) Collaborations carried out with interested parties (organisations and institutions) on matters linked to the environmental aspects of Red Eléctrica.
(2) Emissions associated with electricity consumption. These result from the activity of the Company, but occur from sources neither owned nor controlled by it.

The evaluation of aspects is conducted annually. Regarding the evaluation carried out on the environmental aspects during 2013, those which proved most **significant** are the following:

Group	Aspect	Type	Significance	Environmental aspect susceptible to impact	Impact
Biodiversity	Clearing, pruning and felling	Direct	(1)	Biological	Elimination of flora
Hazardous waste	Used insulating oil without PCB	Direct	(2)	Physical	Potential contamination of ground and waters due to storage and management
	Lead batteries	Direct	(2)		
	Equipment contaminated with PCB free oil	Direct	(2)		
	Gases in pressurised containers that contain hazardous substances (SF_6 bottles, aerosols, etc.)	Direct	(2)		
	Material impregnated with hazardous substances (filtering and absorbent materials, rags and work clothes)	Direct	(2)		
	Oil-water mix	Direct	(1)		
	Electrical and electronic waste with hazardous components	Direct	(2)		
	Ground contaminated with hydrocarbons	Direct	(1)		
Colisiones accidentales	Birdlife collisions	Accidental	(1)	Biological	Potential effect on species
Fugas y derrames accidentales	Tank and collection pit leaks and spills	Accidental	(2)	Physical	Potential contamination of ground and water sources
	Power transformer oil leaks or spills	Accidental	(2)		

(1) Significant aspects in in more than three of the eight regional offices (territorial distribution of facilities) or buildings.
(2) Significant aspects in three or less regional areas or buildings.

Throughout the various sections of this chapter 5.3, the environmental activities carried out during the year are described, as well as the level of fulfilment of the improvement objectives established associated to the aspects of this phase of the activity.

5.3.2 ·Climate change

In May 2011 the Climate Change Strategy of Red Eléctrica was approved, which aims to formalise the strategy followed by the Company in this area, describe the main lines of work and establish an action plan which sets out the objectives to be achieved. The first version of the Action Plan was validated in January 2012, currently under review.

In said strategy, the activities of Red Eléctrica are classified in three main groups: those related to the business (development of the electricity transmission grid, system operation and demand-side management), those related to reducing the carbon footprint of Red Eléctrica and those of participation in initiatives related to climate change.

In this chapter we develop on those related to the operation and maintenance of the transmission grid.

Emissions inventory

The emissions inventory of greenhouse gases of Red Eléctrica in the last three years has been as follows:

Greenhouse gas emissions (t CO_2 equivalent) *	2011	2012	2013
SF_6 emissions (1)	66,741	75,974	78,200 (4)
Emissions associated to the use of fleet vehicles	1,563	1,381	1,410
Total direct emissions (Scope 1) (2)	68,304	77,355	79,610
Emissions associated to electrical energy consumption (2)	4,284	4,752	3,633 (5)
Emissions derived from losses in transmission (2) (3)	800,530	875,259	748,945 (6)
Total indirect emissions (Scope 2)	804,814	880,011	752,578
Totals	**873,118**	**957,366**	**832,188**

(*) The inventory has been conducted using the GHG protocol methodology as a base.

(1) Taking GWP to 100 years: 22,800 (Source IPPC, Intergovernmental Panel on Climate Change: 4th assessment report).

(2) The peninsular emission factor calculated by REE is used that takes into account the generation mix of every year and associates to each generation technology an emission factor in accordance with the values set out in Spain's Renewable Energies Plan 2005-2010. The emission factor (tonnes of CO_2 emitted/MWh generated) covering the years 2011, 2012 and 2013 has been 0.275, 0.297 and 0.235, respectively. The decrease in the emission factor in 2013 is mainly associated with the increased contribution of renewable energy (hydro and wind energy) in the energy mix of the peninsula and the lower contribution of coal.

(3) These losses are related to: the location of the generation points in relation to those of consumption; the amount of energy demanded in the year; the generation mix of the year (percentage of each generation technology in the total energy generated); international exchanges and the shape of the demand curve. Similarly, as is the case for the emissions associated with the consumption of electricity, CO_2 is not emitted during REE's activities as it takes place in the different electricity generation points. In order to calculate the losses in CO_2 an emission factor calculated by REE is used.

(4) The rise in SF_6 emissions is a result of the increase of installed gas due to the commissioning of new facilities and the replacement of old equipment for SF_6-insulated equipment.

(5) A decrease has been registered in the consumption of electricity and also a decrease of the emission factor.

(6) During 2013, energy losses in the transmission grid have increased in part due to the large share of hydro and wind energy in the energy mix. On the other hand, also because of the large share of these renewable energies, the emission factor has been reduced significantly. The result has been a reduction in CO_2 emissions associated with the losses in the transmission grid.

Indirect emissions (t CO_2 equivalent)*	2011	2012	2013
Emissions associated with business trips	738	827	1046
Emissions associated with internal transport of materials (logistics)	869	782	674.43
Emissions associated with the value chain	491,653 (1)	190,858 (2)	176,528 (3)

(1) Analysis carried out in 2011 for 100% of suppliers. Data obtained after having carried out a consultation process and monitoring of the same. Carbon intensity of the value chain: 359 t CO_2 /millón de Euros.

(2) Data based on a prior analysis of suppliers that represent 95% of the volume of orders in 2012. Data different to that published in 2012 as the figure was adjusted after carrying out the work of collecting the data directly from the 10 primary suppliers in terms of emissions. Carbon intensity is of the value chain: 294 t CO_2/ million euros. The large reduction in emissions is associated primarily to a significant decrease in the volume of purchase orders compared to 2011.

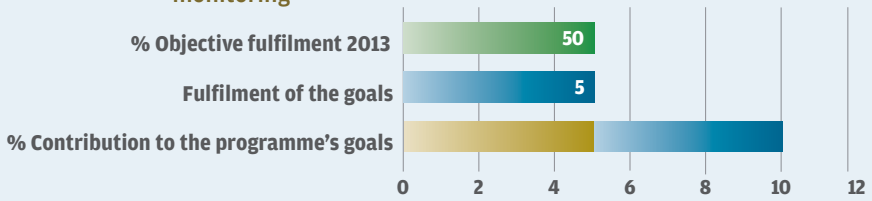
(3) Provisional data calculated on suppliers that represent 87% of the volume of purchase orders (the calculation has taken into account the most relevant suppliers in terms of contribution to the carbon footprint). Carbon intensity in the value chain: 331 t CO_2/ million euros.

Nota: For the correct interpretation of the data it is necessary to take into account that:

- Carbon intensity is based on the type of purchase orders placed during the year. There are products/services with different carbon intensity. Therefore, strict comparisons between fiscal years cannot be made. Of all the activities, construction of facilities and equipment manufacturing are the most carbon-intensive (representing approximately 70% of emissions).
- According to the most recent study of the value chain conducted by Red Eléctrica during 2013, it can be considered that the 100 primary suppliers in terms of emissions account for 85% of the volume of purchase orders and 92% of total emissions. Therefore, we consider the study prepared for 2013 to be representative.

Objectives associated to the emissions inventory

OBJECTIVE 3 - Carrying out the Red Eléctrica emissions inventory. Definition of the specific objectives and the calculation methodology for its monitoring



03.1 Validation of the calculation methodology by a third party.
03.2 Calculation of emissions of the supplier chain. Specific work performed with the 10 key suppliers..

Description: Develop a methodology that allows the carbon footprint of Red Eléctrica to be calculated with sufficient reliability to define, where appropriate, measures to reduce emissions.

Actions 2013: There has been no validation of The methodology for calculating the emissions inventory by a third party has not been validated. Progress has been made in the calculation of Scope 3 indirect emissions: work was carried out in the calculation of the carbon footprint of the supply chain through direct contact with the 10 key suppliers.

Status: Running behind schedule. It will continue in 2014.

Actions in previous years:

2011: The methodology for the calculation of indirect emissions and CO_2 not emitted into the atmosphere, due to the performance of the transmission grid, was defined in 2011.

2012: In 2012, the model for the gathering of emission data and the methodology for identifying and offsetting emissions associated with institutional events of Red Eléctrica were developed, the latter was applied to 3 events. Additionally, the initial calculation of emissions of the supplier chain was performed. The only goal that did not reach the critical level in 2012 was to finalise an emissions inventory for one region, due to the lack of the necessary data.

Projects associated to offsetting emissions

IEl Bosque de REE (the "Red Eléctrica Forest"): Began in 2009 and of an ongoing nature, this project has a double objective: offset part of Red Eléctrica's CO_2 emissions through the planting of trees and, at the same time, contribute to the conservation of a biodiversity-rich area or recover a deteriorated natural area.

Annually, Red Eléctrica helps create a forest on public lands in a different area of the Spanish territory and contributing, by means of this initiative, to the development of local economies, as the reforestation works are contracted out to local companies or organisations of the area.

Since this initiative began a total of 567.58 hectares have been recovered through the planting 350,000 trees and shrubs. The different Red Eléctrica forest projects have represented an investment of 1,125,107 euros and have allowed a total of 97,031 t of CO_2 to be offset.

In 2013 the following work was carried out in the projects indicated:

- Natural Park of Sierra de Calderona (Valencia): Completion of the plantations started in 2012. Recovery of 26 ha through the planting of 18,711 plants: Aleppo pine *(Pinus halepensis),* Sabina juniper *(Juniperus phoenicea)*, Carob

(Ceratonia siliqua), Juniper *(Juniperus oxycedrus)*, Palm *(Chamaerops humilis)* and Wild olive *(Olea europaea)*.

- Robledal de Remendón in the Natural Park of Armañón (Vizcaya): restoration of 22.5 ha by planting 35,000 trees: Oak *(Quercus robur)*, Birch *(Betula alba)* and accompanying species.
- Alcaraz and Segura mountain range and the canyons of the Segura and of the Mundo in Hellín (Albacete): restoration of 110 ha through the planting of 87,000 plants: Aleppo pine *(Pinus halepensis)*, Kermes oak *(Quercus coccifera)*, Wild olive *(Olea europaea sylvestris var.)*, Mastic *(Pistacia lentiscus)* and other accompanying species.

SF_6 emissions

The main direct emissions derived from Red Eléctrica's activities are those coming from sulphur hexafluoride (SF_6); 98% of total direct emissions calculated in terms of CO_2.

The main reduction measures are the following:

- Renovation of equipment
- Improvement in the procedures for the control and identification of leaks, inventory and management of SF_6 gas.
- Use of highly efficient management equipment and measurement equipment.
- Education and training of all personnel involved in the management of SF_6 gas (to avoid losses from bad practices): European and Spanish legislation establishes the requirement that all professionals who carry out SF_6 gas extraction operations must be accredited to do so. In REE, it was decided that this accreditation be extend to all those technicians who are connected in some way with the management or manipulation of SF_6 gas. Red Eléctrica has two accredited centres that are officially recognized, each equipped with a classroom for lectures/theory and a laboratory for carrying out hands-on practice sessions. During 2013, 265 technicians obtained their certification through these two centres.

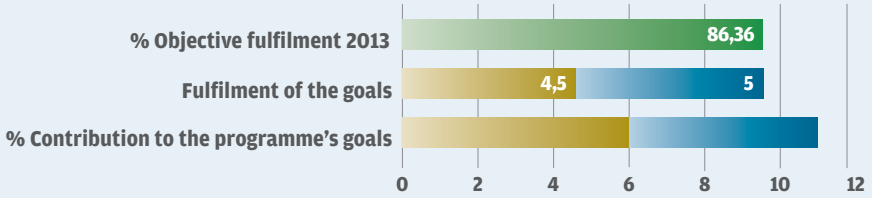
SF_6 Management	2011	2012	2013
SF_6 installed (kg)	245.415	332.541	350.221
Emissions of equipment in service (kg) (1)	2.850	3.301	3.418
Average emission rate of equipment in service (%)	1,161	0,993	0,976
Emissions derived from accidents (kg)	76,5	31	11,45
Total emissions (kg)	2.927	3.332	3.430
Average emission rate (including accidents) (%)	1,192	1,002	0,979

(1) For the calculation of leaks different emission factors, depending on the age of the installed equipment, were applied.

The **Voluntary Agreement with the Ministry of the Environment for the reduction of sulphur hexafluoride (SF_6) emissions in the electricity sector finalised in 2012**; all the associated documentation began to be collected and compiled in 2013 to conclude the agreement.

Associated objectives

OBJECTIVE 4 - Reduction of SF_6 emissions



04.1 Obtain an inventory by region using a mass balance approach.
04.2 Provide training to 250 employees on SF_6 handling.

Description: Reduce the Red Eléctrica's SF_6 emission rate through the improvement of the comprehensive management procedure of the gas.

Actions 2013: While progress was made in obtaining the inventory per region using a mass balance approach (direct measurement of gas used for refilling), the data collection phase has not been completed, therefore a complete inventory based on direct measurement of the gas is not yet available, and the inventories being used are based on the rate of theoretical emission of the equipment. Both the plan for supplying efficient management and measurement equipment, and the plan for training employees on the handling of the gas were carried out.

Status: Running behind schedule. It will continue in 2014.

Actions in previous years:

2011: Data collection for the inventory of emissions and the implementation of comprehensive management process for SF_6 gas was started, although the critical level set was not reached. Old SF_6 measurement and management equipment is replaced for more efficient equipment.

2012: The goals not met the previous year are carried over to this year and continued without achieving progress. Red Eléctrica obtained the accreditation as a training company and evaluator regarding SF_6 matters, although the training of the workforce could not be started. Progress continues on replacing old management and measurement equipment for more efficient as planned.

5.3.3 · Energy efficiency and saving of natural resource

Saving of natural resources

In summary, consumption of resources during 2013 was as follows:

Electricity consumption

Considering all Red Eléctrica work centres, electricity consumption in recent years has been as follows:

	2011	2012	2013
Work centres (kWh)	15,466.864	16,000.428	15,460.126

For the purposes of electricity consumption, only those work centres for which there is historical data of 2 years are considered, these are:

- Head Office: 2 buildings
- Electricity Control Centre building (CECORE): 1 building
- Regional Offices: 4 buildings
- Non-peninsular electricity systems: 2 buildings
- Regional head offices' work centres: 6 buildings
- Transmission department work centres in insular head offices: 2 buildings

Similarly it must be considered that work centres: Head Office, non-peninsular systems (Balearic Islands and Canary Islands) and the Electricity Control Centre (CECOEL) are special cases as they have control centres located there, operating continually 24 hours a day 365 days a year and therefore have an increased energy consumption.

In general, the measures adopted to reduce consumption are being effective. The description of these measures is mentioned in the following section.

Water consumption

	2011	2012	2013
Head Office (m^3)	17,969	10,947	10,984
Head Office (m^3/employee) (1)	22.10	12.91	13.06
Work centres (m^3)	48,631	41,586	(2)
Work centres (m^3/employee)	33.33	21.8	(2)

1 Only the head office building in the Moraleja is considered and the staff that consumes water in it (employees, interns and collaborators)

2 Indicator not provided due to the absence of meters in all centers, the data is not real

Withdrawal by source (%)	2011	2012	2013
Rain water collection tanks	0.18	0.13	0.15
Cisterns	9.32	2.31	3.20
Wells	51.14	23.51	25.27
Municipal water mains	39.36	74.05	71.37

Paper consumption

The historical data obtained by using the former calculation method showed the following consumption:

	2011	2012
kg	67,563.21	54,318
kg/employee	34.77	26.99

In 2013 this calculation system was modified to distinguish copies made and sheets of paper used in printing machines since it has been determined that 75% of the printing is done on both sides of the paper.

	2013
kg	48.333
kg/employee	25

The table below shows the evolution of the consumption of paper used in publications in the period 2011-2013.

	2011	2012	2013
kg	44,203	29,018	30,190
% FSC *	100	100	100*

* Ecological paper certified to Forest Stewardship Council standards

Additionally, the number of courses given using "paperless classroom" continues to increase for the third consecutive year.

	2011	2012	2013
Nº of courses	157	224	347

Fleet vehicle fuel consumption

	2011	2012	2013
Fleet vehicles (litres/100 km)	8.40	8.54	8.50

Efficiency measures

Actions carried out in buildings:

- Monitored control of electricity consumption ◆: Since 2011, all new work centres have energy control equipment installed. In total, 42 electricity monitoring devices have been installed, one third of these in 2013. This allows 65% of the centres to be monitored at present.
- Energy audit plan: Continuing with the activity initiated in 2011, in 2013 one building was audited. Work centres, whose refurbishment project are significant and affect elements that may reduce energy costs, are audited before and after the comprehensive reforms are carried out.
- Newly constructed buildings: 2 were the buildings distinguished with the brand "Red Eléctrica eficiente" and in which efficiency measures have been implemented. Both have attained a "B" energy rating.
- Renovated buildings: minor reforms have been made in 7 work centres in which different energy efficiency related measures have been considered such as:
  - Energy reduction measures: Improved closures (windows, doors etc.), eliminating thermal bridging, increasing the insulated glazing of glass panes and improving profiles; improvements in lighting efficiency; retrofitting improvements in building insulation materials.
  - Water reduction measures: Reduction of water flow in the sink taps and the installation of thermostatic mixer valves in showers

◆ Projects included in **"Red Eléctrica eficiente"**

- Energy certification of buildings: Since 2011, Red Eléctrica has introduced standardised efficiency criteria in the design of buildings that are used as work centres and, since 2012, all new work centre buildings have been built under this efficiency criteria, achieving a 'B' energy rating.

In 2013, the Ribadavia and Tarragona buildings were built with this energy rating

All new buildings with an energy rating have a sign posted informing of their energy characteristics

- Improved management of resources at the corporate Head Office ◆
  - Improved efficiency in water usage at facilities. Flow regulators were installed on all taps of the Head Office. This measure is estimated to have an energy saving of around 9,567 kWh per year, plus significant savings in water consumption in the facilities.
  - In 2013, work continued on the installation of **light dimmers** in other areas of administrative use of the buildings that make up the Head Office complex (in 2012 this was applied to offices and meeting rooms). In total, 240 ballasts were replaced and 60 regulators were installed, and that depending on their location act as: brightness regulators in areas with natural light and as movement sensors in areas where there is no natural light. The implementation of these measures has reduced consumption in the lighting system by 21.6% over the last 3 years.

Actions carried out in corporate communication systems:

- IT upgrading of workstations: In 2013, we continued with the strategy for the **transition to virtual servers** started in 2010 and have been progressively migrating from physical to virtual servers. In this way, the servers have been consolidated reaching a ratio of 10:1 with the consequent improvement in the utilisation of hardware and the reduction of energy consumption. Almost 50% of the servers that can currently be found in any of REE's offices are virtual.

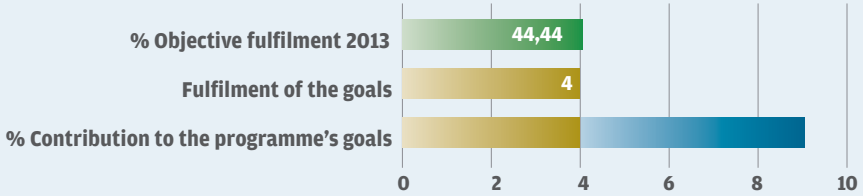
  Similarly, work continued with the **renewal of TFT screens** from 17" to 23". In 2013, the number of replacements totalled 307

  This year 96 **old desktop PCs** and 537 laptops were renewed.
- Management platform for office IT systems ◆: 90% of office IT equipment has the energy efficiency measures enabled (auto screen shut off, stand-by mode for idle equipment, etc.), **representing savings in energy consumption of IT office equipment and servers of almost 25%** since the pilot project began in September 2012.

◆ Projects included in **"Red Eléctrica eficiente"**

Energy efficiency objective

Objective 5 - 20% reduction of energy consumption by 2020



05.1 Energy efficiency in substations: Availability of the standardisation documentation relative to the optimisation of the lighting in the open-air facilities of REE.

05.2 Energy efficiency in buildings: the implementation of passive measures in 5 work centres with an annual saving of 2% per centre.

Description: Establish measures to reduce electricity consumption in Red Eléctrica's facilities.

Actions 2013: Standardisation documentation has been made available regarding optimising lighting in the open-air facilities. Despite expectations, it has not been possible to implement any passive measure to reduce consumption in work centres.

Status: Running behind schedule. It will continue in 2014.

Actions in previous years:

2011: Actions in substations were, on the one hand, geared towards, the identification of consumption points where improvements could readily be made in substations (transformers, lighting and climate control equipment) and on the other hand, starting the implementation of the standardised criteria for lighting. In buildings, an energy audit plan was initiated in order to implement passive measures to reduce consumption. To encourage good practices, a communication plan was carried out and a proposal was made to initiate a mobility plan that as yet has not been executed.

2012: work which began in 2011 regarding the standardisation of substation lighting, energy audits for buildings and the implementation of passive measures (1 centre) was continued.

Mobility measures

Since the Mobility Study began in Red Eléctrica in 2012, two phases have been completed:

- Phase 1. Internal working groups. . Two multidisciplinary internal working groups have been formed to enable from day one a process of shared construction and assistance to better diagnose from the outset the situation involving the workforce: the **"Motor" group**, that sets out the scope and objectives of the project, and the **"Movilired" group** who participated in workshops.
- Phase 2. Internal mobility survey. With a participation of 63%, its objective was to determine the mobility situation in the Head offices of REE. The 2013 results are in the analyses process and will be published in 2014.
  - CARS Project (Safe, Responsible and Agile Driving) ◆: The project consists of improving driving conditions in Red Eléctrica's fleet vehicles, focusing on three aspects: safe, responsible and agile driving. The improvement measures applied to fleet vehicles are geared towards the monitoring and reduction of fuel consumption and CO_2 emissions, to increase efficiency and reduce the carbon footprint.
  - Video conferencing: Since 2012, all meeting rooms have been set up for video conferencing to reduce, as far as possible, the need to travel between work centres. In 2013, this system was used for a total of 17,605 hours.

Raising awareness among employees

In 2013, the **first edition of the 'Red Eléctrica eficiente' Awards was held to recognize the most outstanding project of the year,** a recognition that arose due to the desire to promote the best practices in energy efficiency put in place at Red Eléctrica. In this first edition, the distinction was awarded to four projects, which bring to the forefront Red Eléctrica's backing for energy efficiency and the efficient use of natural resources, under the criteria of the sustainable city: electricity, water, waste management and mobility. The winning projects were:

- The Casaquemada Building (Sanlúcar la Mayor, Seville): The first building in Red Eléctrica with a B energy rating.con calificación energética B en Red Eléctrica.
- EFEN Project. Energy management of all Company IT systems, work stations and office servers. The application of energy efficiency policies for computers (PC and screen) has represented an energy saving of around 20%.
- ADIR. Documentation archive of grid facilities. Corporate document management system, which manages the technical and administrative documentation of REE facilities. 100% of the documentation is available in electronic format (only 27% is made available in paper copy due to legal requirements).
- Head Office - water management. In 2011, the garden of the Head Office of La Moraleja was remodelled, replacing the lawn with native plants and gravel and creating an outdoor parking area, which has represented a saving of water consumption by 39% over the previous year.

◆ Projects included in **"Red Eléctrica eficiente"**

In addition, as in previous years, in 2013 a large number of projects and initiatives were carried out in four specific areas, taking as a reference four significant dates:

- Energy efficiency: 5 March - World Energy Efficiency Day
  - Posting of 10+1 efficient practices posters in all REE work centres.
  - Publishing of the Calendar 'eficiente' that highlights the months of high demand and marks as special dates the energy efficiency, water, recycling and mobility days and includes the 10+1 efficient practices.
  - Visit for the second consecutive year to the ECOBOX building, an example of efficient and sustainable architecture.
- Water: 22 March - World Water Day
  - The annual photography competition under the theme: international year of cooperation in the field of water.
- Waste: 17 May - World Recycling Day
  - Catering services of the Head Office start providing water in pitchersinstead of bottled water. With an estimated saving of 700 water bottles per month, 8,400 per year.
  - Printer locations were equipped with collection trays for the reutilisation of paper printed and/or with writing on just one side and containers were installed to facilitate the recycling of water bottles, vending machine packaging, soft drink cans, etc.These awareness-raising measures result in 75% of documents being printed double-sided.
- Mobility: 16 to 22 September - European Mobility Week
  - Under the theme "Muévete por un aire limpio" (Mobilize yourself for a cleaner air), a report was published on the intranet informing about the mobility initiatives, implemented in municipalities in which citizens can actively participate.

Demand-side Management

The most relevant projects in this area during 2013 were:

- PRICE project ◆: Project for the implementation of smart grids in the field of residential electricity demand and for which the Corredor del Henares area of the Community of Madrid was selected. Red Eléctrica has participated with 21 other partners in this project since its inception in 2011; a project funded by the Ministry of Economy and Competitiveness.

- The electric vehicle ◆: Red Eléctrica participates in various working groups and dissemination initiatives, in order to prepare the operation of the electricity system for the introduction of this type of demand. (See: (ver: www.ree.es/es/red21/vehiculo-electrico/iniciativas-y-proyectos)

- 'ALMACENA' project ◆: The Almacena project consists of the field installation and subsequent operation of an energy storage system, specifically a prismatic lithium-ion battery with a power of about 1 MW and a capacity of at least 3 MWh, which aims to assess the capabilities and technical characteristics that this type of installation currently offers as a tool that seeks to improve the operating efficiency of electricity systems. The commissioning of this innovative electrochemical storage system installed in Carmona, Seville, has been carried out in order to test two functionalities aimed at promoting the integration of renewable energy and improving operation services (modulation of the load curve and load-power frequency control). In later phases, the facility will serve as a platform to assess the potential contribution of this technology to other operation services, the increase in the flexibility of grids or the stability of the system.

- PERFILA project ◆: Geared towards the definition of patterns of behaviour of the energy needs of households and small businesses to carry out a more efficient management of both the demand and of energy resources. Led by Red Eléctrica it involves the major distribution companies. This project was recognised in the first edition of the EnerTIC 2013 Awards thanks to its innovative research and character..

◆ Projects included in **"Red Eléctrica eficiente"**

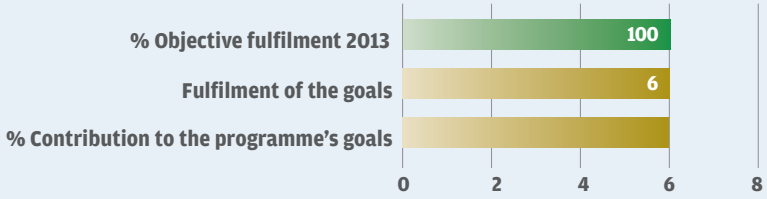
5.3.4 · Conservation of biodiversity

In 2013, Red Eléctrica signed the Biodiversity Pact, with which the objectives of the United Nations Convention on Biological Diversity are both recognised and supported, and whose goal is to show commitment towards the conservation and sustainable use of biodiversity. It is a channel to be used by the 16 member companies to identify alternative and innovative projects in the matter, as well as opportunities in this area.

The detailed information of all projects that Red Eléctrica leads or participates in can be found on the following webpage of Red Eléctrica's corporate website: http://www.ree.es/es/sostenibilidad/medioambiente/mapa-de-proyectos

Biodiversity objective

OBJECTIVE 7 - Establish 17 actions regarding biodiversity in the 17 Autonomous Communities (2011-2013)



07.1 Establish actions regarding biodiversity in 4 Autonomous Communities

Description: Develop a collaboration framework via agreements, specific projects or specific actions such as the Red Eléctrica Forest, with those Autonomous Communities where Red Eléctrica has a greater presence.

Actions 2013: Actions have been established regarding biodiversity with Aragon and Castilla-La Mancha. After the analysis carried out, it was determined that no action was required in Cantabria and Navarra.

Status: Completed

Actions in previous years:

2011: Actions with the authorities of Andalusia, the Balearic Islands and Valencia

2012: New actions with the authorities of Catalonia, Murcia, the Basque Country and Valencia

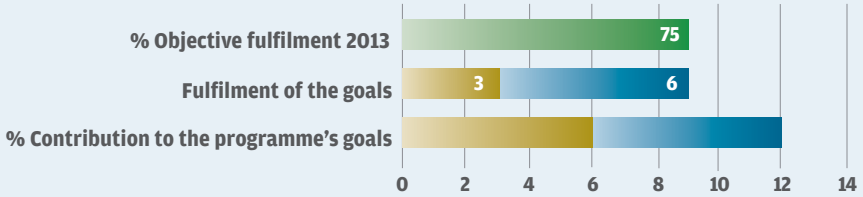
Noteworthy birdlife protection projects

- **Identification, characterisation and mapping of the flight paths of birds that interact with high voltage power lines:** Duration of the project 2010-2014. Collaboration with: Asistencia Técnica CLAVE, S.L., Doñana Biological Station (CSIC), 17 regional government administrations responsible for wildlife conservation management and conservation organisations.

  Tool based on the use of Geographic Information Systems (GIS), which integrates data from bird flight corridors (areas of presence and routes) and electricity lines, improves the prevention of impacts on birdlife during the planning and execution phases of projects and enables the prioritisation of mitigating actions.

  This project was included as an objective in the 2013 Environmental Programme.

OBJETIVE 6 - Reduce the risk of existing facilities on birdlife



06.1 Deployment of the "Mapping of bird flight paths" project in 5 of the remaining 13 Autonomous Communities.
04.2 Marking of the conservation areas for the Great Bustard in the Community of Madrid (5 stretches of line)

Description: Gain an in-depth knowledge of the areas nation-wide that are sensitive to flight paths of birds whose characteristics may make them susceptible to collisions with electricity lines, in order to more precisely determine the stretches of line that require marking to reduce the risk to birds of these installations and to take action in areas already identified.

Actions 2013: Work has continued on deployment of the "Mapping of bird flight paths" project in 5 of the Autonomous Communities which were pending the roll-out of the project. In Madrid, 5 stretches of electricity line located in conservation areas of the Great Bustard were marked.

Status: Executed as planned with just a small delay. It will continue in 2014.

Actions in previous years:

2011: The risk map of bird collisions began and was subsequently redefined in the "Mapping of bird flight paths" project.

2012: The "Mapping of bird flight paths" project continued with some delay due to issues associated to outsourcing contracts. Electricity lines located in sensitive areas with electrocution risks were analysed to establish an adaptation plan.

- **Methodology and protocols for the collation and analysis of data regarding bird collision accidents in electricity transmission lines.** Project duration: 2013. Collaboration: Asistencia Técnica CLAVE, S.L, Doñana Biological Station (CSIC).

  The objective was to draft a methodology to facilitate the standardisation

of field surveys and the homogenisation of data collection and analysis of the results, and therefore the systematisation of monitoring carried out by different work teams. In this way, in the medium term it is expected to have available a robust set of data that will enable individuals to draw general and specific conclusions about the incidence of this cause of mortality in bird populations.

Noteworthy projects for the protection of aquatic vegetation

- The use of seeds and fragments of Posidonia oceanica for its recovery in areas affected by the activity of REE: Project duration: 2013-2016. Collaboration: Mediterranean Institute for Advanced Studies, joint research centre between the National Council for Scientific Research (CSIC) and the University of the Balearic Islands (UIB). The purpose of the study is to define and develop a technique to reduce the impact caused by the laying of submarine electricity cables in Posidonia oceanica seagrass meadows by the replanting of laboratory-germinated seeds of this species and fragments of this species obtained as a result of natural fragmentation.

  The application of this technique, once proven and validated, will represent a tool of great interest for Red Eléctrica projects that require the laying of submarine cables, as it will allow to take immediate action on any effects that may have been caused on the Posidonia seagrass meadows, and that will have a lesser impact than those techniques used today and allow affected areas to recover in a shorter period of time. It may also be applied in the recovery of little Neptune grass (Cymodocea nodosa), another flowering plant with similar characteristics and of great biological interest.

Other actions

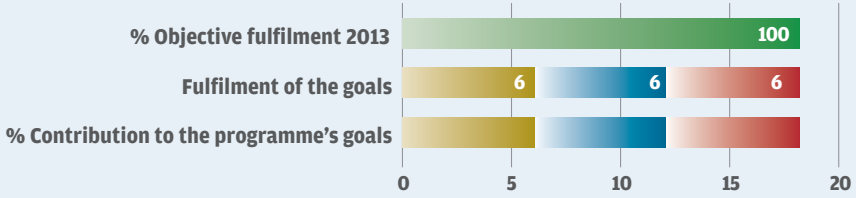
- Marking of electricity lines: During the 2013, 362.2 km of lines were marked with bird flight diverters, of which 24.7 km correspond to lines in service, of these 15 km in the community of Madrid as part of the plan for marking and signage of conservation areas of Bustards.

In addition to the actions indicated, in matters regarding biodiversity a large number of R&D+i projects are underway associated with the protection of birdlife and flora *(see Chapter 6)*.

5.3.5 · Improvement of environmental aspects on installations and facilities of the Transmission Grid

Environmental improvement objective regarding the maintenance process for electricity line safety corridors

OBJETIVE 9 - Incorporate Red Eléctrica's environmental criteria into the maintenance process for electricity line safety corridors (existing at 31/12/2010)



09.1 Definition of risks and solutions for problematic sections.
09.2 Define forestry management criteria for insular facilities.
09.3 Define forestry management criteria for substations.

Description: Integrate the environmental variable in the maintenance process for electricity line safety corridors.

Actions 2013: Problematic sections of line were identified, the cost of the chosen sections was analysed and the lines were selected for the use of LIDAR flights. Similarly, forestry management criteria for insular facilities and for substations were incorporated in the proposal for the 2nd edition of the Forestry Guide.

Status: Running behind schedule. It will continue in 2014.

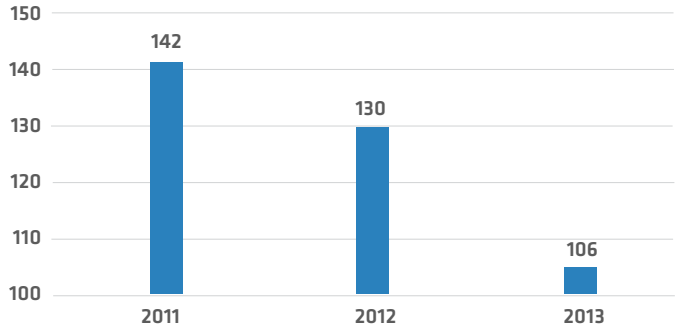
Actions in previous years:

2011: Environmental criteria for the maintenance process for electricity line safety corridors were defined and standardised. The environmental variables defined for the safety corridor maintenance process were included in the corporate geographic information system and a document was drafted regarding risk methodology, implementation and development of indicators.

2012: Continuing the works underway, the identification of electricity lines within forested areas was carried out for 50% of the electricity lines in service and the process for obtaining and processing data obtained via remote sensing (LIDAR and optical) was standardised.

Actions for an environmental improvement of facilities

During the year the environmental maintenance professionals have carried out a total of 106 environmental supervision visits corresponding to 100 substations and of these 13 were facilities not inspected since August 2008, year when this activity was launched.



Over 76% of the substations in service in 2013 have been visited at least once in the last 5 years.

In terms of risk, only 4% of supervisions reached a high level due to incidents being detected that have potential impacts on soil associated to them (oil spillages, the storage of waste, or the state of the transformers containment systems).

The results of these supervisions allow environmental improvement actions to be identified and considered in the planning of activities in both the renovation and improvement plans as well as maintenance programmes.

Actions related to noise pollution

During 2013, at the request of an interested party, noise measurement was performed in the Bescanó substation. The results of the measurement were correct as the noise immission level registered complied with the limit values set by Royal Decree 176/2009 for dwellings located in rural areas, for both night and day.

Actions related to electromagnetic fields

During 2013, at the request of interested parties, measurements were taken of the levels of electric and magnetic fields at:

- Santiago-Tambre 220 kV line (Municipality of Ames A Coruña)
- Palencia substation

The results of these measurements were correct and all came in below those values recommended by the European Union.

5.3.6 · Improvement of the ties with stakeholders/interested parties

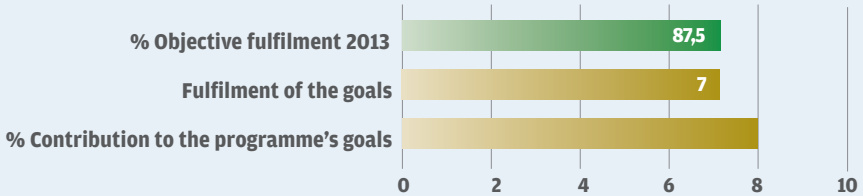
Actions regarding the conservation of flora/vegetation

- Forestry Policy: During 2013, Red Eléctrica worked on the drafting of the second edition of its Forestry Management Policy, incorporating new concepts in forestry management criteria and making progress in reaching the milestones set in order to fulfil Red Eléctrica's commitment regarding biodiversity conservation and the prevention and fighting of forest fires.

- Collaboration agreements: Currently, collaboration agreements regarding prevention and fighting of forest fires remain in force with 10 government bodies of 9 Autonomous Communities (Andalusia, Aragon, Castilla-La Mancha, Extremadura, the Balearic Islands, Navarra, the Canary Islands, the Basque Country and Valencia) seven of these agreements were signed during 2013. The total budget is €980,000.

Territorial scope	Noteworthy projects in 2013 linked to collaboration agreements
ARAGON	Pilot project (2013 and 2014) for the placement of cameras for fire detection in Aragon.
	Geolocation of fire extinguishing means (crews, fire engines, technicians) of the Government of Aragon via different devices: GPS, satellite and wireless sensor networks..
	Informative plaque for the millenary Juniper tree ("La Sabina de Villamayor") located in the municipality of Villamayor de Gallego. This white Juniper, estimated to be around two thousand years old, is one of the few remaining specimens of this age in Europe
AUTONOMOUS COMMUNITY OF VALENCIA	Informative educational materials for schools regarding fire prevention: Develop training materials focused on the topic of the prevention of forest fires, to be included as part of the educational curriculum of the schools in the Autonomous Community of Valencia.
ANDALUSIA	Merchandising campaign "We all play a role in the fight against fire" ("Contra el fuego todos actuamos"): campaign of the Regional Ministry of Agriculture, Fisheries and Environment of the Junta de Andalucía focused on raising awareness of school-aged students in Andalusia regarding the prevention and fighting of forest fires.
BALEARIC ISLANDS	Creating a fire break protective corridor in a municipality located in a forest environment: a 30-metre wide fire break protective corridor will be provided in the municipality of Sa Pobla (Balearic Islands).
BASQUE COUNTRY	The maintenance of access roads and paths in the highlands of Vizcaya for services and the use by forest rangers to prevent and extinguish forest fires: clearing scrub and growth from slopes and embankments of general and secondary roads, to eliminate the thick undergrowth layer that grows and accumulates in these areas, creating fire break areas that are very important in the fight against forest fires.

OBJETIVE 8 - Establish agreements regarding the prevention and fighting of forest fires.



08.1 Establish 8 agreements regarding the prevention and fighting of forest fires.

Description: Develop a cooperation framework regarding the prevention and fighting of forest fires in those Autonomous Communities in which Red Eléctrica has a presence.

Actions 2013: Agreements were signed with: the Balearic Islands, Castilla-La Mancha, Extremadura, Guipuzcoa, Navarra and Tenerife.

Status: Running behind schedule. It will continue in 2014

Actions in previous years:

2011: The proposals designed were not formalised in any signed agreement.

2012: One agreement was signed with the Autonomous Community of Valencia.

- Training and awareness: Work which began in 2008 continues in order to improve awareness and communication regarding electricity lines and the prevention and fight against forest fires with forestry agents, SEPRONA and Public Administration technical personnel responsible for the environment. In 2013, training sessions regarding electricity lines were held between professionals from Red Eléctrica and experts from the Environmental services of the provinces of Zaragoza, Huesca and Teruel. These sessions covered topics such as knowledge regarding electricity facilities, fire prevention works and safety measures. The session ended with a visit to a location where felling works were being conducting.

Actions regarding birdlife

- Collaboration agreements: in 2013, the collaboration agreement was signed with the Autonomous Community of Aragon to carry out actions regarding the protection of birdlife within the region.

Actions regarding emissions

- Collaboration agreements: in 2013, a collaboration agreement was signed with the Autonomous Community of Castilla-La Mancha and with 'Plant for the Planet' (an initiative for connecting Spanish forests via green corridors) to carry out the Red Eléctrica Forest project within this region.

  To date, and in the period 2011-2013, Red Eléctrica has carried out environmental actions in 14 Autonomous Communities, those in which the presence of electricity facilities/installations is more important.

5.4 · WASTE

TBoth 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.

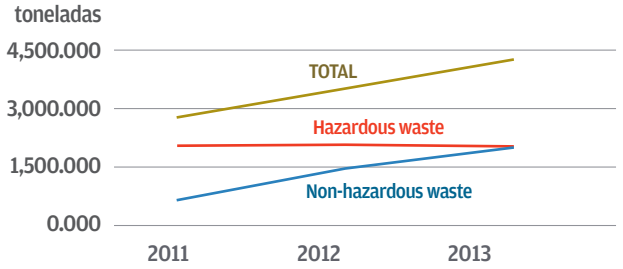
In the in-service facilities, wastes are basically generated by renovation and improvement activities, the execution of preventive and corrective maintenance programmes of machines, equipment and auxiliary services in substations, line maintenance, access corridors for towers and the management of accidents.

We attempt to reduce the amounts of waste we generate to the minimum. This is accomplished through the improvement of our processes and extending the useful life in those cases where it is viable, as is the case with the regeneration of transformer oil. However, due to the characteristics of our activity, it is very difficult to establish criteria or predict waste generation trends 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 and in line with the trend of the last three years, the amount of waste generated in 2013 increased by 767.056 tonnes with respect to that of 2012.

In this period, the volume of non-hazardous waste increased progressively to the point in which it reached a similar level to that of hazardous waste, while the latter has remained stable.



The following is noteworthy in each waste category:

Non-hazardous waste:

- A very significant increase of inert waste was registered due to a greater number of renovations and improvements to facilities throughout the year and that have required civil works.
- For the third consecutive year, though to a lesser degree, there has been an increase in the amount of sludge from septic tanks emptied as a result of the adaptation or replacement campaign launched in 2010 in order to adapt these assets to Red Eléctrica's standards and, in some cases, to the existing legislation. As there are now more watertight septic tanks installed and which need to be emptied periodically, this has resulted in an increase in the amount of sludge that needs to be properly managed.
- Increase in paper and cardboard basically in the head office building. Due to organizational changes in 2013, several files with abundant documentation were removed and disposed of.
- Increase in wood waste due to improved practices in segregation and delivery to the waste management company.
- The rest of the non-hazardous waste, generated in non-significant quantities, continues the trend of previous years.

Hazardous waste:

- Although in absolute terms, the amount of hazardous waste increased compared to 2012, in the majority of the cases the amount generated was reduced. Some even, owing to their exceptional nature, have not again been generated.
- Increase in gas-pressurised containers. The implementation of the new procedures for the management of SF_6 gas and the change of supplier has resulted in an increase in the removal of bottles containing this gas.
- Increase in accumulators and batteries due to the removal of the same following the finalization of the installation of communications, especially in recently acquired assets on the islands (nickel-cadmium accumulators) and in the head office (lead batteries).
- Considerable increase in the oil/water mix as a result of the periodic maintenance of containment pits for power transformer leaks and spills.
- Increase in materials impregnated with hydrocarbons, particularly in the Eastern regional office, owing to the amount of paper impregnated with the oil that was in the interior of a power transformer which was dismantled.
- Continuing the trend of the past two years, the amount of transformers, equipment and oils with PCBs continues to decrease as a result of the completion of the plan for the elimination/decontamination of auxiliary and power transformers, and equipment containing polychlorinated biphenyls (PCB). The quantities generated nowadays come from the replacement of airtight equipment, manufactured before 2000, which ends up contaminated at the end of its useful life.
- Equipment containing oil and used oil, though with a slight decrease, continues in order of magnitude.
- Decline in the volume of soil/earth contaminated with hydrocarbons, mainly due to reduced requirements for adequacy of containment systems for power transformers.
- In general terms, the rest of the hazardous waste continues the trend of previous years, with the logical variations resulting from the execution of the corresponding periodic maintenance.

Waste generated during maintenance activities

Non-hazardous waste	Quantities managed (t) 2011	2012	2013	Indicator (t/total Nº employees) 2011	2012	2013
Septic tank sludge	413.236	1,118.660	1,311.240	2.1E-01	5.6E-01	6,7E-01
Inert waste	170.970	144.580	544.082	8.8E-02	7.2E-02	2,7E-01
Paper and cardboard	115.747	211.558	241.938	6.0E-02	1.1E-01	1,2E-01
Toner (1)	0.008	0.032	0.022	4.3E-06	1.6E-05	1,1E-05
Wood	30.460	42.231	69.581	1.6E-02	2.1E-02	3,6E-02
Vegetable waste (2)	24.940	34.153	8.567	1.3E-02	1.7E-02	4,4E-03
Non-hazardous electrical and electronic waste	46.413	0.699	3.443	2.4E-02	3.5E-04	1,8E-03
Plastics	3.107	7.535	4.957	1.6E-03	3.8E-03	2,5E-03
Glass	0.760	0.075	0.176	3.9E-04	3.7E-05	9,0E-05
Vegetable cooking oils	2.040	5.860	4.800	1.0E-03	2.9E-03	2,5E-03
Alkaline batteries - 'No Mercury' formula	0.028	0.000	0.033	1.4E-05	0.0E+00	1,7E-05
Total	**782.769**	**1,531.230**	**2,180.272**	**4.0E-01**	**7.649E-01**	**1,116**

(1) Waste management of toner corresponds to the supplier and maintainer of the printers. Data shown corresponds to only those units purchased directly by Red Eléctrica.
(2) This was not taken into account in calculating the total non-hazardous waste. This is not a representative value, since most of this waste was delivered to the owner or incorporated into the ground. The table includes only the waste delivered to the waste management company.

The IT application for controlling and monitoring the disposal of metallic waste was implemented in 2013, and as a result this is first year for which the data obtained can be provided. In order to not detract from the total values of waste generated, the data will not be included in the overall waste figures until three years of historical data is available.

	2013 (*) Quantities managed (t)	Indicator (t/total Nº employees)
Metallic waste not contaminated with hazardous substances	1,513.762	7.7E-01

(*) Closing date 30/Jan/2014

Hazardous waste	Cantidades gestionadas (t) 2011	2012	2013	Indicador (t/Nº total empleados) 2011	2012	2013
Used oil	152.256	433.156	287.967	7.8E-02	2.2E-01	1.5E-01
Oils with PCBs	0	0.426	0.137	0.0E+00	2.1E-04	7.0E-05
Oil/water mix	240.673	466.030	929.592	1.2E-01	2.3E-01	4.8E-01
Diesel/water mix	0.705	0	0.400	3.6E-04	0.0E+00	2.0E-04
Transformers and equipment with PCBs	45.205	19.906	10.477	2.3E-02	9.9E-03	5.4E-03
Hazardous electrical and electronic waste: equipment containing oil	716.708	353.745	307.077	3.7E-01	1.8E-01	1.6E-01
Hazardous electrical and electronic waste: Other	78.487	49.070	59.897	4.0E-02	2.5E-02	3.1E-02
Nickel-cadmium accumulators	100.355	105.866	112.035	5.2E-02	5.3E-02	5.7E-02
Lead batteries	3.805	1.703	15.062	2.0E-03	8.5E-04	7.7E-03
Earth impregnated with hydrocarbons	648.138	504.032	383.033	3.3E-01	2.5E-01	2.0E-01
Containers that have contained hazardous substances	8.217	7.620	5.077	4.2E-03	3.8E-03	2.6E-03
Absorbent materials, filtering materials, cleaning rags/cloths and protective clothing contaminated with hazardous substances	16.630	9.379	47.057	8.6E-03	4.7E-03	2.4E-02
Silica gel and other inorganic chemical products	0.489	0.000	0.848	2.5E-04	0.0E+00	4.3E-04
Non-halogenated solvents	0.000	0.134	0.047	0.0E+00	6.7E-05	2.4E-05
Halogenated solvents	0.000	0.005	0.108	0.0E+00	2.5E-06	5.5E-05
Water-based cleaning liquids	0.114	0.085	0.000	5.9E-05	4.2E-05	0.0E+00
Paint waste	0.201	0.843	0.372	1.0E-04	4.2E-04	1.9E-04
Insulation material (with or without asbestos)	2.439	9.656	1.244	1.3E-03	4.8E-03	6.4E-04
Laboratory chemical products containing hazardous substances	0.437	0.974	0.354	2.2E-04	4.9E-04	1.8E-04
Gases in pressurised containers	0.126	0.592	8.522	6.5E-05	3.0E-04	4.4E-03
Waxes and used greases	0.000	0.000	0.000	0.0E+00	0.0E+00	0.0E+00
Anti-freeze containing hazardous substances	1.055	0.301	0.029	5.4E-04	1.5E-04	1.5E-05
Florescent tubes	0.702	0.459	0.974	3.6E-04	2.3E-04	5.0E-04
Batteries	0.021	0.096	0.028	1.1E-05	4.8E-05	1.4E-05
Fuel oil and diesel	0.000	1.065	0.000	0.0E+00	5.3E-04	0.0E+00
Cables with hydrocarbons	0.000	87.180	0.000	0.0E+00	4.4E-02	0.0E+00
Total	**2,016.763**	**2,052.323**	**2,170.337**	**1.0**	**1.025**	**1.11**

Types of Management

Non-hazardous waste	
Septic tank sludge	Treatment/recycling
Scrap metal	Recycling
Inert waste	Controlled elimination
Paper and cardboard	Recycling
Toner	Recycling
Wood	Recycling
Vegetable waste	Recycling
Non-hazardous electrical and electronic waste	Recycling
Plastics	Recycling
Glass	Recycling
Vegetable cooking oils	Regeneration
Alkaline batteries - 'No Mercury' formula	Recycling

Hazardous waste	
Used oil	Regeneration/Valuation
Oils with PCBs	Valuation/Controlled elimination
Oil/water mix	Valuation
Diesel/water mix	Valuation
Transformers and equipment with PCBs	Valuation/Controlled elimination
Hazardous electrical and electronic waste: equipment containing oil	Valuation
Hazardous electrical and electronic waste: Other	Valuation
Nickel/cadmium accumulators	Reciclaje
Lead batteries	Reciclaje
Earth impregnated with hydrocarbons	Controlled elimination
Recipients that have contained hazardous substances	Valuation
Absorbent materials, filtering materials, cleaning rags/cloths and protective clothing contaminated with hazardous substances	Valuation
Silica gel and other inorganic chemical products	Valuation
Non-halogenated solvents	Valuation
Halogenated solvents	Valuation
Water-based cleaning liquids	Valuation
Paint waste	Valuation
Insulation material (with or without asbestos)	Valuation/Controlled elimination
Laboratory chemical products containing hazardous substances	Valuation
Gases in pressurised containers	Valuation
Waxes and used grease	Valuation
Anti-freeze containing hazardous substances	Valuation
Florescent tubes	Recycling
Batteries	Controlled 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. The fulfilment of the requirements is reviewed during the work supervision visits and through the control of the pertinent documentation.

Waste generated during construction activities

Non-hazardous waste
Excavation surpluses
Concrete surpluses
Flora/Forestry waste
Paper and cardboard
Plastics
Wood
Scrap metal waste
Solid urban waste
Septic tank sludge

Hazardous waste
Paint waste
Absorbent matter and cloths/rags contaminated with hazardous substances
Earth impregnated with hydrocarbons
Containers that have contained hazardous substances

5.5 · ACCIDENTS WITH ENVIRONMENTAL IMPACT

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; minimise 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.

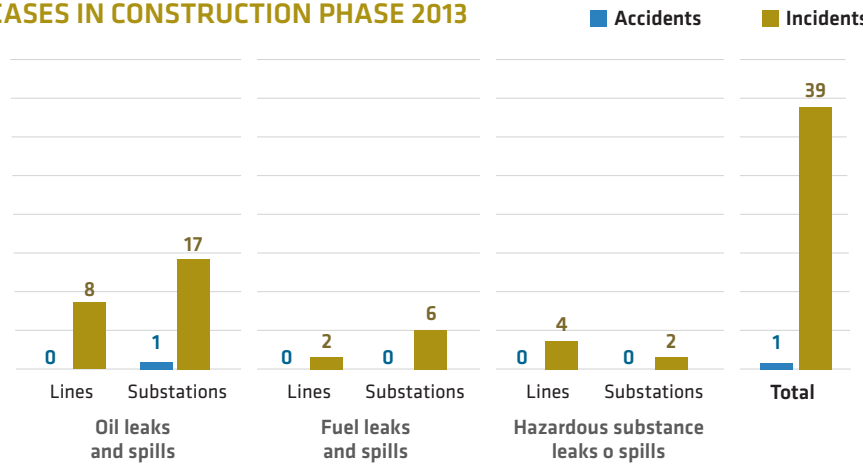
To date, all the events that have been formally reported, regardless of their seriousness, have been counted together. In 2012, criteria were established to enable a better classification, according to whether they were accidents or incidents, and this makes it possible to evaluate the consequences of each one of the events categorised as accidents..

The evolution of the incidents/cases in the last three years has been the following:

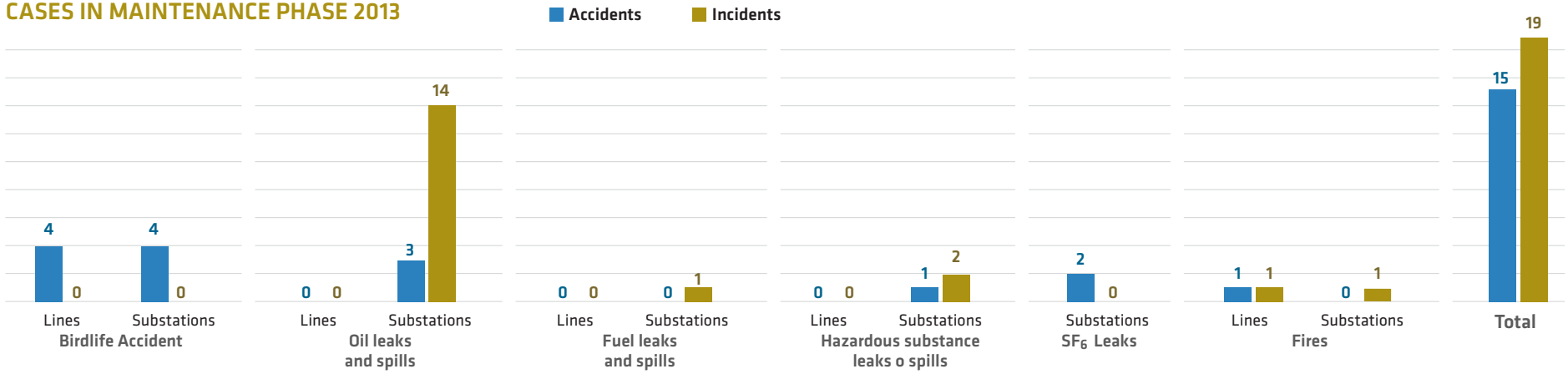
Incidents notified	2011	2012		2013	
		Accidents	Incidents	Accidents	Incidents
Construction activities	**40**	**0**	**9**	**1**	**39**
Fires due to line discharges	1	0	0	0	0
Fires resulting from a fault in substations	0	0	0	0	0
Leaks and spills of oil due to error in the filling of transformers	0	0	0	1	0
Leaks and spills of oil and hydrocarbons due to minor breakdowns during the use of machinery during construction works.	39	0	9	0	33
Leaks and spills of hazardous substance	0	0	0	0	6
Maintenance activities (*)		**12**	**25**	**7**	**19**
Fires due to line discharges	2	1	0	1	1
Fires due to fault in substations	1	1	0	0	1
Towers brought down due to severe weather conditions	0	0	0	0	0
Leaks and spills of oil and hydrocarbons during the use and maintenance of substation equipment	22	6	24	3	15
Oil leaks in lines	0	0	1	0	0
Inundaciones	0	0	0	0	0
SF_6 leaks due to explosion of equipment or other accidents	2	4	0	2	0
Leaks and spills of hazardous substance	0	0	0	1	2

(*) Birdlife collisions with in-service electricity lines are addressed separately from the data included.

CASES IN CONSTRUCTION PHASE 2013



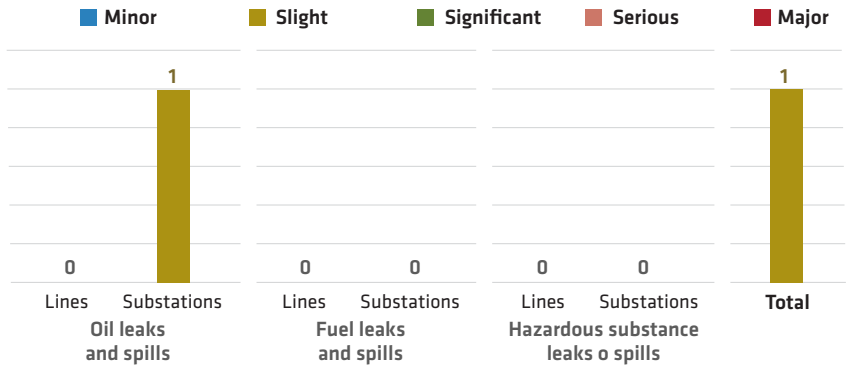
CASES IN MAINTENANCE PHASE 2013



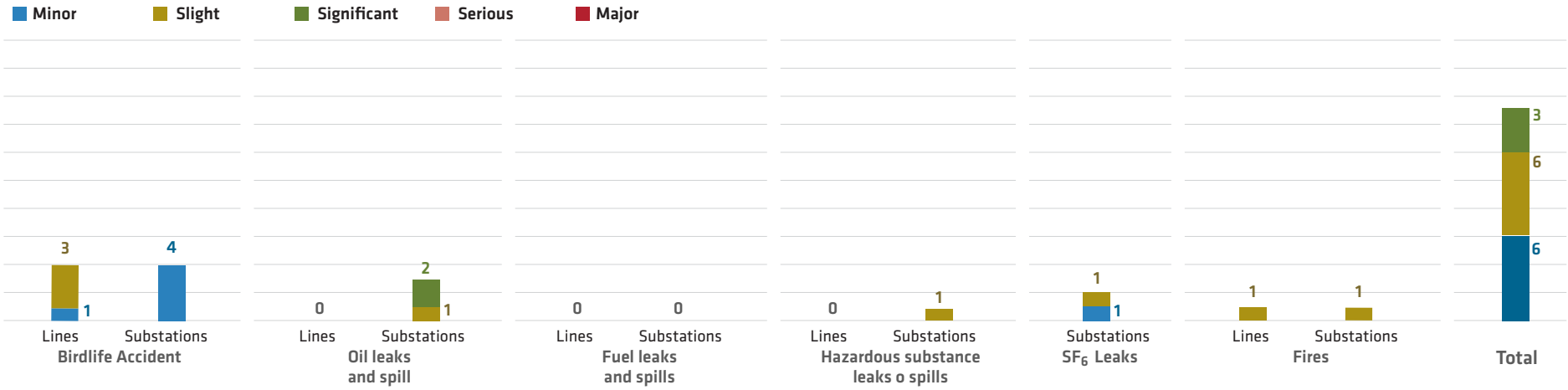
The most relevant incidents (78.8%) continue to be leaks and spills of hydrocarbons, both in construction and maintenance activities.

All reported incidents that have reached the status of accidents have been broken down by activity phase in the following manner:

CLASSIFICATION OF ACCIDENTS BY SERIOUSNESS. CONSTRUCTION PHASE 2013



CLASSIFICATION OF ACCIDENTS BY SERIOUSNESS. MAINTENANCE PHASE 2013



Only 18.75% of the accidents, all of which occurred during the maintenance phase and were associated with leaks and spillages of hydrocarbons in the Bessons, El Petrel and Litoral substations, reached the significant level (the intermediate level on a scale of 5). The first required a soil characterization, the results are being analysed at the moment, the other two did not require environmental monitoring, other than the clean-up of the affected area - which in both cases was little relevant.

The results of the evaluation of the consequences of the 16 cases considered (1 in construction and 15 in maintenance), indicate that no accident has exceeded the average level of seriousness.

The consequences of the other accidents are at lower levels: minor 37.5% and slight 43.75%.

In the electricity lines with a voltage higher than 220kV, birdlife collision accidents are recorded. It is virtually impossible for an electrocution to take place, because the distances between the voltage points and the metallic structures of the towers are greater than the wingspan of any bird species existing in Spain.

During the construction phase of new lines, tracking of birdlife takes place linked to the programmes of environmental monitoring. The monitoring of the line takes place in those line sections in which anti-collision measures have been installed: spirals and/or other bird-flight diverter devices.

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On some occasions, the new lines pass through areas which are home to species susceptible to collision accidents. For this reason, the monitoring of the lines is not limited to the marked sections, therefore more exhaustive monitoring is done, in order to detect possible previously undetected accident black spots and to act immediately by installing corrective measures: spirals and/or other bird-flight diverter devices.

As for bird collisions with electricity lines in 2013, the following were detected:

- **Through the programmes for environmental monitoring of electricity lines recently put in service:** 219 cases of bird collisions, of which 6 were Little Bustards (Tetrax tetrax) and 2 were Great Bustards (Otis tarda), both catalogued species.
- **In facilities in service:** 18 cases of bird collisions, including the following catalogued species: 4 Great Bustards (Otis tarda) and 1 Imperial Eagle (Aquila adalberti), the latter taken to a rehabilitation centre.

The accidents confirmed are analysed, corrective measures to be put in place are defined and are included in the annual Plan for maintenance of installations in order to ensure that these measures are taken.

As part of the 2013-2014 plan for marking transmission lines in areas where the Great Bustard lives or can be found in the Community of Madrid, in 2013 bird flight diverters were installed on 15.94 km corresponding to sections of 5 lines.

6· 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 2013, the expenditure on R&D+i of environmental nature reached 305,867.75 euros. This amount represents 2.1% of the total expenditure on R&D+i.

With the collaboration of all the areas involved, noteworthy are the following R&D+i projects:

Vegetation

- "Modelling of the growth of forest masses" (2010-2013) project. Carried out in collaboration with Altran Technologies and the School of Engineering and Mountain Science of the Universidad Politécnica de Madrid. The goal of the project was 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 exceeded. The project was completed in the early months of the year. The conclusions have been that it is not possible to model growth from a theoretical perspective due to the very low reliability of data.
- Monitoring system for forest fires in lines (2013-2014): In collaboration with the company GESMACON. The objective is to develop an autonomous system for the detection of forest fires in the vicinity of high voltage overhead lines. During 2013 the fire detection system was developed and a study of visual watersheds was performed for the installation of the thermal monitoring system for forest fires in different locations on a electricity line in the province of Huesca, choosing the location where the pilot system is to be installed in early 2014 and which shall provide results after the 2014 fire season.

Birdlife

- Design of a collision detector prototype system: Carried out in collaboration with the Fundación Migres and the Research Foundation of the University of Seville. Began in September 2008, its finalisation has been extended to 2013. An impact detection device has been designed, which once installed on electricity grounding cables allows real-time detection of possible collisions, by means of a vibration that is transmitted to a computer, and that sends a signal to a mobile device allowing the accident to be communicated in real time.

7· TRAINING AND AWARENESS

We consider environmental training as strategic in order to create a team which is increasingly concerned about environmental protection. The training provided goes a step beyond the mere professional scope, with the aim of contributing to the improvement of environmental habits in the daily work and family life of every employee.

In 2013, 17.16% of Red Eléctrica's staff received environmental training (in contrast to 11.46% in 2012) with a total of 6,244 hours of training (in contrast to 2,936 hours in 2012).

Noteworthy is the significant effort carried out during 2013 in the training related to the handling of SF_6.

Areas of environmental training
Handling SF_6 Gas
The Electricity Sector and the Environment
Forest fires
Design of accesses
Climate Change
Restoration of degraded areas
Contaminated soils
Felling and pruning works

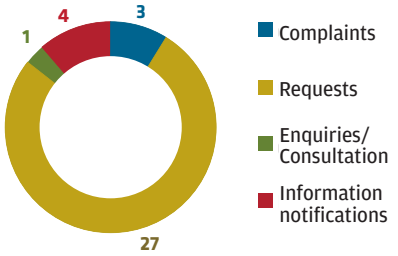
8· COMMUNICATION AND RELATIONS WITH STAKEHOLDER GROUPS

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

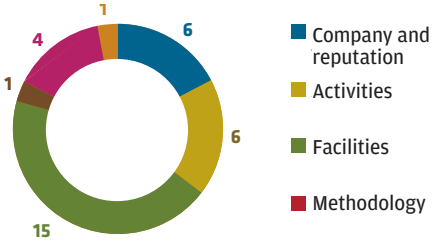
8.1 · STAKEHOLDER ATTENTION – ENQUIRIES AND CLAIMS

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

During 2013, 34 enquiries of an environmental nature were received through the DÍGAME service classified as follows:



BY CATEGORY:



BY TYPOLOGY:

8.2· DISSEMENATION OF INFORMATION

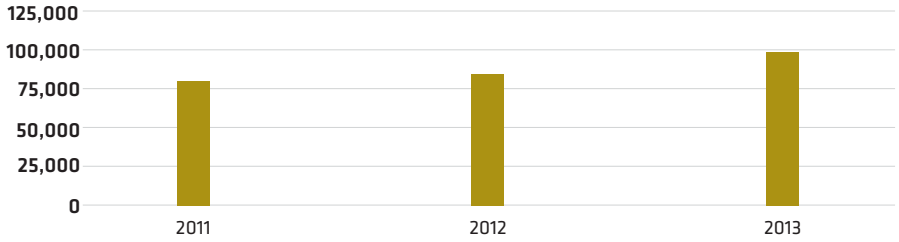
The number of registered visits to the environmental section of the corporate website (www.ree.es) was 97,940 (as compared to 86,003 in 2012) and the number of publications distributed in electronic format registered a total of 119,649 downloads.

The main publications in 2013 were:
- Corporate Responsibility Report 2012
- Environmental Report 2012

Collaboration with the Club de Excelencia en Sostenibilidad (Sustainability Excellence Club) in the publication of the catalogue of good business practices in biodiversity management. REE includes the practice "Mapping of the flight paths of birds that interact with high-voltage transmission lines". Publicly presented by the Minister of Agriculture, Health and Environment.

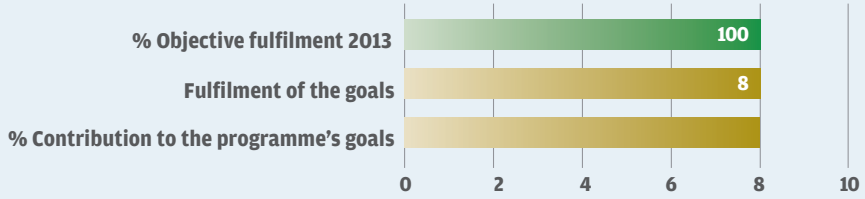
During 2013, a total of 27 press releases of an environmental nature were issued, and were published by various media organizations

WEBPAGE VISITS (ENVIRONMENTAL SECTION)



Objectives for the improvement of relations with interested parties

OBJETIVE 10 - Dissemination of environmental actions



10.1 Publication in the media of 12 press releases of environmental nature

Description: Establish mechanisms that allow society to learn more about how the environmental variable is integrated into Red Eléctrica's activity

Actions 2013: The objective was fulfilled in July. By the end of 2013, a total of 27 press releases of environmental nature had been published in the press and media.

Status: Completed (annual objective)

Other actions carried out in previous years within this environmental scope:

2011: design of a new format for the environmental section of the corporate website.

2012: dissemination of compensatory measures regarding Red Eléctrica projects.

8.3· RELATIONS WITH STAKEHOLDERS

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.

Participation in working groups

In 2013, the Company actively participated in working groups, committees and debate forums organised by prestigious agencies, entities and associations.

Working groups	Organizador
WG C3.12: "Methodologies for calculating and reporting Greenhouse gas inventory for electricity transmission & distribution utilities"	CIGRE
Subgroup "Environmental Impact Evaluation"	ENTSO-E
Subgroup "Implementation of infrastructures"	ENTSO-E
Environmental committee	AEC
Working group on electromagnetic fields	UNESA
Environmental working group on distribution	UNESA
Working group on climate change and energy. CO_2 action programme	Fundación entorno
Working group "Flexilwatts" (greater demand flexibility)	Very Large Power Grid Operators (VLPGO)

WG - WORKING GROUP

9· 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 this sense, Red Eléctrica has identified suppliers whose contracted activity could generate a direct impact on the environment. These correspond to suppliers who provide services linked to construction activities, vegetation management, maintenance of equipment in substations or supply materials linked to the manufacturing of equipment and components.

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As a mandatory requirement, since 2011 all new suppliers of material or services identified as relevant or critical to the activity of Red Eléctrica have an environmental management system that is documented and/or certified by a third party.

Furthermore, the contractual documentation associated to the provision of services or supplies includes the environmental requirements to be met (in terms of training and execution of works), and comprehensive monitoring is carried out to ensure that these are met. In this regard, for construction activities (which may generate an environmental impact), the environmental certification process of works has been launched, as indicated in the first section of this chapter.

10· LEGAL COMPLIANCE ASSESSMENT

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/project, 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 Statement and other administrative authorisations.

The annual legal compliance assessment performed indicates that Red Eléctrica complies with the applicable environmental requirements established by current legislation.

Those practices considered inadequate that result in cases admitted to procedure, are resolved in all cases with civil penalties of small or very small amounts.

The following table details the type of infringement committed and the total cost of the same in sanctions requiring the payment of fines in the period 2011-2013.

	2011		2012		2013	
Infringement committed	Nº of claims/cases	Amount (€)	Nº of claims/cases	Amount (€)	Nº of claims/cases	Amount (€)
Fire risk (1)	7 (2)	2,314	4 (2)	1,082	5	1,182
Unauthorised felling and pruning	2 (2)	21,876	1 (3)	300		
Fire due to line discharge	1	3,848	1	3,948		
Works in areas without authorisation/Obstruction of water way	2	3,100				
Accumulation of biomass waste					1	100
Protected wildlife detected in substation					1	100
Total		**31,138**		**5,330**		**1,382**

(1) Fire risk due to lack of maintenance of vegetation or abandonment of material (vegetable waste).
(2) 4 new cases resolved in 2013 are included
(3) 1 new case resolved in 2013 is included

This data is reviewed annually to include those resolved cases/claims initiated in previous years. For this reason the figures affected by cases resolved in 2013 are shown in red.

11 · ENVIRONMENTAL EXPENDITURE

During 2013, environmental investments totalling 2,752,119.26 euros have been made in new facilities, equating to 0.49% 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 2013 expenditure totalling 20,620,760.88 euros was made in environmental protection and improvement, representing 2.23% of the total operating costs.

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

	2011 (€)	2012 (€)	2013 (€)
INVESTMENTS	**7,027,748.50**	**5,154,305.26**	**2,752,119.26**
Engineering and construction of facilities	**7,027,748.50**	**5,154,305.26**	**2,752,119.26**
GASTOS	**20,306,267.75**	**16,380,072.06**	**20,620,760.88**
Development of methodology and systems	**45,085.71**	**25,152.97**	**49,980.00**
Environmental studies and analyses	**142,121.00**	**200,429.21**	**167,745.71**
Environmental actions in facilities in service	**18,183,847.34**	**14,053,007.55**	**18,564,425.16**
Prevention of contamination	727,891.69	1,890,198.13	1,547,452.53
Protection of biodiversity/ landscaping/ prevention of fires	15,851,286.25	11,187,670.49	16,039,821.03
Climate change	786,070.48	475,359.58	277,067.17
Energy efficiency and saving of resources	181,086.03	236,042.74	206,834.08
Waste reduction and management	637,512.89	263,736.61	493,250.35
Research and development	**319,172.00**	**147,799.26**	**305,867.75**
Training and communication	**416,752.75**	**402,004.37**	**163,179.86**
Environmental training and awareness programmes	27,743.46	11,590.55	26,394.42
Communication	389,009.29	390,413.82	136,785.44
Environmental taxes and levies	**23,185.72**	**117,392.14**	**105,161.83**
Expenditure of personnel dedicated to environmental activities	**1,176,103.23**	**1,434,286.56**	**1,264,400.57**

The following table shows the evolution of the environmental 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		2011	2012	2013
% of investment on the environment (*)	Environmental investment / total investment in the transmission grid	0.85	0.77	0.48
% of expenditure on the environment	Environmental expenditure / total operating costs	2.44	1.80	2.33

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 Asturias, Castilla y Leon, Catalonia and Extremadura.

Environmental Taxes	2011 (€)	2012 (€)	2013 (€)
	1,454,552.02	**6,422,683.58**	**1,666,504.58**

12 · FREQUENCY OF THE ENVIRONMENTAL IMPACT STATEMENT

This Environmental Report is published annually and acts as an Environmental Statement. Its purpose is to provide information to all stakeholders concerning Red Eléctrica's environmental behaviour regarding those activities carried out during 2013.

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 certifies that the Red Eléctrica Environmental Statement complies with the requirements set forth in Regulation (EC) 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).

The next Statement will be presented and published during the first half of 2015.

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 coiled around the grounding cable or conductor to mark it and alert birds to the presence of the lines in order to reduce the risk of collisions.

(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 an impact on the environment.

(Regulation (EC) 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.

(Regulation (EC) 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 MANAGEMENT SYSTEM:

That part of the general management system that includes the organisational structure, 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 (EC) 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 (EC) 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)).

ENVIRONMETAL 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 regulatory provisions applicable to environmental matters, as well as the commitment to continuously improve environmental behaviour. It constitutes a framework for the company's actions and for establishing environmental targets and objectives.

(Regulation (EC) 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 amperes 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 in the places where it is installed or on the actual device itself.

(Own definition of REE).

RED NATURA 2000 :

The European Natura 2000 Ecological Network is a coherent environmental network comprised of Sites of Community Importance whose management shall take into account the economic, social and cultural requirements, as well as the special regional and local characteristics. These sites are later designated as either Special Areas of Conservation (SACs) or Special Protection Areas (SPAs) for Birdlife.

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

SIGNIFICANT ENVIRONMENTAL ASPECT:

An environmental aspect that has, or which may have, a significant impact on the environment.

(Regulation (EC) 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 to which it belongs, contributes greatly to maintaining or restoring a type of natural habitat (...) in a favourable state of conservation so that it can help considerably in establishing the cohesion of Natura 2000 (...) and/or contributes noticeably to maintaining biological diversity in the biogeographic region or regions in question. For the animal species occupying large 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/EC, 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/EEC of 2 April 1979, on the conservation of wild birds.

(Own definition of REE).

VISUAL SIMULATION:

An infographic technique (based on computer applications for graphic representation) applied in order to obtain a visual representation of a project, providing an approximate idea of what it will truly look like once completed, and showing the elements that it is comprised of, as well as its integration into its environment.

(Own definition of 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/obligation to dispose of. In all cases, the items listed in the European Waste Catalogue (EWC) will be classified as such.

(Own definition of REE).

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