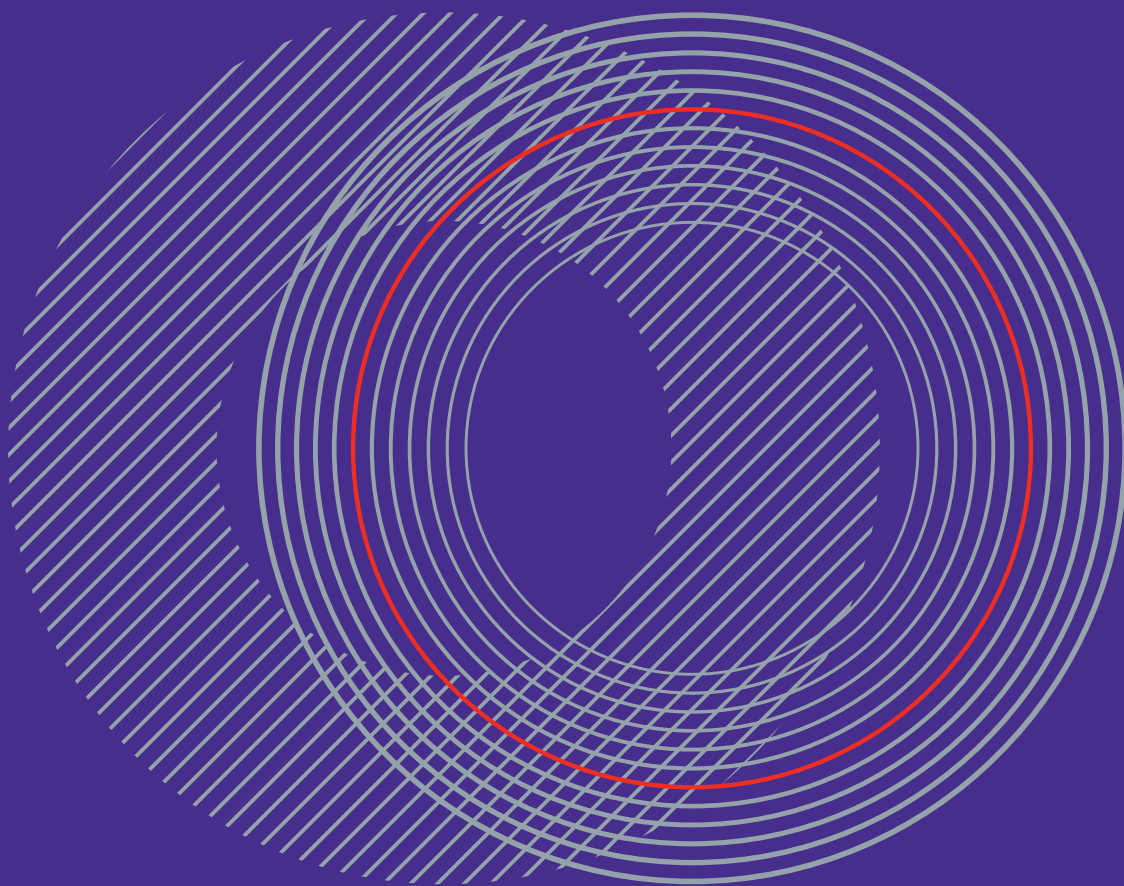


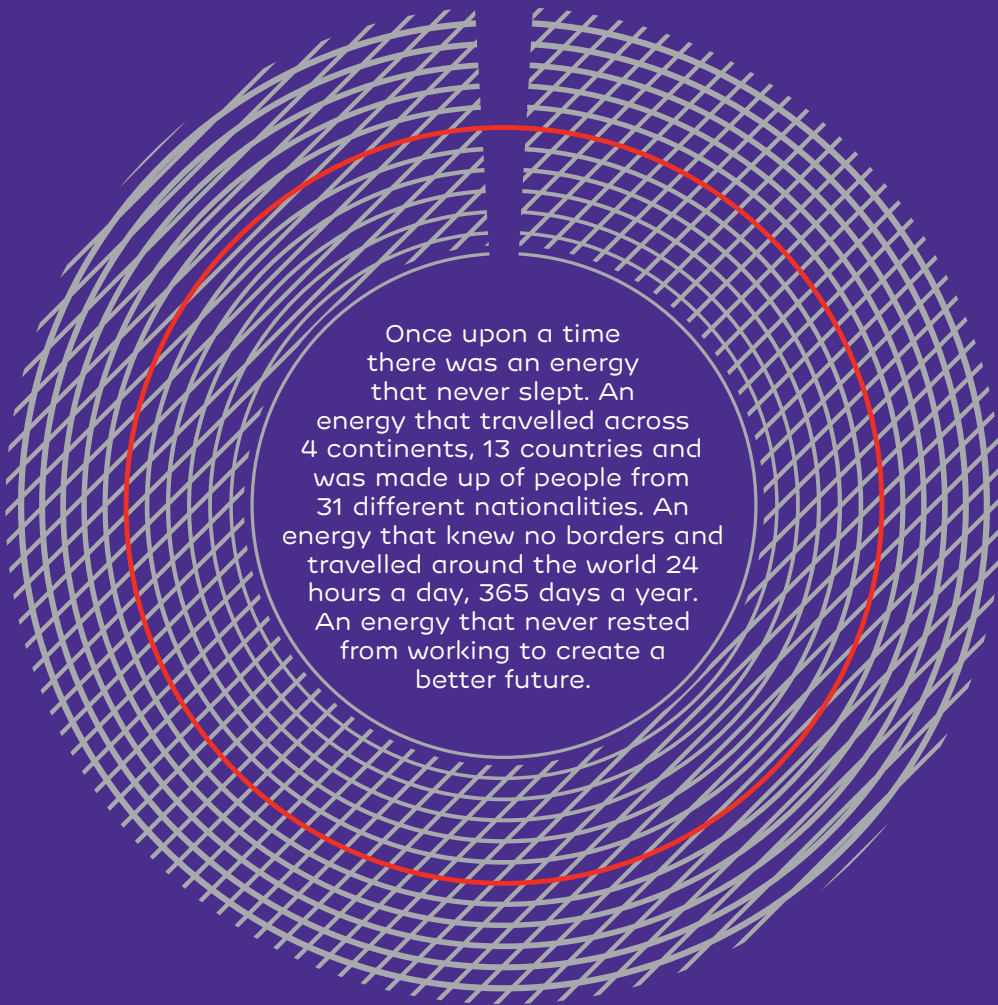
# NEVERENDING ENERGY



*edp*  
SPAIN



# NEVERENDING ENERGY



Once upon a time there was an energy that never slept. An energy that travelled across 4 continents, 13 countries and was made up of people from 31 different nationalities. An energy that knew no borders and travelled around the world 24 hours a day, 365 days a year. An energy that never rested from working to create a better future.



## SUSTAINABILITY REPORT 2013

Please contact the EDP Spain Division for Environmental, Sustainability, Innovation and Quality regarding any query relating to this Report and its content by sending an email to [medioambiente@edpenergia.es](mailto:medioambiente@edpenergia.es)





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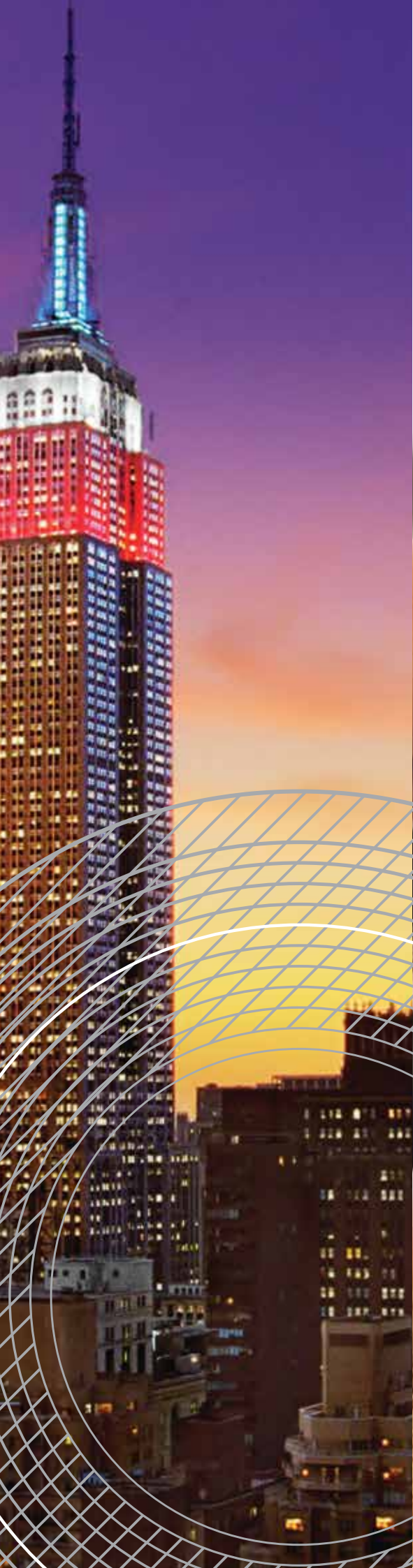
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40° 44' N 73° 59' W  
Time of day: 8.00 a.m.



# NEVER-ENDING ENERGY



For the last eleven years, EDP Spain has published the Sustainability Report annually, as the means to provide the company's main stakeholders with information on its environmental, social and economic performance in all its activities as an electricity and gas global operator in 2013.

The report has been prepared according to the recommendations of the GRI (Global Reporting Initiative) Guide for preparing Sustainability Reports in its 3.1. version, including the additional information that requires the application of the Supplement for companies in the electricity sector (there is no supplement for the companies in the gas sector).

In addition, the readers of this report have other communication channels in place with additional information on the performance of the company in terms of sustainability: [www.sostenibilidadedp.es](http://www.sostenibilidadedp.es)

## PRINCIPLES FOR PREPARING THIS REPORT

### STAKEHOLDER PARTICIPATION

EDP Spain has communication channels in place with all its stakeholders, which are the way to identify their expectations and assume commitments with each of them. This information is detailed throughout the report in each of the chapters aimed at the different stakeholders.

### THOROUGHNESS

The sustainability report describes all the relevant activities of EDP Spain companies where they are noticeably influential and describes the performance of the company in 2013 without omitting any significant information, thus in response to the different stakeholders.

### SUSTAINABILITY CONTEXT

Sustainability is one of the five values underpinning the culture of the EDP Group to which EDP Spain belongs, what explains it is one of the cornerstones of the Group's Strategy. The sustainability report considers the performance of the company in environmental, economic and social aspects.

### MATERIALITY

A materiality study was conducted to define the content of the report with materiality being taken to be the process to identify the areas where there is a risk or which are an opportunity for EDP Spain, and which are at the same time the issues of greatest importance for our stakeholders. Therefore, the reports of companies belonging to the same sector, those of some key sectoral organisations (due to their importance and influence) and those of leading organisations in the field of corporate social responsibility were analysed. In addition, the topics of interest for external audiences in the press were also considered.

## QUALITY OF THE INFORMATION

### BALANCE

The report describes both positive and negative aspects of the performance, thus reflecting the achievements and also the actions where the result obtained has not met expectations.

### COMPARISON

In order to ensure year-on-year comparison of the information, three-year series of quantitative data are given whenever possible, and footnotes are included to justify changes to the scope, explain the formulas used, separate real data and estimates... and thus facilitate understanding by the reader.

### ACCURACY

Every year, EDP Spain strives so that the information included is understandable, accessible and useful, avoiding the use of technicalities and drawing on the use of graphics, diagrams and tables.

### FREQUENCY

The sustainability report is prepared annually and is published once the financial statement information is available and audited.

### RELIABILITY

The 2013 Sustainability Report data provided by the parent company of the EDP Group have been checked by KPMG auditors (pursuant to the ISAE 3000 Standard), together with the financial data.

### CLARITY

EDP Spain considers that the information provided is sufficient and in enough detail to meet the expectations of the stakeholders.



MANUEL  
MENÉNDEZ  
MENÉNDEZ

◆  
Chairman



# LETTER FROM THE CHAIRMAN



THE SUSTAINABILITY REPORT THAT EDP VOLUNTARILY STARTED PUBLISHING MANY YEARS AGO SHOWCASES OUR COMPANY MODEL, OUR COMMITMENT TO THE SOCIETY WHERE WE OPERATE AND THE SOCIETY THAT WE ARE PART OF AND THE RETURN OF BENEFITS TO THE ENVIRONMENT IN WHICH WE OPERATE. DOCUMENTS SUCH AS THIS ARE PARTICULARLY IMPORTANT AT THE CURRENT TIME, NOTED FOR THE REGULATORY INSTABILITY OF THE ENERGY SECTOR AND THE GENERAL REPUTATIONAL CRISIS.

I AM CONVINCED THAT THE SUSTAINABILITY REPORT OF THE EDP GROUP IN SPAIN IS A HIGHLY IMPORTANT COMMUNICATION TOOL WITH OUR STAKEHOLDERS AND, IN PARTICULAR, WITH SOCIETY, AS IT IS BASED ON ACCURATE AND VERIFIED DATA REFLECTING OUR SOCIAL, ENVIRONMENT AND ECONOMIC PERFORMANCE.

I want to invite everyone, with direct and indirect stakes in our company, to learn in greater detail about our organisation, our projects and actions, which make EDP the best rated energy company by its customers; that is committed to human capital that combines talent and commitment, a company committed to the environment, which cuts its emissions sustainably and drives energy efficiency; and a company committed to society, with initiatives that foster culture, sports and space recovery, among others.

These initiatives mean that we are continuing to provide value creation for our stakeholders in a sustainable way. And this is part of our energy and of our "never-ending energy".

I want to thank everyone who works at EDP Spain for their engagement with the Group. It has been a complex year where considerable efforts have been made that, undeniably, will be rewarded in the future. One relevant fact is the collective bargaining process in the electricity sector which has resulted in the II Collective Agreement of the Group, with both parties agreeing to adjustments arising from the current context and the flexibility needs of the company.

I would like to end by thanking the EDP Group for its trust shown through the General and Supervisory Board and the Executive Board of Directors, by supporting the activities of the Group in Spain, which is a fundamental incentive to successfully overcome the challenges facing us in the future.

**Manuel Menéndez Menéndez**

A handwritten signature in black ink, consisting of a stylized 'M' and 'M' followed by a horizontal line and a long, sweeping underline.



MIGUEL  
STILWELL  
D'ANDRADE  
◆  
Chief Executive  
Officer



# LETTER FROM THE CEO



PUBLISHING THE SUSTAINABILITY REPORT OF THE EDP GROUP IN SPAIN IS, UNDENIABLY, A KEY MILESTONE, PROOF OF OUR COMMITMENT TO TRANSPARENCY AND REFLECTING THE COMMITMENT TO VALUE CREATION BOTH FOR THE COMPANY AND FOR OUR STAKEHOLDERS. IT IS THEREFORE A PLEASURE TO INTRODUCE THIS REPORT, NOW IN ITS ELEVENTH EDITION, WHICH IS PREPARED ACCORDING TO THE INTERNATIONAL STANDARD OF THE GLOBAL REPORTING INITIATIVE (GRI 3.1), WHOSE DATA HAVE BEEN AUDITED AND INTEGRATED IN THE EDP GROUP ANNUAL REPORT FOR THE FINANCIAL YEAR.

EDP's commitment to Sustainability, in its environmental, social and economic areas, is particularly important in such a complex context as the one in the last year, noted for regulatory uncertainty and the great hike in the tax burden. This was due to the weakness of demand, down to 2005 values, and due to the capacity surplus and the cutting of the thermal gap, down to 1997 values, all of which are factors that have had a strong impact on the company and will condition our following steps.

### The following milestones thus stand out in 2013:

- ◆ The EBITDA stood at 597 million euros, 4 % down on 2012, including a capital gain of 56 million euros from the sale of gas transport assets, while the net profit (EAT) was 125 million euros (-18 %). In an adverse economic climate, relatively positive results have been achieved thanks to the strategic decisions adopted, the focus on efficiency and cost control.
- ◆ Despite the drop in net electricity production, special mention must be made of the high availability of our generation power stations and the high flexibility of the combined cycles, together with our new hydraulic production record (1,098 GWh).
- ◆ The operations of the Thermal Special Regime power stations decreased sharply due to regulatory changes making the profitable running of many cogeneration and manure plants unfeasible.
- ◆ The number of energy supply points remained stable. There were more than 658,000 electricity distribution supply points and the natural gas ones increased by 1 %, to over a million. As regards distributed energy, electricity increased by 2 %, while gas fell by 8 %. Special mention should yet again be made of the 38 minutes electricity supply quality index (TIEPI), which remains as a benchmark in Spain.
- ◆ The electricity and gas marketing business continued to grow. It was up 5 % on the previous year to 1,900,000 contracts, with a portfolio that balances volume and margin. Mention should also be made of the increase, up 16 %, of the value added services with the Funciona programme and the implementation of a single and integrated EDP brand that has enabled customer communication to be improved.
- ◆ The company remains committed to R&D&i and continuous improvement, with investment in the development of smart grids based on the Innovgrid project to install remote management meters and improve the network.
- ◆ As part of our commitment to the environment, the new corporate headquarters were opened in Bilbao. This involved an investment of 17 million euros and the old building was refurbished to achieve the maximum energy efficiency and environmental friendliness rating (LEED rating, Platinum level).
- ◆ Finally, I would like to highlight the social importance of the signing of the II HC Energía Group Collective Agreement for 2013-2018.

The endeavours of the whole human and professional team in its work and the cooperation with our stakeholders make EDP one of the companies with the best reputation in Spain and the best rated electricity company by customers according to the STIGA Index.

I would like to take this opportunity to thank all our employees for their work and dedication and the HC Board of Directors for its support throughout the year.

**Miguel Stilwell d'Andrade**

# MILESTONES & CHALLENGES



## JAVIER SÁENZ DE JUBERA ÁLVAREZ COMMERCIAL AND CORPORATE GENERAL MANAGER

"During the year, EDP Spain launched the single EDP brand for all its customers, which facilitates our relationship with them. This initiative is in line with the process to simplify the EDP Spain organisational structure that in 2013 focused on setting up unified divisions for the Regulated Business, the Commercial Business, Commercial Solutions and Administration in order to continue consolidating this process in 2014".



## MASSIMO LUCIO ROSSINI NETWORKS AND CORPORATE GENERAL MANAGER

"In 2013, the results of the EDP Spain regulated activities, carried out by our EDP HC Energia and EDP Naturgas Energía distributors, were hit, even though in different ways, by the sale of the Gas Transport business and the far-reaching regulatory changes that occurred in 2013.

Even so, the distributors of the Group managed to reduce the negative impacts to the minimum, mainly thanks to their cost control capacity and the good management of the resources, highlighting their capacity to act efficiently.

The success in setting up projects such as Inovgrid, the Moratalla-Mula gas pipeline, the start up of our first Vehicle Natural Gas supply station, while maintaining excellent service quality, highlight the commitment of the regulated business players to the corporation, the local communities and our customers".



## FÉLIX ARRIBAS ARIAS HUMAN RESOURCES, FINANCES AND ADMINISTRATION DIRECTOR

"In 2013, the Internal Mobility Global Project for EDP Spain got underway in order to improve competitiveness and ensure optimum professional development for people and companies in a global workforce concept. This project will continue to be implemented throughout 2014 and seeks to position mobility as the key to develop professional careers by establishing targets and resources that enable and increase mobility within the EDP group".



## AZUCENA VIÑUELA HERNÁNDEZ INTERNAL AUDIT DIRECTOR

"2013 was a year of achieving important goals whose basic tenets remain in place for 2014. I would highlight four among them: the implementing of a highly demanding work plan based on value added creation for the Group and the covering of the main risks to which it is exposed; the introduction of a new risk analysis methodology in keeping with the current regulatory and economic context; the development of new internal audit work techniques based on the use of information technologies that enable more efficient risk hedging and facilitate the interaction with the business and their reaction capacity; and the evidence of the results of the consolidation of the Financial Reporting Internal Control System (SCIRF), in keeping with the internal commitment already acquired by the Group, ahead of the recommendations of Spanish Securities and Exchange Commission (CNMV). And, for the second year running, a favourable external auditor's opinion issued by the auditor was obtained".



## JOSÉ LUIS MARTÍNEZ MOHEDANO GENERAL SECRETARY AND OF THE BOARD OF DIRECTORS

"I would highlight two important milestones in 2013. First, there was the first review of the EDP Group Code of Ethics, which resulted in a new single code under the slogan "we are what we do" that is applicable to all the companies of the Group irrespective of their different geographical locations. It was the result of a far-reaching internal reflection being carried out in all the business units and divisions on the ethics in the company and on the way in which we want to be in a world where our presence is increasingly greater. Second, special mention must be made of the setting up of the EDP FOUNDATION, based on the original HC Foundation, now channels all the EDP Spain corporate social responsibility and patronage activities, involving the EDP HC Energía, EDP Naturgas Energía, EDP Renewables and EDP Branch in Spain, with a sphere of action embracing the whole national territory".



## SANTIAGO BORDIÚ CIENFUEGOS-JOVELLANOS REGULATION DIRECTOR

"As is usual every year, 2013 was yet again a complicated year as regards regulation, and this time it was not just down to the tariff deficit". The regulator took advantage of having to make new adjustments to guarantee the economic sustainability of the electricity system, to reform the sector in depth. 2014 is also looking difficult, and not due to the tariff deficit that already has to be eliminated, but because continuity will have to be given to the reforms started, where improving the efficiency of the system and increasing the quality of the service perceived by the consumer will become increasingly important".



## MARCOS ANTUÑA EGOCHEAGA COMMUNICATION AND PROJECT DIRECTOR

"2013 was noted for the launch in Spain of the Save: to compete programme aimed at companies, that is going to bring us closer to our customers, understand their energy needs better and share with them the task of achieving more efficient consumption, by offering them an integrated assessment service, advice, comprehensive implementation and savings guarantee by means of energy efficiency measures".





**MIGUEL MATEOS VALLES**  
**GENERATION DIRECTOR**

"The most outstanding aspect in the generation activity was the maximum hydroelectric production record, achieved thanks to the availability of our power stations, which, despite not having a huge water storage capacity, are capable of carrying out the maintenance work without limiting the production capacity. And due to the flexibility of the combined cycles, which have improved their processes to the point that we can simulate the start up of two units of the same power station and in sufficiently short times to meet the needs of the generation market. To which has to be added the economic-technical reliability of the coal-fired thermal power stations, which are a cornerstone of our generation facilities. In the negative aspects, despite the emphasis on prevention, a fatal accident has tarnished all the positive indicators in this area".



**RICARDO GONZÁLEZ SANTANDER**  
**B2C SALES AND MARKETING DIRECTOR**

"I believe that the most important B2C Sales and Marketing achievement has been introducing the EDP commercial brand throughout Spain, enabling households outside our traditional zones to benefit from our dual product with the most competitive service on the market, achieving the highest satisfaction index of the sector according to the Spanish Consumer Satisfaction STIGA index".



**JAVIER FLÓREZ FERNÁNDEZ**  
**B2B SALES DIRECTOR**

"At EDP we want to be known for our approachability, service and our relationship with our B2B (business to business) customers. We want to help our customers to contract the energy supply that best adapts to their needs, so that each and every one of our customers have a commercial manager or a specialist company team at their disposal. In the future, we are also going to work to help our customers to implement efficiency measures that enable them to optimise their energy consumption".



**LUIS ÁLVAREZ ARIAS DE VELASCO**  
**EDP HC ENERGÍA NETWORKS DIRECTOR**

"During 2013, in March, the Inovgrid Department was set up in the networks area, which was tasked with the campaign to fit electronic meters (legal obligations to replace all V type meters, less than 15 kW, prior to 31 December 2018) in order to build on the meter replacement campaign to introduce smart grids. In this period, apart from having reached 35 % of replaced meters, work was carried out on developing applications that enable smart management of the low voltage grid; specifically, a pilot project was run in Pola de Siero, where the low voltage grid can be managed from the Scada system, which allows all the data to be gathered from the selected meter, and offering a multitude of utilities that will enable the operating of the grid to be optimised and further improve the supply quality to our customers".



**JUAN RAMÓN ARRAIBI DAÑOBEITIA**  
**NATURGAS ENERGÍA EDP REGULATION BUSINESS DIRECTOR**

"I would highlight three milestones in 2013: the launch of the bidding process of our main network operating and infrastructure development activities, the coming into service of the Moratalla-Mula gas pipeline in the Murcia region and replacement of the vehicle fleet by vehicles fuelled by natural gas. The main challenge of 2014 will stem from the new playing field set by the ministry for this regulated activity and the ensuing strategic reflection to adapt to them".



**RAFAEL CAREAGA ARLUNDUAGA**  
**DIRECTOR OF INSTITUTIONAL RESOURCES AND RELATIONS**

"Following the transfer to the new Bilbao corporate headquarters, we were awarded LEED -NC (New Building and Major Refurbishing) certification in its highest category, Platinum, by the US Green Building Council (USGBC). This guarantees that the whole building has been designed and constructed according to the most demanding integral sustainability criteria. We have also integrated the education, research, cultural, social and environmental sponsoring and activities of the Naturgas Group into the sphere of the EDP FOUNDATION for Spain, which was set up in November 2013. Finally, one of the outstanding projects for 2013 is to agree the Collective Bargaining Agreement for Naturgas Group companies, which will be applicable for the coming period".



**JOSÉ NEGUERUELA RAMÓN**  
**INFORMATION TECHNOLOGIES DIRECTOR**

"From the organisational point of view, the corporate management integration continued in 2013. The main milestone was the progress in defining the New Application Management Model, a key project to achieve Application Maintenance and Management in Spain and Portugal. As regards the projects, we should stress the unification of the public websites and the unification of the Customer Areas of our marketers, the integration of the distributor systems with the Remote Management system, along with other projects aimed at operative efficiency and improving management in different Business Areas."



**YOLANDA FERNÁNDEZ MONTES**  
**DIRECTOR OF THE ENVIRONMENT, SUSTAINABILITY, INNOVATION AND QUALITY**

"The approval of the *Relationship with the Stakeholders Policy* of the EDP Group in 2013 was particularly important to improve our relations with the stakeholders. Thus, special mention should be made of the environmental investments to the tune of over 37 million euros, generating wealth in the communities in which we are present, and the new R&D&i projects, to tackle the future challenges that emerge, both environmental and technological. We disseminate and highlight all these initiatives through the sustainability website, as part of our transparency commitment, which has enabled us to contribute to the positioning of the Group as the leader of the Utilities on the Dow Jones Sustainability Index".





# 01

## ECONOMIC OVERVIEW

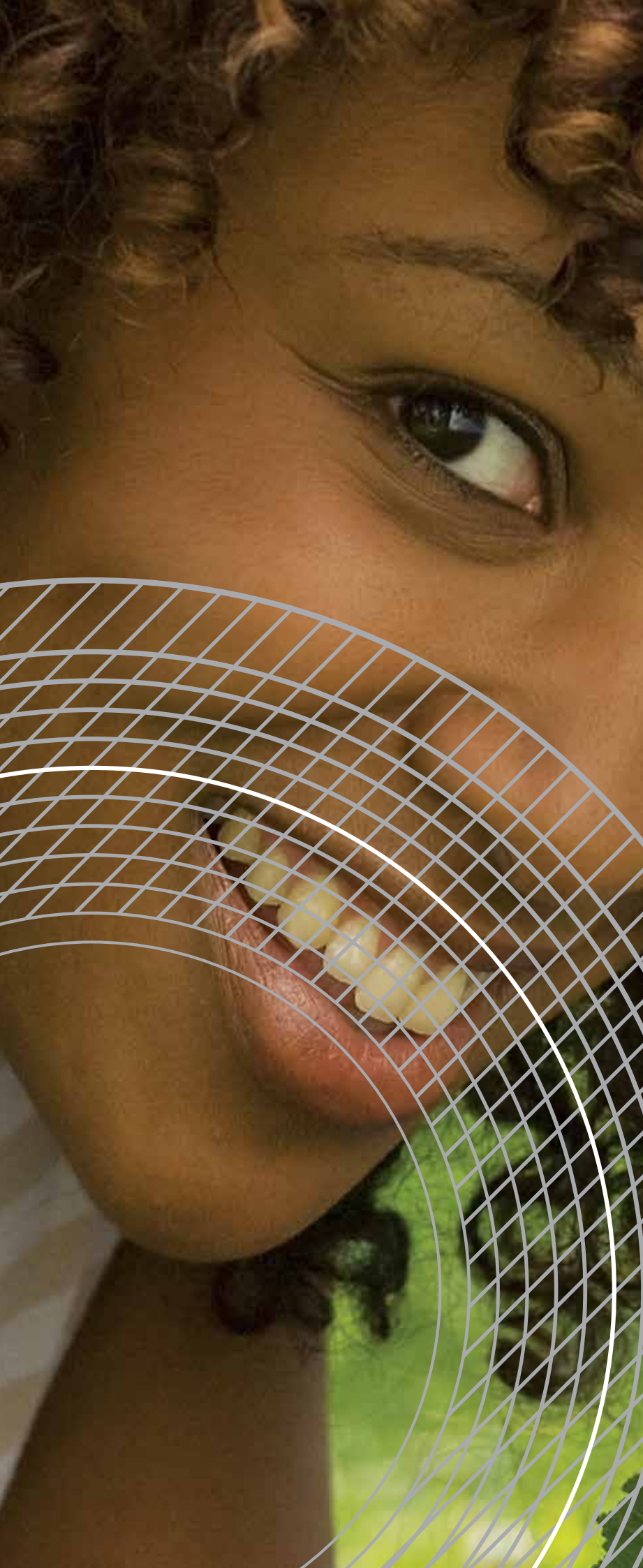
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DE OLIVERIA  
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23° 36' 46" S 46° 41' 57" W  
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## Launch of the **Save: to compete** Energy Efficiency Programme.

Incorporation of 240 **interns** from the Universities of Oviedo, the Basque Country, Deusto, Cantabria and Murcia.

## Start of the **Reform of the Electricity Sector**.

Opening of the new **corporate headquarters in Bilbao** that has been awarded Leed certification in energy efficiency.

## Launch of **Inovgrid** to implement the *smart grids*.

EDP Spain obtained the first **Energy Efficiency certificate** of the group.

Signing of the II **Collective Agreement** for EDP Spain electricity business.

Record **hydroelectric production**.

Approval of the **Relationship with the Stakeholders Policy**.

## Launch of the **EDP brand** in Spain, the same for all customers.

## The **Moratalla Mula** gas pipeline in Murcia came into service.

Better electricity **supply quality** index of the sector.

Better **customer satisfaction** index for the electricity sector.

Contribution to the EDP positioning as utilities leader on the **Dow Jones Index**.

## Opening of the first **Vehicle Natural Gas** supply station in Vitoria.

## UNITED KINGDOM



31 EMPLOYEES

## FRANCE AND BELGIUM



31 EMPLOYEES  
 392 INSTALLED POWER CAPACITY (MW)\*  
 806 LIQUID GENERATION (GWh)  
 100 % GENERATION FROM RENEWABLE SOURCES\*\*  
 12 CAPACITY IN CONSTRUCTION (MW)

## POLAND AND RUMANIA



73 EMPLOYEES  
 891 INSTALLED POWER CAPACITY (MW)\*  
 1.243 LIQUID GENERATION (GWh)  
 100 % GENERATION FROM RENEWABLE SOURCES\*\*  
 10 CAPACITY IN CONSTRUCTION (MW)

## PORTUGAL



6.982 EMPLOYEES  
 5.717.678 ELECTRICITY CUSTOMERS  
 374.988 GAS CUSTOMERS  
 9.530 INSTALLED POWER CAPACITY (MW)\*  
 24.317 LIQUID GENERATION (GWh)  
 62 % GENERATION FROM RENEWABLE SOURCES\*\*  
 1.468 CAPACITY IN CONSTRUCTION (MW)  
 43.858 ELECTRICITY DISTRIBUTION (GWh)  
 6.938 GAS DISTRIBUTION (GWh)

## ITALY



22 EMPLOYEES  
 70 INSTALLED POWER CAPACITY (MW)\*  
 83 LIQUID GENERATION (GWh)  
 100 % GENERATION FROM RENEWABLE SOURCES\*\*

## SPAIN



1.935 EMPLOYEES  
 1.118.056 ELECTRICITY CUSTOMERS  
 796.196 GAS CUSTOMERS  
 6.163 INSTALLED POWER CAPACITY (MW)\*  
 15.763 LIQUID GENERATION (GWh)  
 44 % GENERATION FROM RENEWABLE SOURCES\*\*  
 9.147 ELECTRICITY DISTRIBUTION (GWh)  
 51.535 GAS DISTRIBUTION (GWh)

20

NEVERENDING ENERGY

## 1.1. EDP GROUP

EDP – Energías de Portugal, S.A. is a utility company, whose headquarters are in Portugal, the largest electricity producer, distributor and marketer in Portugal, the third largest electricity production company in mainland Spain and Portugal, and one of the two largest gas distributors, also in mainland Spain and Portugal.

EDP is one of the two largest world wind power operators, with wind farms in mainland Spain and Portugal, the USA, Canada, Brazil, France, Belgium, Italy, Poland and Rumania. In addition, EDP produces solar power in Portugal and in Rumania, and also has electricity production, distribution and marketing operations in Brazil.

EDP now has a key presence on the world energy scene, and is present in 13 countries, with over 9.8 million electricity supply points and 1.3 million gas supply points of our marketers, and over 12,000 employees worldwide. At the end of 2013, EDP had an installed power capacity of 23 GW and had produced nearly 60.9 TWh, 67% of which came from hydroelectric and wind power stations.



USA AND CANADA



<b>300</b>	EMPLOYEES
<b>3.667</b>	INSTALLED POWER CAPACITY (MW)*
<b>10.146</b>	LIQUID GENERATION (GWh)
<b>100 %</b>	GENERATION FROM RENEWABLE SOURCES**
<b>200</b>	CAPACITY IN CONSTRUCTION (MW)

CHINA



<b>1</b>	EMPLOYEE
----------	----------

BRAZIL



<b>2.931</b>	EMPLOYEES
<b>3.045.165</b>	ELECTRICITY CUSTOMERS
<b>2.241</b>	INSTALLED POWER CAPACITY (MW)*
<b>8.590</b>	LIQUID GENERATION (GWh)
<b>86 %</b>	GENERATION FROM RENEWABLE SOURCES**
<b>592</b>	CAPACITY IN CONSTRUCTION (MW)
<b>25.880</b>	ELECTRICITY DISTRIBUTION (GWh)

\* MW EBITDA

\*\* Includes hydroelectric, biomass, solar and wind power.

AT THE TOP OF THE WORLD IN SUSTAINABILITY

EDP, as regards its environmental, social and economic performance, was, for the sixth year running, in an outstanding position on the European and world Dow Jones Sustainability indexes, thus appearing among the most sustainable utilities.

In 2013, EDP was at the top of the ranking in the "Utilities: electricity" industrial section, according to the *Sustainability Yearbook* published by RobecoSAM in 2014.

Sustainability indexes and ratings where EDP is present:



## 1.2. EDP SPAIN

HIDROELÉCTRICA DEL CANTÁBRICO, S.A. IS THE PARENT COMPANY OF THE EDP GROUP IN SPAIN, WHOSE HEADQUARTERS ARE IN OVIEDO, ASTURIAS, AND ITS MAIN ACTIVITY IS THE GENERATION OF ELECTRICITY, DISTRIBUTION AND MARKETING OF ELECTRICITY, GAS AND SERVICES.

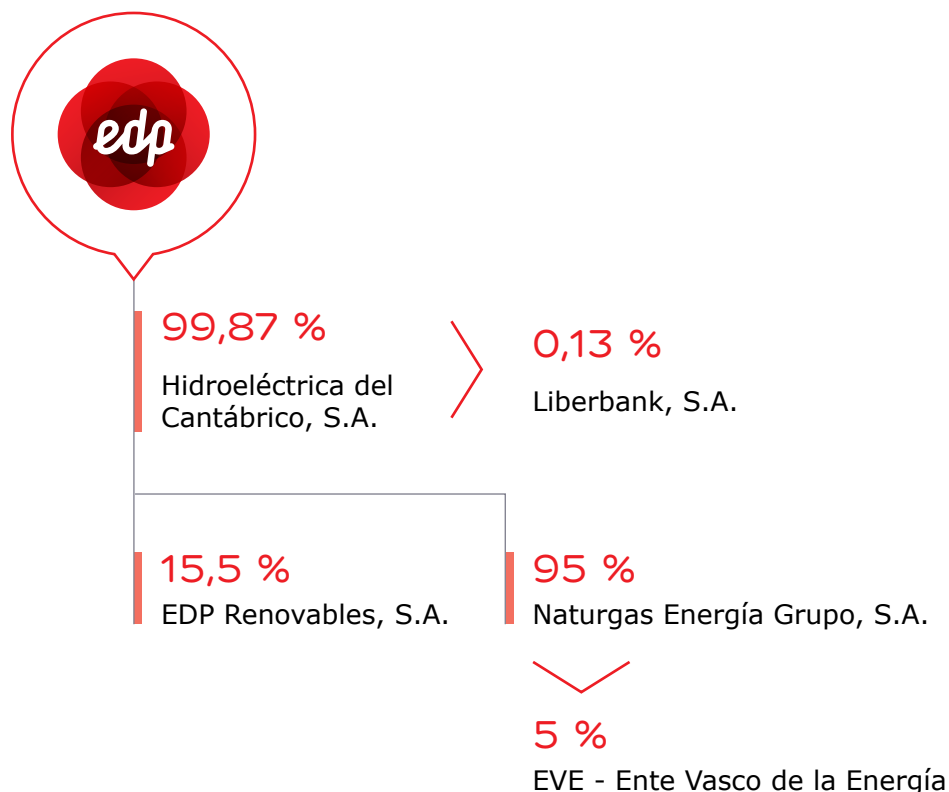
Thus, EDP has been operating in Spain since it acquired a majority stake in Hidroeléctrica del Cantábrico, S.A. in 2002. It uses that brand for the commercial relations with its customers (marketing gas, electricity and services) and the EDP HC Energía and EDP Naturgas Energía brand for the electricity and gas distribution businesses, respectively, and it is currently the fourth electricity producer and distributor and the second natural gas operator.

The gas businesses is run through Naturgas Energía Grupo, S.A., with a majority stake 95 %, as well as through EDP Renovables, for the production of renewable energy, with a 15.5 % stake and which exceeds 2,300 MW installed in Spain alone.

Furthermore, Hidroeléctrica del Cantábrico, S.A., has set up two joint-ownership ventures to manage the Salime Hydroelectric Power Plant, of which it holds 50 %, and to manage the Trillo Nuclear Power Station, where it has a 15.5 % stake.

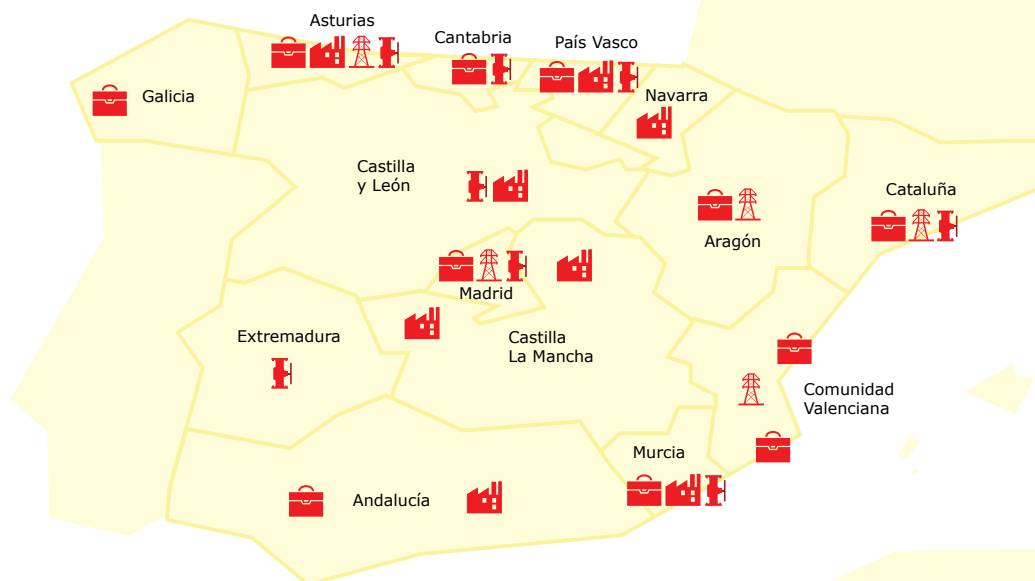
### SHAREHOLDER STRUCTURE

EDP Spain is a set of companies belonging to the EDP Group, which is the majority shareholder with a 99.87 % stake. The other shares belong to Liberbank, the main shareholder of Oppidum Capital, a bank that controls a 7.19 % stake in EDP, thus consolidating its strategic collaboration and maintaining the institutional presence and territorial tie of Hidroeléctrica del Cantábrico, S.A.



## GEOGRAPHICAL SITUATION

EDP Spain is present in 14 autonomous regions, with a key presence in Asturias, Cantabria, Murcia and the Basque Country, where it is the leading gas and/or electricity operator.



### Commercial Delegations

Nº of employees  
**1,612**

Gas Marketing  
**796,196 supply points**  
**28,553 GWh**

Electricity marketing  
**1,118,056 supply points**  
**17,646 GWh**



### Generation facilities

Gross installed capacity  
**3,855 MW conventional**  
**475 MW renewables**  
**cogeneration waste**

Net electricity generation  
**9.3 TWh conventional**  
**1.5 TWh renewables**  
**cogeneration waste**

### Distribution facilities



Electric grids  
**23,294 km**  
**9,147 distributed electricity (GWh)**



Gas networks  
**9,996 km**  
**51,535 distributed electricity (GWh)**



# 1.3. STAKEHOLDERS

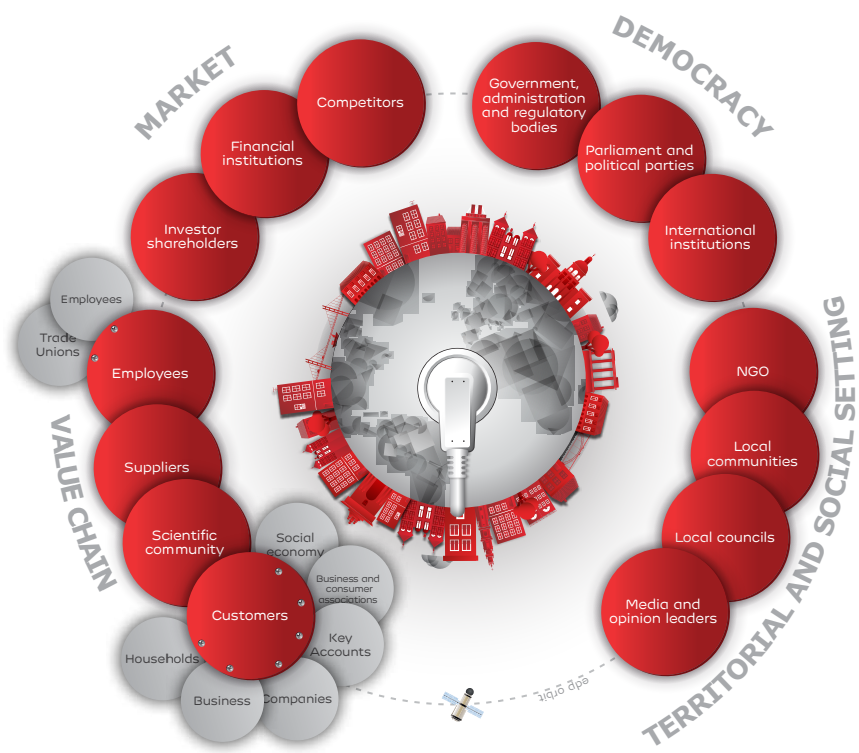
The GDP Group relationship with its Stakeholders is a fundamental and strategic priority to guarantee outstanding performance.

EDP thus fosters transparent and open dialogue with all those entities or people that influence or are influenced by our activities, products and services, and integrates their demands in the business strategy.

**EDP STRIVES TO GENERATE VALUE FOR ALL STAKEHOLDERS AND IN ALL GEOGRAPHICAL AREAS WHERE IT IS PRESENT.**

Therefore, in 2013, EDP approved a Segmentation Model for its stakeholders, according to their nature (public, private and social), to their situation (local, regional, national and international) and to their segmentation, either at market level, public policies and regulation practices, or organisational set-ups and possibility of influencing and being involved in the decision-taking process in the EDP corporate model.

**Four stakeholder segments are thus identified:**



EDP IS AWARE THAT THE INVOLVEMENT OF THE STAKEHOLDERS IN THE GOVERNANCE MODEL GOES BEYOND GOOD BUSINESS PRACTICES, AS IT CREATES AND DISTRIBUTES VALUE AMONG ALL THE INTERESTED PARTIES, AND THEREFORE, CONTRIBUTES TO THE DEVELOPMENT OF SOCIETY AND IS A COMPETITIVE ADVANTAGE THAT AFFECTS THE PERFORMANCE OF THE COMPANY ITSELF.

**Therefore, EDP has approved a Stakeholder Relation Policy to foster the efficacy of their strategic relations, based on four commitments:**

#### TRUST

We believe that the fostering of a climate of trust with our stakeholders is crucial to establish long-term stable relations. Our relationship with the stakeholders is based on values such as transparency, integrity and mutual respect.

#### COMMUNICATION

We are committed to promoting two-way dialogue with the stakeholders, through consultation and information actions. We listen, report to and respond to the stakeholders in a consistent, clear, rigorous and transparent way, in order to construct long-lasting, strong and close relations.

#### COLLABORATING

Our aim is to collaborate with the stakeholders in the construction of strategic plots that combine and share the knowledge, competences and tools, thus fostering value creation distributed in a differentiating way.

#### UNDERSTANDING

We identify our stakeholders dynamically and systematically, that influence and are influenced by our activities, and we analyse and understand their expectations and interests.

EDP thus encourages the involvement of their stakeholders by means of the ongoing participation processes, using different communication channels according to the characteristics of each of them.

This permanent dialogue with the key EDP stakeholders, by means of meetings, surveys, interviews, collaborations, etc., enables the most important issues to be addressed for the different segments identified.

**Thus, the analysis performed during 2013 between the EDP Group and its stakeholders allow the following statements to be made:**

- ◆ The Value Chain segment tends to enhance critical issues such as the composition of the electricity bill, promoting energy efficiency in consumption and smart grids.
- ◆ The *Market* segment considers critical issues such as leverage, regulatory framework, the macroeconomic context and the strategy of the EDP Group.
- ◆ The *Democracy* segment identifies climate change as the most important issue: encouraging energy efficiency in consumption, commitment to renewable energies, tariffs and energy price (tariff deficit).
- ◆ The *Territorial and Social Environment* segment gives greater emphasis to areas such as public lighting, fostering energy efficiency in consumption, commitment to renewable energies, the price of electricity and the tariff deficit.

MATERIALITY MATRIX

In particular, the issues that EDP Spain considers to be material are reflected in the following diagram:



- |   |  |
|---|--|
| 1 CSR strategic planning                                | 15 Energy generation and management                            |
| 2 Relations with the Government/Public Policy           | 16 Transmission and distribution                               |
| 3 Corporate Governance                                  | 17 Water supply risks/Water stress                             |
| 4 Risk management                                       | 18 Developing renewable energies                               |
| 5 Codes of conduct/Corruption and bribery               | 19 Environmental education and awareness-raising               |
| 6 Anti-competitive and anti-monopolistic practices      | 20 Labour practices  |
| 7 Managing customer relations                           | 21 Development of human capital                                |
| 8 Business opportunities                                | 22 Attracting and retaining talent                             |
| 9 Price hedging management                              | 23 Social action/Corporate citizenship                         |
| 10 Supply chain management                              | 24 Impacts and benefits for the local communities. Commitments |
| 11 Environmental policy/Environmental management        | 25 Health and Safety (employees and contractors)               |
| 12 Environmental performance/Operational eco-efficiency | 26 Physical security of the premises (community)               |
| 13 Biodiversity   | 27 Dialogue with stakeholders                                  |
| 14 Climate change strategy                              | 28 Human rights  |

The relevance is estimated according to the impact on the external audiences





## 1.4. STRATEGY

### 1.4.1. VISION, VALUES AND COMMITMENTS

#### VISION

A global energy company and a leader in creating value, innovation and sustainability.

#### VALUES

##### EXCELLENCE

We are the highest rated electricity supplier by our customers (STIGA Index).

##### INITIATIVE

LEAN as a tool for continuous improvement: over 600 people and over 1,800 initiatives.

##### TRUST

We were yet again among the most ethical companies worldwide according to the Ethisphere Institute.

##### SUSTAINABILITY

We are noted for being among the European and world leaders of the Utilities category on the Dow Jones Sustainability Index (DJSI).

##### INNOVATION

We developed innovation projects focused on the customers, smart networks, flexible and clean generation, and smart data management.

## COMMITMENTS

#### SUSTAINABILITY

Environmental investments remained at 37 million euros despite the unfavourable regulatory environment.

MaPA, [www.mapaedp.com](http://www.mapaedp.com), has more than 250 good practices registered and was rated as "Outstanding initiative" by the Spanish Global Compact Network.

Energy efficiency stands out as an added value in projects such as **Save: to compete**.

#### PEOPLE

People involvement and communication tools deployed: EdpON, satisfaction survey, Lean...

Employee training and assessment as a means of professional and personal development.

Recognised as a Family Responsible Company, with special emphasis on the commitment to conciliation.

#### RESULTS

Despite the unfavourable macroeconomic climate, the company continued to issue dividends: 18.5 €/share.

There was record hydroelectric production (+77 %), with over 1.098 GWh.

The group remained at the top of the electricity energy supply quality index with a tiepi of 38 minutes.

#### CUSTOMERS

100 % renewable energy supplied to all household and business customers (B2C).

Integration of the electricity and gas dual offer with added value services.

We use new technologies: Self-service booths and the corporate website facilitate customer formalities.

## 1.4.2. CHALLENGES AND OPPORTUNITIES

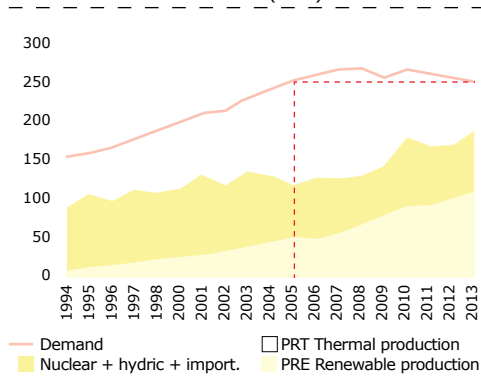
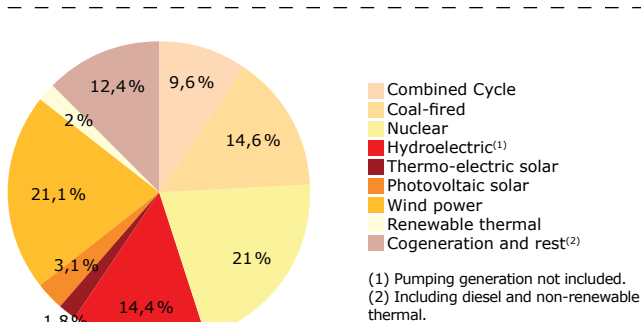
The current economic situation means the energy sector finds itself in a unfavourable scenario that means it has to undertake far-reaching restructuring.

### CHALLENGES

#### DROP IN DEMAND

This drop has meant that the generators have been operating less and even shutdown for many hours a year, going from a stable operating system to continuous shutdowns and start ups.

ELECTRICITY CONSUMPTION (TWh)

COVERAGE OF ELECTRICITY DEMAND (%)  
As of 31 December 2013

(1) Pumping generation not included.  
(2) Including diesel and non-renewable thermal.

#### REGULATORY REFORMS WITH A NEGATIVE IMPACT FOR THE ENERGY SECTOR OF OVER 2,600 M EUROS ON ELECTRICITY ACTIVITY

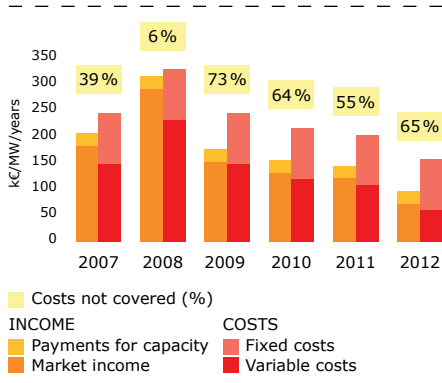
- ◆ **New remuneration system for renewable**, cogeneration and waste generation, which endangers the continuity of some of these plants despite being environmentally-friendly facilities (annual sectoral impact of 1,600 M€).
- ◆ **Drop in the remuneration from the payments by capacity** that the combined cycle power stations receive for making a new installed power capacity available to the System Operator (REE) (300 million euro sectoral impact).
- ◆ **Reducing the remuneration rate to distribution and transport**, which means a direct cut in earnings as they are regulated activities and, therefore, with no capacity to obtain income by other means (500 M€ in the electricity sector).
- ◆ **Funding obligation** by electricity companies of the Bono Social [a discount for lower income customers], calculated according to the supply points connected to their grids and by the customers of their marketers (200 million euros).

#### NEW INVESTMENTS PENDING RECOVERY

The structure of the current market does not ensure the recovery of the investments made, particularly in combined cycles.

Installed power capacity payment mechanisms and system support services markets are needed to recover the fixed costs.

EVOLUTION OF NON-RECOVERED FIXED COSTS OF THE COMBINED CYCLES



INCOME  
Payments for capacity  
Market income

COSTS  
Fixed costs  
Variable costs

#### TAX BURDEN INCREASED TO THE TUNE OF 3,000 MILLION EUROS

##### Creation of three new taxes on:

- ◆ Electricity production measured in power plant bushbars.
- ◆ Production of spent nuclear fuel and radioactive waste resulting from generating nuclear power.
- ◆ Storage of spent nuclear fuel and radioactive waste in centralised facilities.

##### Creation of a fee for use of inland waters to produce electricity.

**Abolishing of the exemptions envisaged** for the electricity production using national coal and using natural gas in the cogeneration of electricity and useful heat.

#### LEVERAGE

Leverage with higher interest rates that significantly penalise new investments, as the result of the international debt markets.

## OPPORTUNITIES

Despite this climate, the results of EDP Spain do not reflect those events. The Group's results have been increased by the sale of assets that will not be repeated in the coming years and the forecast is therefore for a scenario noted for a drop in revenue and increase fiscal and tax pressure.

### DISTRIBUTION OPERATIONS

#### Oriented growth

- ◆ Efficiency-focused business: natural gas gasification of municipalities that currently have LPG (Liquid Petroleum Gas) and implementation of electricity works according to the Grid Master Plan 2013-2106.
- ◆ Promoting Vehicle Natural Gas: changeover to natural gas in the own vehicle fleet.

#### Operational efficiency and controlled risk

- ◆ Evolution of the grid towards Smart Grids: implementation of the remote-control platform in Spain and Portugal and plan to replace meters.
- ◆ Maintaining service quality levels in the gas and electricity businesses.
- ◆ Developing mobility applications for active commercial management and breakdown management.

### GENERATION OPERATIONS

#### Operational efficiency and controlled risk

- ◆ Decision regarding the necessary investments in thermal units: denitrification and desulphuration for environmental adaptation.
- ◆ Decision regarding the future of some cogeneration plants.
- ◆ Optimising operating of the combined cycle and thermal power stations: flexible operation and active participation on the markets.

### MARKETING OPERATIONS

#### Oriented growth

- ◆ Capitalizing the customer portfolio and debt control.
- ◆ Services offered to Key Accounts, B2B, developing energy efficiency projects through the Save: to compete programme [www.savetocompete.com](http://www.savetocompete.com)
- ◆ Services offered to household and business customers, B2C, through Funciona.
- ◆ Expansion through strategic alliances with other businesses: Plan Carrefour.

#### Operational efficiency and controlled risk

- ◆ Fostering actions to maintain, recover and dualize customers.
- ◆ Making gas purchase contracts flexible to adapt them to the current market conditions.

### REGULATION

Active participation in the changes to the regulatory model.

### CORPORATE

- ◆ Cost containment as a means to minimise the impact of the regulatory changes.
- ◆ Driving projects with a good return and clear improvement of the quality of the service.
- ◆ Implementation of the New Collective Agreement for the electricity sector and negotiation of the Collective Agreement for the gas sector.
- ◆ Continuity of the continuous improvement programmes such as the Lean Programme and dissemination of Environmental Best Practices initiatives [www.sostenibilidadedp.es](http://www.sostenibilidadedp.es)



### 1.4.3. RESPONSIBLE COMPANY

In November 2013, the EDP FOUNDATION was created in order to coordinate and foster the patronage activity and the socio-cultural actions of the EDP Group in Spain businesses. This new Foundation has joined the group of the great Spanish foundations, as the values of the integrated investments stood at 3.8 million euros in 2013.



The objectives defined for the EDP in Spain Foundation are aimed at its interaction and joint work with the other foundations of the Group, the Brazil Institute and the Fundação EDP, and include the fostering, development and support of sport, environmental, educational, technological, scientific, cultural and social activities, together with supporting studies, conservation project and dissemination of the energy-related technology, scientific and cultural heritage.

The administration of this Foundation is entrusted to the Boards of Directors of the companies in Spain: EDP Energías de Portugal, Spanish Branch, EDP HC Energía, EDP Naturgas Energía and EDP Renovables. The directors do not receive any fees for their work.

#### MISSION

"To strengthen the commitment of the EDP Group in the geographical spheres in which the group operates, with special emphasis on the environmental, social, cultural and educational areas within a perspective of global sustainable development, where the efficient and responsible use and generation of energy plays a decisive role".

Full information on the EDP FOUNDATION initiatives and activities is available on the corporate website: [www.edpenergia.es/institucional/es/fundacion-edp/](http://www.edpenergia.es/institucional/es/fundacion-edp/)

Thus, EDP is positioned as a "Responsible Company" through the Foundation. The fostering and support of socio-cultural activities and initiatives seek to contribute to the sustainable development of the societies and communities in which the company operates, as a strategy to create shared value, shared citizenship and ongoing consolidation of its reputation.

#### Special mention should be made of the following initiatives:

##### EDUCATION AND RESEARCH



##### SCHOOL VISITS TO EDP FACILITIES

The EDP Foundation's work with students features an extensive programme of visits to its different work centres. During 2013, the hydroelectric and thermal power stations were visited by over 1,785 primary and secondary schoolchildren interested in learning about the process to generate electricity.

The students were shown round by staff at the facilities, who adapted the explanations and the itineraries to the demands of the group, according to its knowledge and interest.

##### BACKING SCIENTIFIC RESEARCH (DIPC)

The EDP FOUNDATION collaborated in the different Donostia International Physics Center projects and activities that Dr. Irina Skiladneva has been working on in the field of nano-science, under the supervision of the Prince of Asturias Award winner for Physics, Pedro Miguel Echenique.



Thus, during 2013 and as part of the DIPC science communication programme, different scientific dissemination events were organised, which sought to help to foster fluid dialogue between Society and Science.

These events were run in the three Basque provincial capitals, Bilbao, San Sebastián and Vitoria-Gasteiz, under the title "Passion for Knowledge – Quantum'13". They combined talks and workshops for society as a whole, with their speakers including five Nobel and three Prince of Asturias prize-winners, where cutting-edge science was brought to students, teachers and the general public.

**EDUCATING FOR SUSTAINABILITY: "VIVA NUESTRA ENERGÍA" [LONG LIVE ENERGY] SCHOOL PROGRAMME**

This school programme, which seeks to disseminate sustainability in schools, was run in the Autonomous Regions of Asturias, Murcia, Madrid, Cantabria and the Basque Country, by means of agreements signed with the respective regional Ministries for Education. This has meant that the programme could be part of the curriculum content in the two first primary education cycles.



**The basic contents of the programme are:**

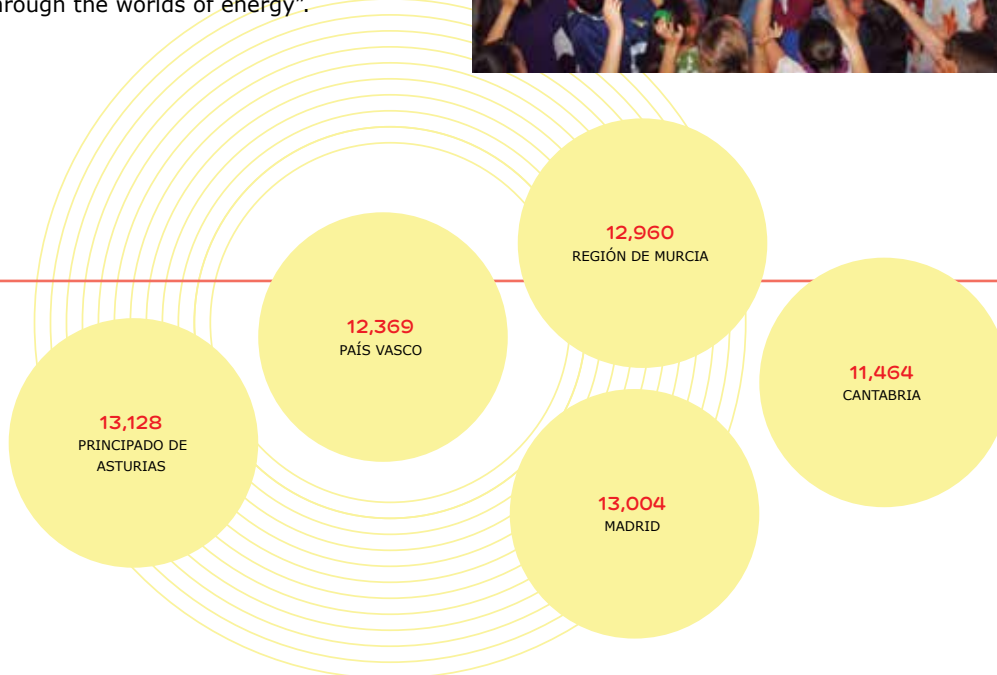
- ◆ What energy is and how it is produced.
- ◆ Non-renewable and renewable energy sources.
- ◆ Efficient use of energy.
- ◆ Precautions when using electricity.



The programme is taught by specialist staff, who travel to the different educational centres. This interactive programme using audio-visual and graphic materials allows the students to learn basic concepts about the different types of energy. The support material includes the cartoon characters Nano Solano, Juan Volcán, Vera Ribera, Tomás Biomás, Lolo Eolo y Carlos Caldera, who take the children on a fun cartoon "trip through the worlds of energy".



THE FOLLOWING STUDENTS TOOK PART IN 2013



## IKASTOLEN JAIK BASQUE SCHOOL FESTIVALS

The EDP FOUNDATION sponsors and helps to organise the festivals to support Basque-language Schools.



### IBILALDIA

The Bizkaia Basque school festivals were held in Portugalete, on a sunny day when over 135,000 people enjoyed the performances, activities and culinary experience that the Portugalete Ikastola, the organiser of the event, put on for the participants.

### ARABA EUSKARAZ

The Bizkaia Basque school festivals were held in Portugalete, on a sunny day when over 135,000 people enjoyed the performances, activities and culinary experience that the Portugalete Ikastola, the organiser of the event, put on for the participants.



### KILOMETROAK

The Gipuzkoa Ikastolas festival was held in Tolosa, with many families taking part. Over 150,000 people were able to enjoy the festive atmosphere and the different activities run by the organiser Ikastola.

## CULTURA

There are many activities around music and culture that are supported from the EDP FOUNDATION in different geographies. Sponsorships and institutional support to the following organizations can be mentioned:

32

NEVERENDING ENERGY

### THE PRINCE OF ASTURIAS FOUNDATION

Institution that has awarded the Prince of Asturias Awards since 1981.

### OVIEDO OPERA FOUNDATION

Organises concerts and activities related to the opera.

### ABAO

Institution whose purpose is to organise concerts and activities related to the opera.

### GUGGENHEIM MUSEUM

Iconic buildings of the third millennium and cultural driving force of Bilbao and Bizkaia.

### FUNSEAN (FOUNDATION FOR ENVIRONMENTAL AND ENERGY SUSTAINABILITY)

Non-profit institution whose main objective is to organise activities in the area of energy and environmental sustainability.

### PRINCIPALITY OF ASTURIAS SYMPHONY ORCHESTRA

One of the leading orchestras on the Spanish symphony scene.

### SAN SEBASTIÁN MUSICAL FORTNIGHT

Classical music festival that dates back to 1939 and is now the oldest musical festivals in Spain and one of the oldest in Europe.

### CAMERATA REVILLAGIGEDO

Nationally renowned choir from Asturias.

### KURSAAL FOUNDATION

Cultural programming for Donostia-San Sebastián and, by extension, Guipuzkoa.

### SANTANDER INTERNATIONAL FESTIVAL

Classical music festival.

### CANTABRIA FORUM

Business meeting and discussion forum.

### ARTIUM MODERN ART MUSEUM CENTRE

Álava cultural activities centre and museum.



## SPORT EVENTS

As is customary, the EDP FOUNDATION sponsored different sports events in 2013. Given its social purpose, special mention should be made of the Women's Races in Vitoria-Gasteiz and Gijón, which this year were run to support the fight against breast cancer and research into childhood leukaemia, respectively.

Other sports events sponsored by EDP include Bike Day, held in Derio in conjunction with the Basque Cyclist Foundation, or the Family Fun Run, organised together with the Correo Group and where grandparents, parents and children ran together along the banks of Bilbao's river.

Leading sport events sponsored were the XV Asturias Sailing Week, along the coast of Asturias off Gijón, Carreño and Gozón; the V EDP International Basketball Campus, organised by the 5+11 Baskonia Foundation in Vitoria-Gasteiz; the III Bilbao Triathlon and other fun runs, including the "Ruta de la Reconquista" Half Marathon in Cangas de Onis, the Villa de Mieres 10 km, the Trubia Half Marathon or the San Silvestre in Oviedo.

## SOCIAL

### Responsible Points-Solidarity

The "Points" is a totally free programme rewarding EDP customers with a series of points. The points can be accumulated in the following ways: for each kWh of gas or electricity consumed, for registering new contracts with us, for every year that the customers belong to the points programme, for taking part in EDP initiatives, etc.

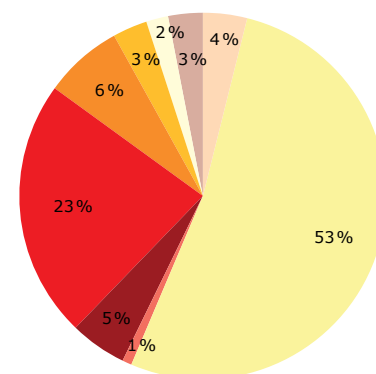
The points can be used to obtain gifts or can be donated to different NGOs, and these are known as "Responsible Points".

During 2013, 4,895 customers donated a total of 25,378,000 points, which have a financial equivalent value. The EDP FOUNDATION, as a token of its gratitude for the collaboration of the EDP customers, donated the same amount as that collected with this initiative.



### DISTRIBUTION OF POINTS CONTRIBUTIONS BY NGO

	TOTAL
Nuevo Futuro [New Future]	968,000
Soup Kitchens	13,379,000
Energía Sin Fronteras [Energy Without Borders]	332,000
DYA, Ayuda en Carretera [Roadside Assistance]	1,353,000
Cruz Roja [Spanish Red Cross]	5,748,000
Down's Syndrome Foundation	1,663,000
Plant a Tree scheme	825,000
Fundación Oso [Asturian Bear Foundation]	419,000
Teléfono de la Esperanza [Hope Hotline]	691,000
<b>TOTAL</b>	<b>25,378,000</b>





# 02

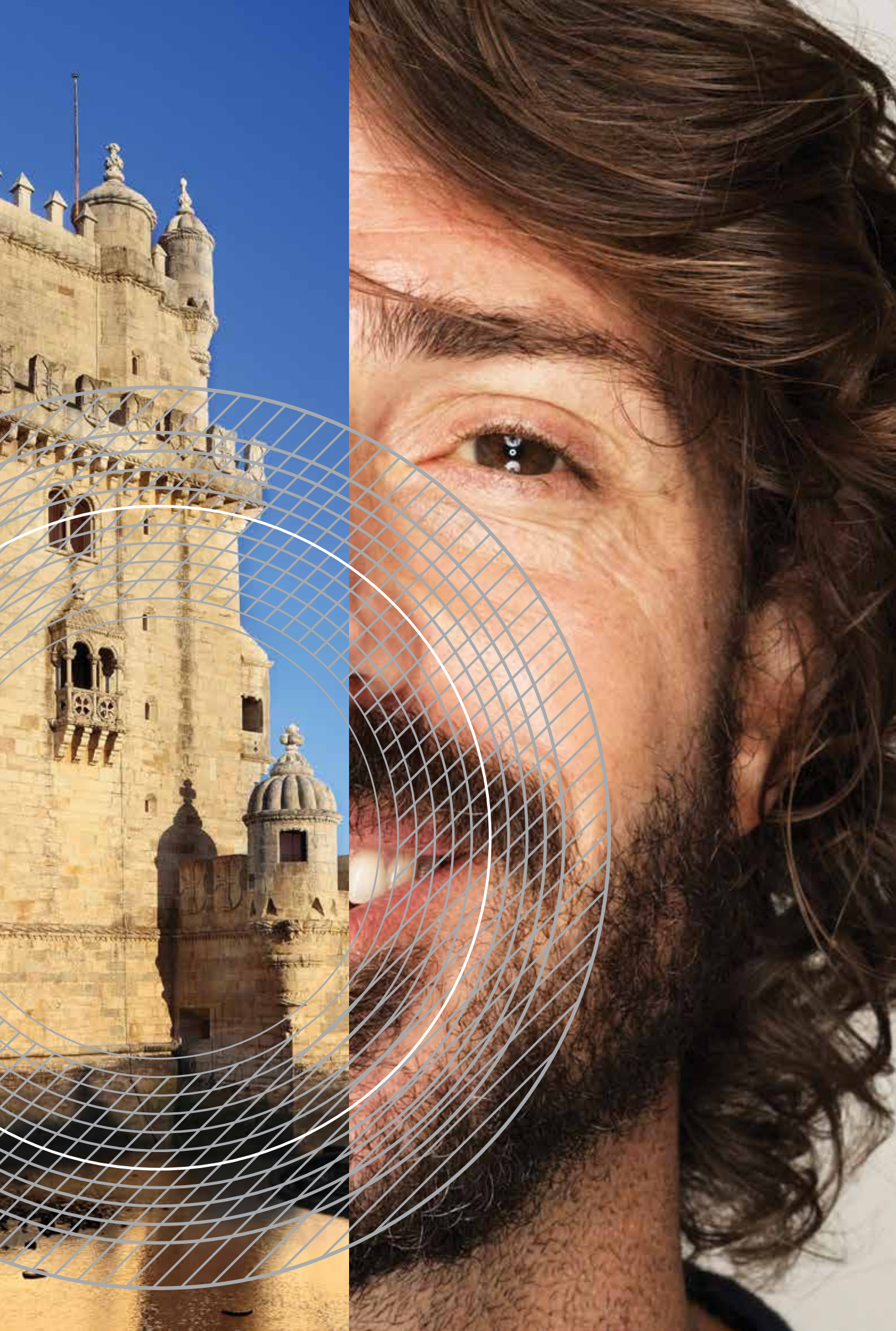
## SOCIAL OVERVIEW

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> PORTUGAL  
TORRE DE BELÉM  
Coordinates:  
38° 41' 30.1 N 9° 12' 56.9 W  
Time of day: 1.00 p.m.

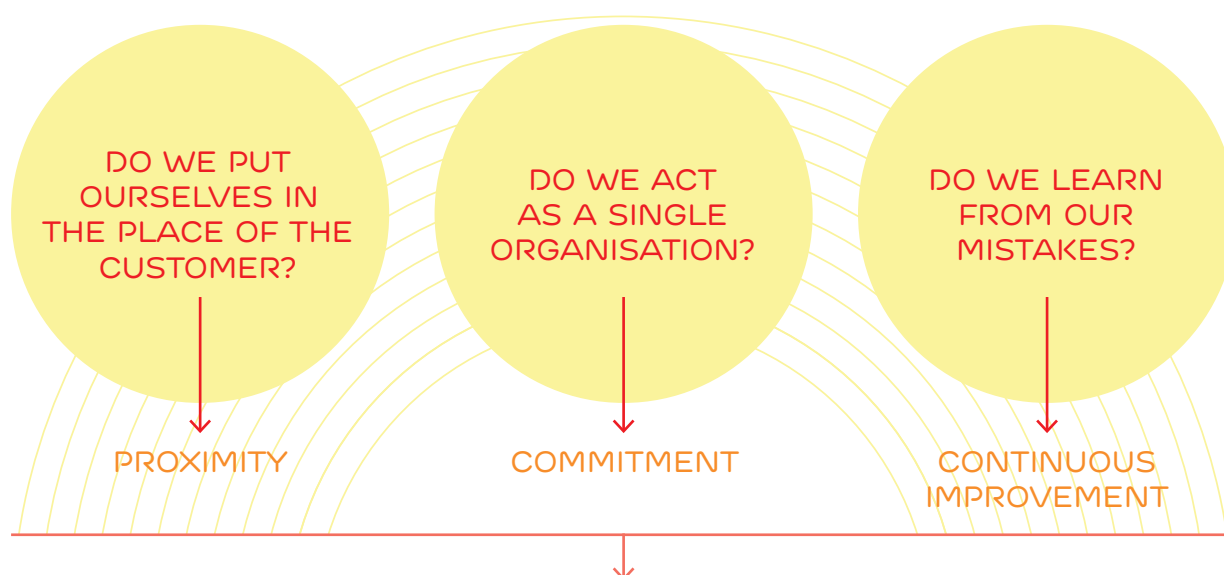


## 2.1. CUSTOMERS AND SUSTAINABLE SERVICES



EDP's commitment to its customers is based on quality, safety and innovation in the products that we offer, by constantly developing new added value services that complement the gas and electricity range.

**The basic principles that govern the relation with our customers are in keeping with the following questions:**



This customer orientation, understanding their needs and demands, is controlled and guaranteed through the Quality Management System that has been implemented in EDP Spain and certified pursuant to the ISO 9001 standard for our main activities: electricity generation, and distribution and marketing of electricity and gas.

The certificates can be consulted on the corporate website:

[www.edpenergia.es/institucional/es/sostenibilidad/creacion-de-valor](http://www.edpenergia.es/institucional/es/sostenibilidad/creacion-de-valor)

### CUSTOMERS AND ENERGY BY MARKETING TYPE

	units	2013	2012
<b>ELECTRICITY</b>			
<b>Nº of supply points</b>	<b>Nº</b>	<b>1,118,056</b>	<b>1,048,430</b>
Last resort	Nº	255,761	277,527
Free market	Nº	862,295	770,903
EDP Spain share <sup>(1)</sup>	%	9.8	9.2
<b>Energy</b>	<b>GWh</b>	<b>17,646</b>	<b>19,484</b>
Last resort	GWh	608	709
Free market	GWh	17,039	18,775
EDP Spain share <sup>(1)</sup>	%	9.6	9.9
<b>GAS</b>			
<b>Nº of supply points</b>	<b>Nº</b>	<b>796,196</b>	<b>772,322</b>
Last resort	Nº	73,060	87,595
Free market	Nº	723,136	684,727
EDP Spain share <sup>(1)</sup>	%	10.7	10.4
<b>Energy</b>	<b>GWh</b>	<b>28,553</b>	<b>27,665</b>
Last resort	GWh	354	410
Free market	GWh	28,199	27,254
EDP Spain share <sup>(1)</sup>	%	5.2	5.9

(1) Share on the free market.

## 2.1.1. COMMUNICATION CHANNELS

### ONLINE CHANNELS

The new technologies have opened up new communication channels with the customers, who are increasingly demanding more information and more streamlined processes. The EDP Spain websites are therefore continuously updated, including all the institutional information of the Group and offering a wide range of on-line formalities.

The image, structure and way of browsing the Commercial Website, [www.edpenergia.es](http://www.edpenergia.es), has been updated. The change aims to ensure that the customers can find all the information that they are searching for online in a simpler and more user friendly way, with "responsive design", which is adapted according to the size of the appliance used to go online: PC, tablet or mobile.

Access to all information is guaranteed in Spanish, Basque and Catalan, for all customer segments (Household, Business, Companies and Key Accounts) and there is a customer private area, offers and services, online formalities, and all the key safety, regulatory and institutional information.

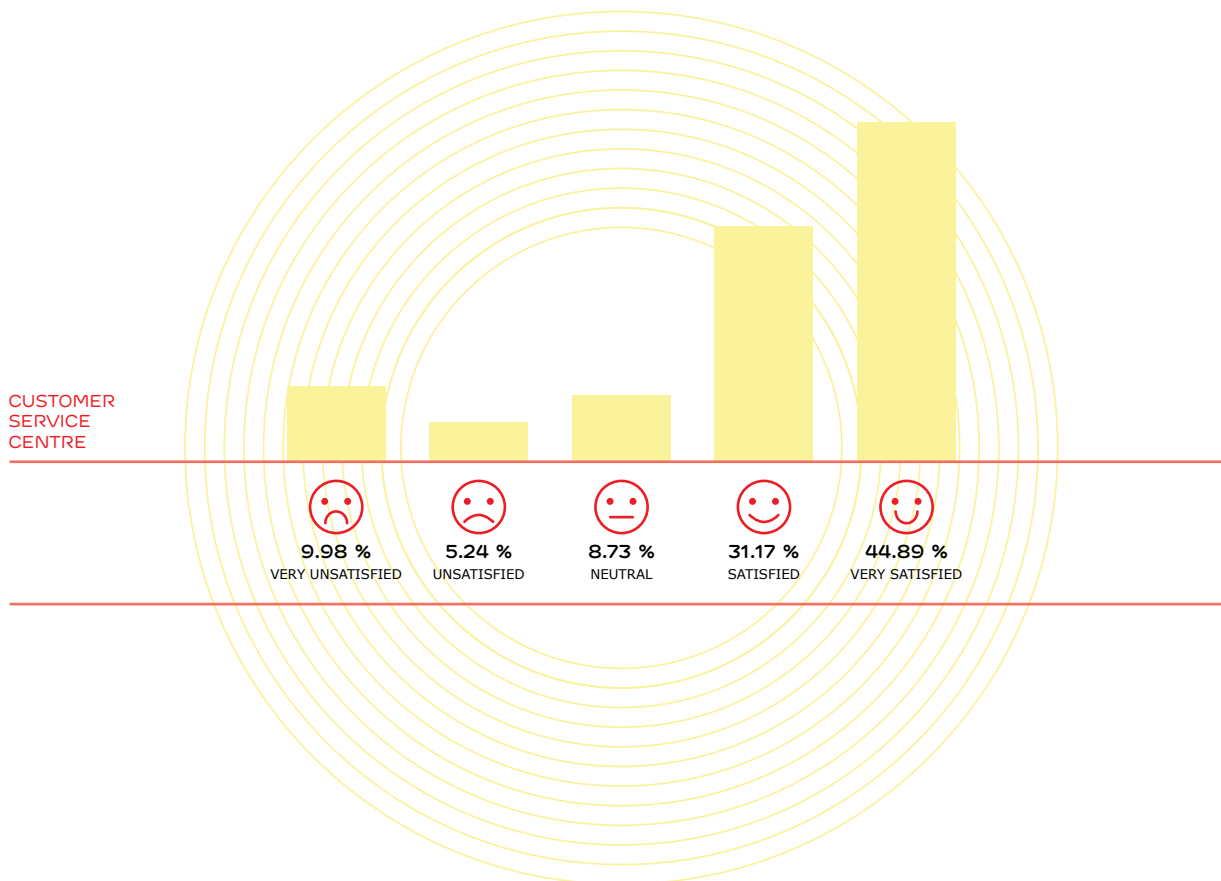
In keeping with the directives that mark the separation between regulated and deregulated activities, the EDP HC Energía electricity and EDP Naturgas Energía distributors have independent websites from the marketer, with information on the business, facilities and markets on which we are present, online formalities, a supplier area and contracting technical specifications: [www.edphcenergia.es](http://www.edphcenergia.es), [www.edpnaturgasenergia.es](http://www.edpnaturgasenergia.es)

In 2013, there were 3,115,992 visits to the Group's websites and a total of 110,923 online formalities were requested.

On the other hand, the EDP Spain sustainable development strategy is embodied in the sustainability website [www.sostenibilidadedp.es](http://www.sostenibilidadedp.es), which is the means to disseminate the company's projects and initiatives in three areas: economic, social and environmental. There is also a website to showcase the educational initiatives, [www.educacionedp.es](http://www.educacionedp.es). It contains comprehensive information on the "Viva nuestra energía" [Long Live Our Energy] school programme, designed to show primary school children the origin of the different energy sources and foster their efficient and safe consumption.

### CUSTOMER SERVICE CENTRE (CAC)

ESP Spain has a telephone hotline, available 24 hours a day, 365 days a year. The EDP Spain telephone hotline has very high satisfaction levels, with 76 % of customers satisfied and very satisfied, with an average score of 3.96 out of 5.





## "EDP ZONE" SELF-SERVICE BOOTHS AND COMMERCIAL OFFICES

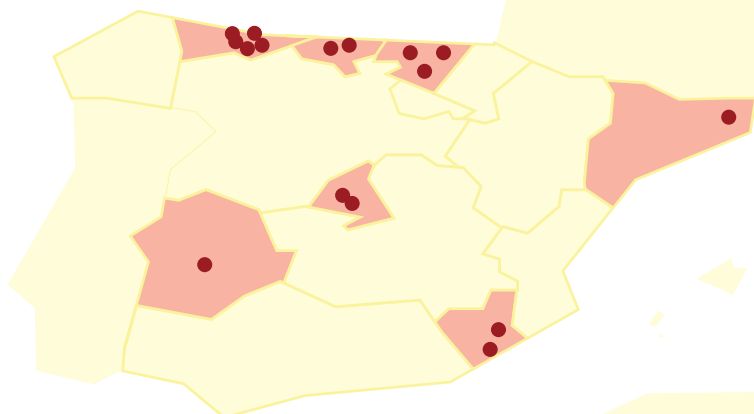
Household and business customers (B2C customers), apart from the personalized and face-to-face services in the EDP commercial offices, have "EDP Zone" self-service booths as a new customer service channel, where they can process queries and formalities in a quick and easy way, without queues or waiting.

They are touch-screen units and once identified as an EDP customer, they can use the guided menus to request and pay invoices, submit meter readings, check their points of the customer loyalty programme and exchange them for gifts, or submit claims.

As part of a customer outreach strategy, self-service booths have been installed in the main Shopping Centres (CC) of the areas where the commercial activity is concentrated.

### "EDP ZONE" BOOTHS IN SHOPPING CENTRES

Oviedo	CC Los Prados CC Calatrava
Siero	CC Parque Principado
Gijón	CC Los Fresnos
Corvera	CC Parque Astur
Bilbao	CC Max Center
San Sebastián	CC La Bretxa
Vitoria-Gasteiz	CC Boulevard
Murcia	CC Nueva Condomina
Cartagena	CC Espacio Mediterráneo
Torrelavega	CC Carrefour
Santander	CC Peñacastillo
Mérida	CC Carrefour
Parla	CC El Ferial
Pinto	CC Eboli
Figueres (Girona)	CC Carrefour Nou Centre



There are also booths in the commercial offices in Santander, Figueres, Murcia and Mérida, and those located in main offices in Oviedo, Gijón, Avilés, Bilbao, San Sebastián and Vitoria Gasteiz.

## COMMERCIAL DELEGATIONS

If commercial offices have been opened throughout Spain for the B2C customers (Household and Business), the system in place for the B2B customers, Key Accounts and Companies (customers with annual consumption of over 200 MWh), is by means of 73 managers in the different commercial delegations that provided direct support for the specific needs of the industrial customers.

Apart from the direct relationship with the commercial managers, B2B customers are sent the quarterly Boletín de Empresa y Energía [Company&Energy Newsletter], the magazine published by EDP with the news on areas including energy management, efficiency, sustainability, renewable energies and new technologies.

## FIDMA

Under the slogan "Building the Future Together", the EDP Spain stand at the International Trade Fair of Asturias (FIDMA) seeks to consolidate the brand and its positioning, by conveying the new EDP image and its values as a sustainable, innovative and human company.

Over 72,500 people visited the EDP pavilion at FIDMA 2013, and practically all of them (96 %) took part in the solidarity challenge set by the company to donate 100,000 kWh to the Cocina Económica (Affordable Food NGO).

Over 5,600 new contracts for products and services such as Fórmula Gas+Luz [Gas+Electricity Formula] Funciona and E-billing were signed in the commercial area.

As in previous years, the children's area was set up outside the pavilion, where over 8,000 children played on the EDP bouncy castles, took part in the children's workshops and watched the performances starring the cartoon characters of Viva Nuestra Energía [Long Live Our Energy]: Lolo Eolo, Vera Ribera, Nano Solano, Tomás Biomás, Carlos Caldera and Juan Volcán.

## 2.1.2. PRODUCTS AND SUSTAINABLE SERVICES

2013 was a period of continuity in the EDP Group's growth strategy in the area of energy efficiency services linked to business segments. The year ended with an increase in the number of services marketed and in the associated billing.

The savings obtained from the activity of EDP Energy Services in 2013 as the result of the projects, tenders implemented and services provided to companies stood at annual savings of around 27 GWh.

### ENERGY SERVICES TO COMPANIES AND KEY ACCOUNTS (B2B)

The energy efficiency service commercial activity aimed at maximising the joint sale of energy and services through our commercial network continued in 2013. Some of these initiatives were maintenance services of Gas Pressure Regulating and Metering Services (PRMS) and services to replace conventional luminaires by LED technology.

The plan is to shortly launch new energy services for companies based on energy management, analysis and information systems and facility maintenance.

In 2013, sales grew considerably with respect to the previous year, reaching a permanent service portfolio of 931 contracts, which highlights the awareness of companies to optimise the energy consumption of their facilities and the importance of cost cutting.

### ENERGY SERVICES IN BUILDING

The work in 2013 was basically in two lines of action: expanding the commercial range to adapt it to the needs of each customer, with more flexible contracting terms and aimed at the common centralised services of the building, and geographically extending the commercial operations.

Special mention should be made of the transformation of facilities powered by coal and diesel to natural gas facilities, with the ensuing savings in emissions that that implies.

### INTEGRATED ENERGY EFFICIENCY PROJECTS (S2C) AND SPECIAL PROJECTS

An important milestone was the launch of the **Save: to Compete** (S2C) programme at the end of 2013, which seeks to drive the implementation of Integrated Energy Efficiency Projects (IEEP).

EDP is likewise working on special projects, such as setting up LPG and co-generation plants and other key projects demanded by B2B customers.

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NEVERENDING ENERGY

#### SAVE: TO COMPETE

In the current economic climate, companies need to reduce their production costs and make their offer more competitive. Therefore, cutting energy consumption is a fundamental tool to achieve that goal, even though it requires investments at a time of lack of financial resources.

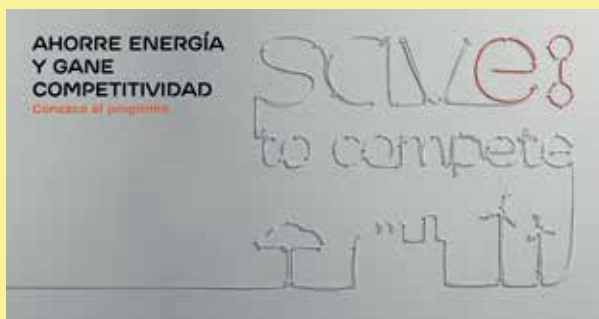
EDP wishes to consolidate its role of energy service supplier and has therefore implemented a programme to drive and develop integrated energy efficiency projects in Spanish and Portuguese companies

#### **Save: to compete.**

It is one of the first private initiatives in this area and it seeks to be within the reach of all companies. EDP therefore produces free-of-charge a preliminary energy diagnostic report for all those companies that request it and they just need to register [www.savetocompete.com](http://www.savetocompete.com) on the website and fill in a questionnaire.

EDP recommends a more detailed audit in those cases when the savings potential is significant. Based on the result of this audit, EDP produces a proposal of measures whose real savings obtained in the bill are used to fund the project.

In Spain, the Programme was implemented at the end of 2013 and particularly noteworthy is the partnership agreement with FADE, the Employers' Federation of Asturias, to identify energy efficiency measures and to implement them in the companies belonging to that association. During 2014, the plan is to extend that initiative to other autonomous regions.



## ENERGY SERVICES FOR HOUSEHOLD CUSTOMERS AND SMALL BUSINESSES (B2C)

### ENERGY SAVINGS

- ◆ Customer area, access to information related to the contract.
- ◆ Assess your consumption, thanks to the online test to learn more about energy consumption.
- ◆ Powerhome, an appliance that enables the contracted power to be optimised to the minimum needed, cutting the electricity bill and fostering energy savings.
- ◆ Loyalty Points, obtaining points according to energy consumption than can be exchanged for products that help to save energy and/or water.
- ◆ Newsletters sent out to customers monthly, with the main products and services available, saving tips, efficiency and sustainability.
- ◆ E-billing, free services to encourage customers to stop requiring bills on paper and for each customer who signs up to the scheme, EDP plants a tree.
- ◆ **Replacing electricity meters.**

### ELECTRICITY METER REPLACEMENT CAMPAIGN

The electricity meter replacement campaign has become more pressing in recent months. Savings in consumption was initially one of the main goals of this system, where those users with installed power capacity of under 15 kW, around 29 million household, must have electricity smart meters by 2019.

When the Government overrode the outcome of the last CESUR auction, which is where the price of electricity is set quarterly for those users under the Last Resort Tariff (TUR) scheme and which would become known with the electricity reform as the *Small Consumer Voluntary Price - PVPC*, the plan was that from 1 April, consumers with smart meters in the remote management systems (capacity to read consumption in real time) would pay according to their real hourly consumption and the performance of the wholesale market. This would mean price fluctuations from one month to another, requiring the bills to be adjusted at the end of each period, with the electricity companies crediting or collecting any differences.

However, the difficulty to implement this system by the distributors has forced the Government to reconsider its start date, which will very likely be postponed to June.

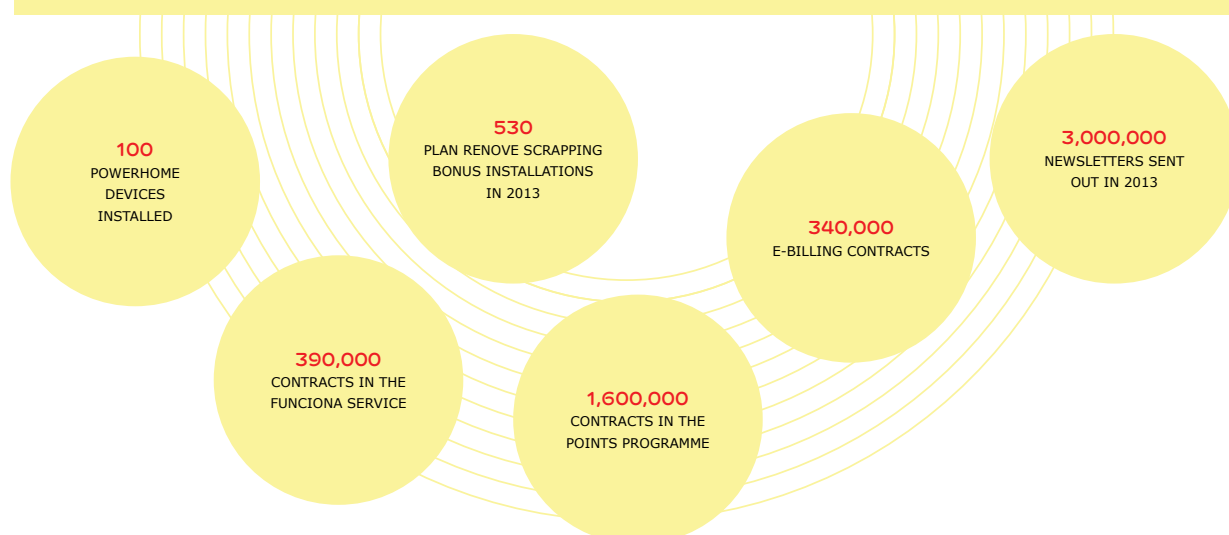
Meanwhile, the meter replacement campaigns continue with the deadline being the end of 2018.

EDP HC Energía selected Pola de Siero (Asturias) as a pilot experience to kick off the InovCity Project 2013, as it is the first town on the EDP HC Energía distribution grid to have all the meters up to 15 kW remotely managed (7,500 meters and 30 hubs).

Furthermore, the Siero low voltage grid has been checked to bring it in line exactly with the real situation and introduce it in the electricity distribution SCADA system. This allows the low voltage grid to be monitored, the installation charge to be analysed, network losses to be controlled, as well as to foresee failures. The office will thus be able to establish whether it is down to the distributor or the installation of the customer.

The tool worked successfully in Pola de Siero and its use will now be extended to the other remote managed meters.

The equipment is changed by the distributors and they have to duly notify the users beforehand. It is estimated that around 7 million units will have been installed throughout Spain in 2014.



## GUARANTEES OF ORIGIN

The Guarantees of Origin and Electricity Label (GDO) system informs consumers on the origin of the electricity they are supplied and the associated environmental impact.

The EDP Spain marketers supply their customers with cleaner electricity than the national average, with high percentages of high-efficiency cogeneration or renewable energies in annual terms. Thus, in 2013, Hidrocarburo Energía and Naturgas Energía Comercializadora supplied B and C label energy respectively, compared to the national average, which was E label, to the whole B2C segment.

## FOSTERING ENERGY RENEWABLES

- ◆ Solar Heat Plan, installation of thermal solar panels for heating and domestic hot water.
- ◆ Climate Control Plan, installing Class A climate control units.
- ◆ Plan Renove, scrapping bonus to replace natural gas heaters by others than are more efficient and with better features.
- ◆ ACS (domestic hot water) Plan, replacement of hot water heaters by others that are more efficient.
- ◆ Source of the 100 % renewable energy for all B2C customers: **garantías de origen**.

MARKETER MIX	units	COMERCIALIZADORA SIN GDO's	HIDROCARBÚRICO ENERGÍA, S.A.U.	NATURGAS ENERGÍA COMERCIALIZADORA, S.A.U.
Renewables	%	20.3	62.6	52.9
High-efficiency cogeneration	%	1.6	0.8	1.0
Cogeneration	%	12.2	5.7	7.2
Natural gas CC	%	13.7	6.4	8.1
Coal-fired	%	19.0	8.9	11.3
Diesel/Gas	%	4.7	2.2	2.8
Nuclear	%	26.7	12.5	15.8
Others	%	1.8	0.9	0.9
Carbon dioxide emissions	kg carbon dioxide per kWh	<b>0.36</b> E	<b>0.17</b> B	<b>0.21</b> C
AA radioactive waste	Milligrams per kWh	0.75 F	0.35 B	0.45 C

## SAFETY OF THE INSTALLATIONS

- ◆ Funciona, maintenance service for the gas and electric installations, and of household appliances, with over 390,000 customers whom are sent savings and efficiency tip every year.
- ◆ Efficient households, online service with safety, efficiency and savings tips in the home.

## EDP SPAIN OBTAINS THE ENERGY EFFICIENCY CERTIFICATE AT THE CORPORATE HEADQUARTERS AT PLAZA DE LA GESTA (OVIEDO) AND FOR THE EDP EMPRESA DE SERVICIOS ENERGÉTICOS, S.L. BUSINESS.

The energy efficiency was certified pursuant to ISO 50001 standard and it is the first certification of this type for the whole EDP Group. This certification will also enable a better positioning of the company in public tendering processes.

Therefore, the 2009 Energy Review at the corporate headquarters was updated in 2013. This involved identifying improvement targets, together with consumption indicators (energy, water, office equipment), energy production and other environmental aspects (waste, effluents, emissions, noise) for their periodic monitoring and control.

The introduced improvements have cut energy consumption by around 90 MWh, 3.5 % of the total electricity consumption of the building. Furthermore, the operating of the photovoltaic panels on the roof has been fine tuned and their annual production has nearly doubled.

Likewise, Environmental Management ISO 14001 certification was also obtained for the La Gesta building, which joins the other certifications obtained for the electricity generation and the electricity and gas distribution businesses, and whose objective is to cut environmental impact and ensure compliance of legal requirements.



### 2.1.3. A SERVICE OF QUALITY

#### SUPPLY QUALITY

The high volume of network investments in recent years has ensured a high level of safety and quality in the supply.

In the case of **electricity distribution**, the supply quality is measured by two parameters: its continuity (interruptions and their duration) and the quality of the customer service and relations. Both indicators have legally established limits, and in the case of non-compliance, the distributor must compensate the customer.

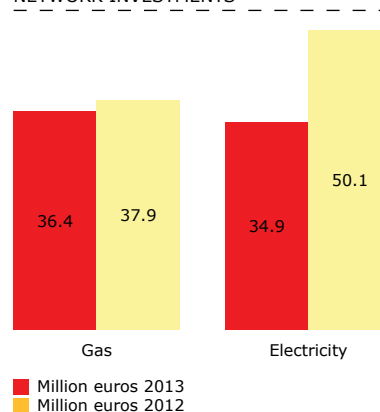
- ◆ The TIEPI (Interruption Duration Index or Equivalent Interruption Time of the Installed Capacity) defines the supply continuity: EDP is ahead of the rest of the Spanish electricity sector in this index and recorded a value of 38 minutes in 2013, rather higher than the one for 2012 (which was a record level) as the result of harsher weather conditions. Despite this, the legally established times or the maximum number of interruptions was exceeded in more than 10,6000 supplies, that will be financially compensated once the 2013 billing process is closed.
- ◆ The customer service quality is defined by the turn-around time in which the electricity companies are capable of performing operations such as connecting and installing equipments, non-payment reconnections, preparing quotes and carrying out electric installations. In 2013, EDP Spain logged 451 instances of non-compliance of the time periods for connection and non-payment reconnections. The amount of compensation of each of them stood at 30 euros or 10 % of the first full bill (whichever amount is higher).

Quality in **gas distribution** refers to both the natural gas itself (composition and heating power) and to the continuity of the supply.

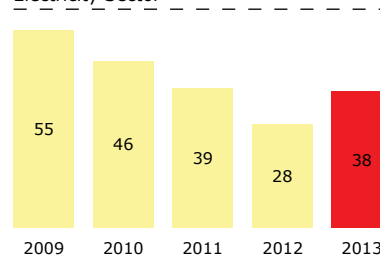
- ◆ The quality of the natural gas must comply with what is established in the System Technical Management Standards. It is the responsibility of the carrier, along with the delivery of this product previously odorised both to the distributors and to the customers directly connected to the transport network; odorization allows the human nose to detect any leak easily at a much lower limits than what would be the flame point of the contaminated air mixture. The distributor is responsible for the natural gas reaching the end customer with this characteristic smell and the gas that it distributes has to be reodorised if necessary.
- ◆ With respect to the supply continuity, the supply is considered to be interrupted when the natural gas delivery pressure levels are under the legally established levels, and which depend on the pressure level of the distribution network. Should those interruptions occur, depending on their duration and their frequency, the supplier will have to compensate the customer with a discount on the amount billed pursuant to the Royal Decree regulating the natural gas distribution activity.

The unavailability of the gas networks may be due to scheduled or unforeseen work. In the latter case, it is mainly linked to breakages caused by third parties to the network, an effect that is measured using the Gas Networks Rupture Index (number of breakages in the network, including the stretch from the tapping saddle at the connection valve, and divided by the network kilometres). In both cases, the loss of the supply by the end customer is measured using the Gas Supply Continuity Index (total number of supply pointed affected by cuts by the length of the cut in minutes, divided by the total number of supply points).

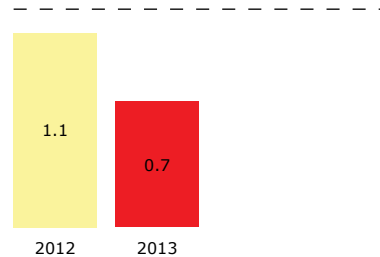
NETWORK INVESTMENTS



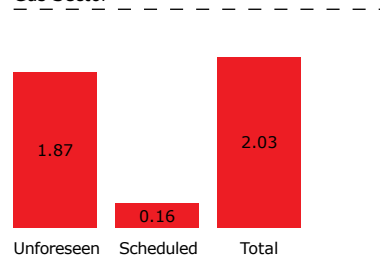
TIEPI EVOLUTION (minutes) Electricity Sector



GAS NETWORKS RUPTURE INDEX (per every 100 km) Gas Sector



GAS SUPPLY CONTINUITY INDEX (minutes per year and connected user) Gas Sector

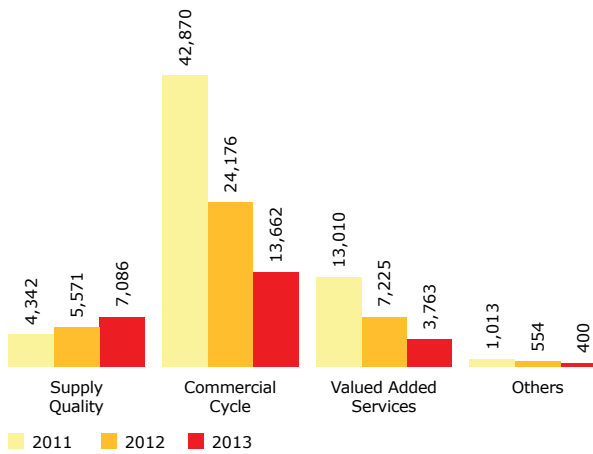


## COMPLAINTS

As a fundamental tool to improve the service quality, the complaints received from the customers are analysed to be solved and to define actions for improvement. In this sense, the **"Nos comprometemos" [We Undertake]** project ended in 2013. With the common objective of reducing the number of complaints, the project brought together different business units of the company.

The **"Nos Comprometemos"** project started in 2011 in response to the serious accumulation of pending complaints and formalities, arising to a great extent to the continuous regulatory changes. This "commitment" aimed to seek the involvement of all the business areas which influenced the generation or settlement of complaints, and they all worked together to set up an ongoing partnership framework. The different initiatives that emerged during the life of the project, such as identifying the "root causes of the complaints" helped not only to improve the settlement rates, but also to cut the number of new complaints (duplicate incidents, problems ensuing from prior ones, etc were avoided). As a result, the monthly inflow volume of claims and formalities was down in 2013 by over 20 % compared to the previous year.

NUMBER OF COMPLAINTS BY TYPE

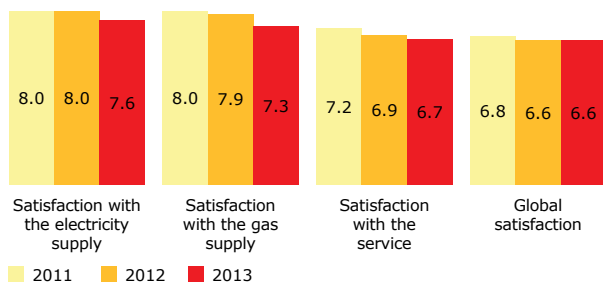


## CUSTOMER SATISFACTION

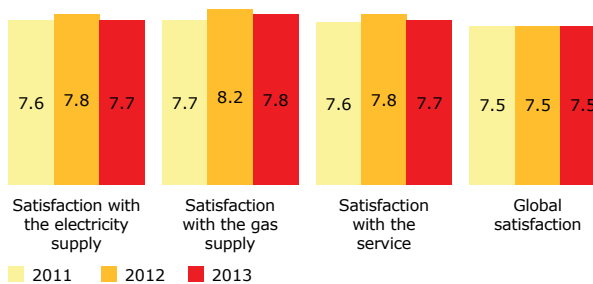
In order to maximise the degree of satisfaction of our customers with the service provided, as well as to detect the processes that needed to be improved, EDP has set up dialogue channels, together with satisfaction indicators, appropriate to the customer segmentation and their specific needs: Household and Business area, and Key Accounts and Companies area.

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SATISFACTION INDICATORS  
EDP SPAIN B2C CUSTOMERS



SATISFACTION INDICATORS  
EDP SPAIN B2B CUSTOMERS



The results of this internal assessment are backed externally by the **Spanish Consumer Satisfaction Index (ISSCE)**, a study conducted annually by STIGA, where the low score of the electricity sector overall (it appears as the second worst rated sector among those analysed) contrasts with the individual values obtained by EDP, which is the best rated electricity supplier and second best gas supplier. This index assesses the perception that the customer has of the company, price and service offered, which leads to customer loyalty and recommendation to other customers.

## 2.2. HUMAN CAPITAL

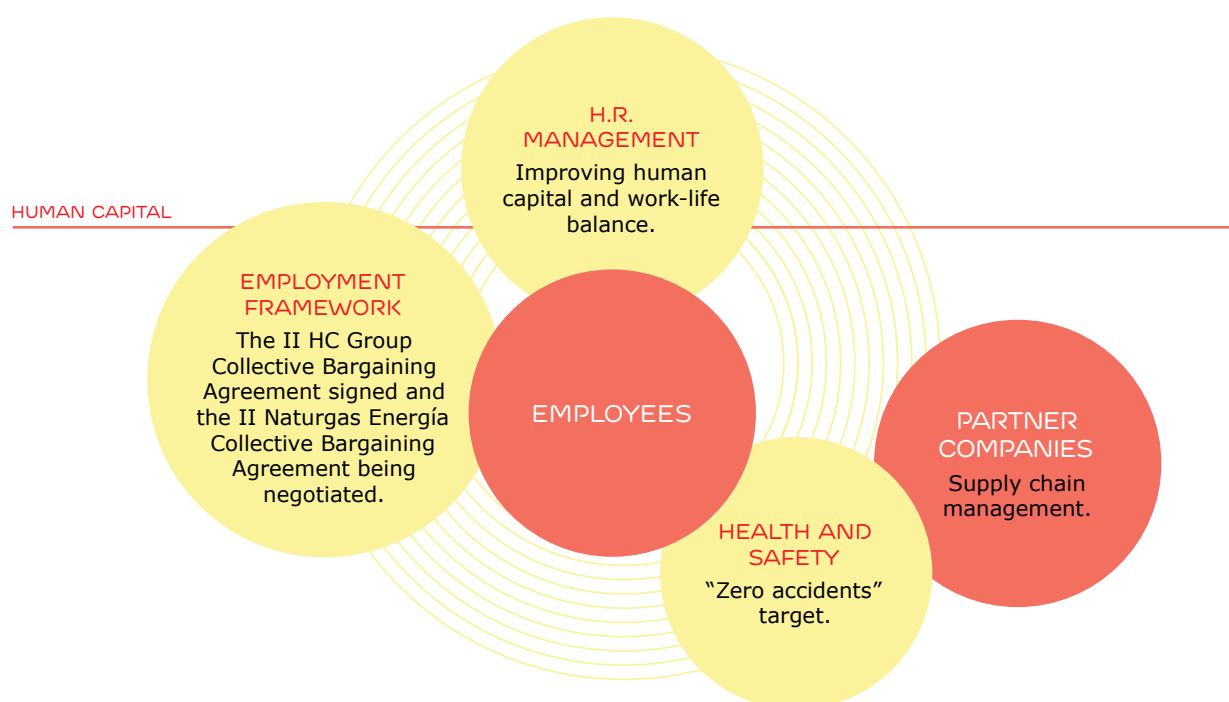


EDP considers employees to be fundamental in the deployment of its sustainability strategy. The company enters into commitments that cover labour aspects, development of skills and merit and work-life balance.

On the other hand, the partner companies and the workforce of contractors work side-by-side with the employees of the group looking for common goals; the supply chain thus becomes part of the managing of the human capital of the company.

EDP establishes, as far as possible, long-term relations with its main suppliers, by developing communication channels and collaborating in the execution of the more sensitive tasks, such as aspects of prevention and the environment.

Our sustainability requirements are thus shared by the value chain, which is mutually beneficial.



### HUMAN CAPITAL IN FIGURES

<b>OWN WORKFORCE (2013.12.31)</b>	<b>MEN</b>	<b>WOMEN</b>	<b>TOTAL</b>	<b>% WOMEN</b>
<b>BY AGE</b>				
<30	17	18	<b>35</b>	1.1 %
<40	252	169	<b>421</b>	10.5 %
<50	371	131	<b>502</b>	8.1 %
>50	587	67	<b>654</b>	4.1 %
<b>Skilled workers</b>	<b>1,227</b>	<b>385</b>	<b>1,612</b>	<b>23.8 %</b>
<b>BY PROFESSIONAL CATEGORY</b>				
Senior Management	79	13	<b>92</b>	
Managers	232	83	<b>315</b>	
Specialists/Higher-level Technicians	283	104	<b>387</b>	
Skilled workers	633	185	<b>818</b>	
<b>Skilled workers</b>	<b>1,227</b>	<b>385</b>	<b>1,612</b>	
<b>OUTSOURCED WORKERS (AVERAGE 2013)</b>				
<b>TEMPORARY AND SERVICE COMPANIES</b>				
ETT (Temporary Employment Companies)			<b>60</b>	
Partner Companies			<b>2,181</b>	

## 2.2.1. EMPLOYMENT FRAMEWORK

### II HC GROUP COLLECTIVE BARGAINING AGREEMENT

After a long negotiation period, not exempt from a degree of conflict, and after having reached an unprecedented "ultra-activity" status, (period in which the previous Collective Bargaining Agreement ceased to be in force, pursuant to the current reform of the labour market), on 23 January 2014, the II Electricity Business Collective Bargaining Agreement was signed by the representatives of the company and the main labor union organisations, that account for over 80 % of the EDP Spain electricity business workforce.

This new Agreement renews a stable employment framework for the workers of the Group between 2013 and 2017 as regards organisation, remuneration and employability, risk prevention, gender equality and work-life balance, and representation and participation, among others. However, it also implies the acceptance of restructuring arising from the economic climate and the flexibility needs of the company, which led to the review of annual financial increases, the defining of a new wage and salary table for new employees and the transfer of certain wage allowances to a "Productivity Payment", to be assessed annually.

One new feature of this agreement is the greater flexibility of timetables that will allow the workforce of a certain number of days as a continuous working day.

### NEGOTIATING THE II NATURGAS ENERGÍA COLLECTIVE BARGAINING AGREEMENT

In keeping with the approach for the electricity business agreement, negotiations began in 2013 between the representatives of the company and the labor union representatives of the gas business to renew the Collective Bargaining Agreement of this group. The company wants the agreement to be in force for 4 years, from 2014 to 2017, and thus end at the same time as the electricity business agreement. In order to internalise the situation of the sector (drop in demand, margins and benefits), the new agreement seeks great flexibility by the employees.

The negotiations are still underway in 2014, in a climate of transparency and mutual confidence, in order to reach an agreement regarding control and cost cutting limiting its social impact.

### COMMUNICATION AND CONTINUOUS IMPROVEMENT

The Group has different tools to bring onboard the opinion of its human capital, both to discover its general satisfaction and to communicate internally and identify areas for improvement that allow new initiatives to be implemented.

Thus, one of the main tools of the Group is to create **internal communication tools** that, by making use of the new technologies, enable information to be shared to the whole organisation: *"Where there is good communication, there is a successful company, with motivated employees"*.



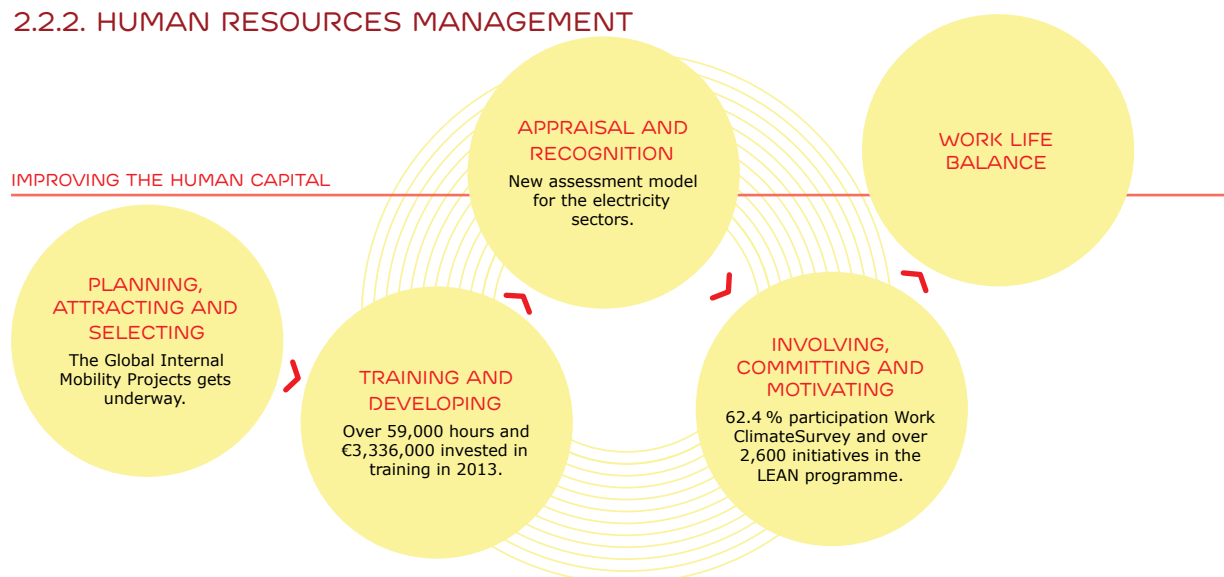
**EdpON** addresses this objective through the corporate radio and television, the bimonthly magazines and the intranet and its relevant business channels and cross-cutting areas.

Since February 2013, the new corporate intranet stands out as a new work platform in line with the needs of each employee, integrating all the institutional information, news and publications, and giving access to all internal management tools, such as the Human Resources Kit.

From the home page, each employee can select the information they need, set up online groups, set up subscriptions, or share information on themselves or their job. This new platform aims to facilitate the exchange of information and multi-disciplinary and multi-geographical team work, by means of a new networking system that mixes dynamism and creativity, proof of which are the different awards that **EdpON** has notched up this year.



## 2.2.2. HUMAN RESOURCES MANAGEMENT



### EMPLOYEE SELECTION

Employee selection is part of an integrated management model that seeks to provide EDP with the necessary resources and skills for the implementation of its strategy and the sustainable development of the business.

It thus seeks to attract the most suitable candidates, by ensuring a selection process based on ethical principles that guarantee fair criteria and encourage the mobility of the employees internally so that can develop within our organisation.

The Internal Mobility Global Project for EDP Spain got underway in 2013. Its purpose is to foster a work culture and environment that values internal mobility, by offering work opportunities to their partners with preference for external contracting and encouraging employees that express their interest in mobility as a means to develop their career.

### TRAINING AND DEVELOPMENT

In a global context of fast and permanent change, EDP Spain has placed **Professional Development** at the centre of its Human Resources strategy as a driver for the employability, adaptation and development of its Human Capital.

Consequently, EDP Spain has undertaken to implement the necessary means and resources so that, by means of training and internal mobility, its employees have more professional development opportunities while improving exchange of knowledge and experience among its companies.

**Therefore, EDP Spain has the following mechanisms in place to foster the Professional Development of its employees:**

- ◆ Annual Training Plan, as an essential instrument for the whole EDP Spain workforce to develop and update their individual skills and know-how, thus fostering their professional fulfilment.
- ◆ Internal Mobility Programme, fundamental for career development, providing employees to move internally within their own area or to another business area, even moving geographically speaking.
- ◆ Actions for employee development in the sphere of performance assessment, enabling new work experience and the development or extension of professional skills.

**EDP Spain** invested €3,336,000 in Training and Development of its employees in 2013, taking into account both the costs of the instructors and the attendance time, which resulted in 59,092 hours of training, with an average of 39.73 hours per employee.

Other programmes to complement the training have been set up and are oriented to developing potential and professional skills of the individuals, such as the EDP University and the Coaching Programme.

The Coaching Programme, which has been run since 2006 and which was run at the level of EDP Spain for the last time in 2013, fosters a leadership style that optimises potential and performance, by helping to develop the work capacities of an employee (coachee) with the support of a manager acting as a coach. Forty-five guides and 60 coachees took part in this year's programme and very positive results were obtained. Special mention should be made of the satisfaction of the participants with the programme, 93.75 % of whom acknowledge its usefulness. The guides particularly stressed how the programme had helped to improve their leadership capacity.

The EDP University, up and running since 2009, has participants from all the territorial areas. It has two cross-cutting schools, the EDP School, to develop know-how and skills, and the School for Management Development, focused on leadership and management competences and behaviour competences, along with five functional schools for the specific development of each business: Production, Distribution, Gas, Renewables and Commercial.

## EDP FOUNDATION COMMITTED TO SOCIETY

### 240 TRAINEES JOIN EDP ON WORK PLACEMENTS IN THE COMPANY

The EDP FOUNDATION has signed agreements with the Universities of Oviedo, the Basque Country, Deusto, Cantabria and Murcia, thanks to which 240 students have completed paid work experience at the different EDP centres throughout 2013, to train qualified professionals for the future.



Trainees are selected on the basis of their academic records and, after six months, many can extend their contract for a further six-month period. Prior to joining the company, the trainees attend an induction course on the Quality, Environmental, Intranet and Health and Safety policies of the company.

The trainees joined different departments of the organisation, which provides them with an initial job opportunity that will provide them with eminently practical training.

EDP started funding these grants over 30 years ago. Since then, over 1,200 trainees have completed placements at the different centres of the energy company, some of whom now form part of the EDP workforce.

### VOLUNTEERING PROGRAMME

**In 2013, different EDP workers volunteered on social projects:**

#### 1. Painting Smiles

Through the message "With your help we want to improve the conditions in which Caritas helps the reinsertion of the most destitute", EDP volunteers helped by painting the different floors of the Caritas building in the Otxarkoaga neighbourhood of Bilbao, with the help and advice of some professionals, who were also volunteering. It was a hard day, but it was also enjoyable and satisfying to work together doing something different.

#### 2. Christmas Playground

The children from the school in the Miribilla neighbourhood, in Bilbao, enjoyed the children's playground for the second year running that the EDP Volunteering Programme organises during the school holidays.

Based on the experience of previous years, the organised opted for fun activities such as the EDP inflatables, makeup workshop and balloon sculpting. The new act this year was the magician, who performed different tricks and simple sleights of hand, to the delight of the audience.

#### 3. Nyumbani Project

For one year, EDP volunteers contributed their legal, economic and technical know-how to design and implement a whole project aimed at installing 220 photovoltaic panels, which will provide free energy to a community of 1,000 abandoned orphans and rescued from the poorest streets and neighbourhoods of Nairobi and surrounding districts, along with 100 grandparents, who live together in an eco-village specially created for them, called "Nyumbani Village".

Donations were collected from the staff of the company to carry out the work, which is expected to be finished at the start of 2014.

## RECOGNITION

**Managing Performance** is fundamental to direct collective and individual endeavours towards the results desired by EDP, and an important person management tool, capable of creating stimulating conditions for them to add values to the results of the organisation, integrating the competency management and performance management.

The different assessment processes existing in EDP Spain seek to channel individual and team action towards the EDP overall goals. Thus, the appropriate development plans are defined, fostering communication between the hierarchy and the workers, in order for each worker to be capable of duly getting ready to face and overcome the challenges with autonomy, creativity and responsibility and generate results that create value for the Group.

There is also the "Half-yearly Recognition for Outstanding Performance" initiative, aimed at rewarding every half year an outstanding performance, initiative or action, either individually or collectively, which has been carried out by members of the workforce by means of a non-monetary reward.

## COMMITMENT AND MOTIVATION

The leadership capacity influencing commitment and motivation is the factor that has the greatest impact on the satisfaction, motivation and performance of the employees, in short, on the **work climate**.

In 2013, a new Work Climate Survey was conducted, which covered different corporate issues, regarding values and culture, communication aspects, organisation, HR, motivation and satisfaction, and sustainability, leadership or customer service aspects.

The participation level was 56.2 % in the electricity sector, and 80 % in the gas sector. That means 62.4 % participation at the EDP Spain group level, 10 points lower than the previous survey, which reflect the negotiation process of the II Collective Agreement in the electricity business, but consolidates the survey as a support tool to obtain people's opinions.

The best rated aspects include job stability, ease of making suggestions to the immediate superior, fair and respectful treatment of all people, skills/knowledge/efficiency of their manager, and pride of working at EDP Spain.

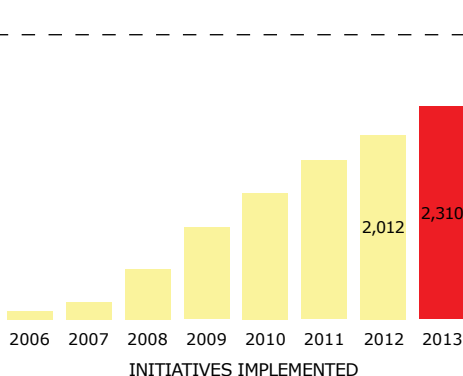
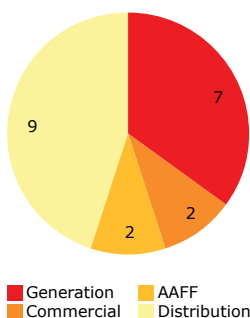
In the first quarter 2014, there will be an exhaustive analysis of the results of the Satisfaction Study that will be the basis for a Common Action Plan and Specific Plans by Area.

On the other hand, the **LEAN programme** enables the employees to identify with the company through the selection and introduction of improvement initiatives in their work areas in lines such as process efficiency, availability, the environment, work conditions and risk prevention.

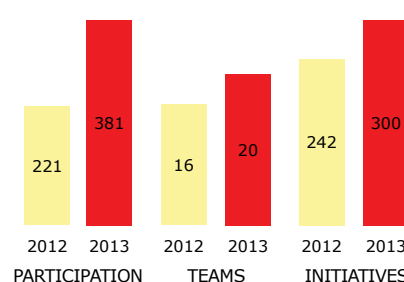


### ELECTRICITY

664 people took part  
20 active teams



### GAS



In 2013, the Kaizen Institute, one of the leading organisations worldwide in this sphere, awarded the programme the Kaizen Prize, which recognises excellence in continuous improvement achieved using the LEAN methodology.

In that same line, a visit of our partners in the Spanish Quality Association (AEC) rated the programme as very consolidated (started in 2006), very high participation (over 600 workers), broad scope (includes the environment and safety) and with clear actions that contribute to the business (continuous improvement), fostering the participation and motivation of the employees, and with a clear impact on the sustainability of the company. **These are the objectives that have marked the development of the LEAN programme right from its start.**

During 2013, work has been carried out on documenting the initiatives on the LEAN web portal by improving communication and exchanging initiatives between work centres, along with the integration of the Programme in the Environment and Quality Management Systems, passing all the audits of the year without any significant discrepancies being flagged.

The creativity of the employees has also been consolidated by means of the Lean Creative Thinking project, in order to foster a new way of thinking among employees that generates innovative ideas for the company.

## WORK LIFE BALANCE

EDP organises a **Voluntary Programme** as a means of conciliation and which is held in all the companies of the Group. This programme is in line with the strategic goals of the Group, where sustainability is one of its main principles.

On the other hand, the two Collective Bargaining Agreements currently in force guarantees a broad set of **social benefits** for the workers of the Group, who deploy the company's commitments with the people.

Special mention should thus be made of the contribution of over 3 million euros to the Pension Plan, and other welfare contributions, such as life insurance, medical insurance and health care, or death assistance.

The work-life balance benefits include grants, help with childcare costs, or supporting the birth rate with €500 per birth and worker, together with aid for sport and cultural activities, summer holiday centres, restaurant vouchers, etc.

Finally, mention should be made of grants to help housing or vehicles, repayable advances, or energy supply, within reasonable household consumption margins, with a free gas and/or electricity quota (10,000kW/year and/ or 5,000kW/year, respectively).

### 2.2.3. PARTNER COMPANIES

The current EDP management model defines the value chain of the group, where the suppliers are a cornerstone for the correct performance of the organisation, as well as being one of the stakeholders identified in the relevant policy.

Thus, they are present in the strategy defined by the company, which sets out the commitments acquired with them; they condition the organisational structure of the Purchasing Department, broken down by type of business; and different participation, dialogue and communication channels are established as a source of mutual exchanging of expectations (re pro, website and regular communication sessions).

	SUPPLIER SELECTION	FULFILLING THE SERVICE	ASSESSING THE WORK
HOW DO WE DO IT?	RePRO Audits CSR scoring	Monitoring the work	Internal surveys
COMMUNICATION	<a href="http://www.edpenergia.es/institucional/es/proveedores">www.edpenergia.es/institucional/es/proveedores</a>	Incident box Contact Center Regular sessions and Forums	FEEDBACK surveys Health and Safety Awards
INDICATORS	CSR assessment	Monitoring reports	Internal survey results

#### SUPPLIER SELECTION

The expansion of the Group to other territories has increased the sub-contracted workforce, along with the number of partner companies. Even though the policy of the group does not explicitly contemplate local contracting, the reality is that many tasks end up being assigned to local companies due to the very nature of the work.

The supplier selection process seeks, on the one hand, to control the risks that EDP assumes and, on the other hand, to apply a price policy in line with the market.

Therefore, the contracting practices are applied that are established in the Quality management System, which is audited annually by an external company, and through the RePRO application (Supplier Register), which contains **detailed and up-to-date information on each supplier**, regarding the available human and technical resources, preventive management performance, information of Quality and Environmental Management systems of the company, together with its financial-economic status.

EDP also assesses the **Corporate Social Responsibility (CSR practices)** that its suppliers apply and, in addition, the latter have to therefore answer a questionnaire on the practices that they apply, which enables information to be gathered on the following aspects:

<b>LEADERSHIP</b> Commitment made by the company with regards to Corporate Social Responsibility and corporate governance.	<b>MANAGEMENT SYSTEM</b> Systematisation of CSR management.
<b>DIALOGUE</b> Identification of the stakeholders, along with defining a relations framework that fosters dialogue channels with them.	<b>COMMUNICATION AND TRANSPARENCY</b> Identify the communication platforms that foster transparency and that indicate the objectives, commitments and results obtained.



Using the results of this CSR assessment, the supplier is given a score according to the average for the suppliers assessed (A+, suppliers over the average; A, suppliers with an average score; B, suppliers under the average)

The RePRO information is taken into account when assigning work and services requested and allows the company to differentiate between suppliers during tendering processes or when contracting with them.

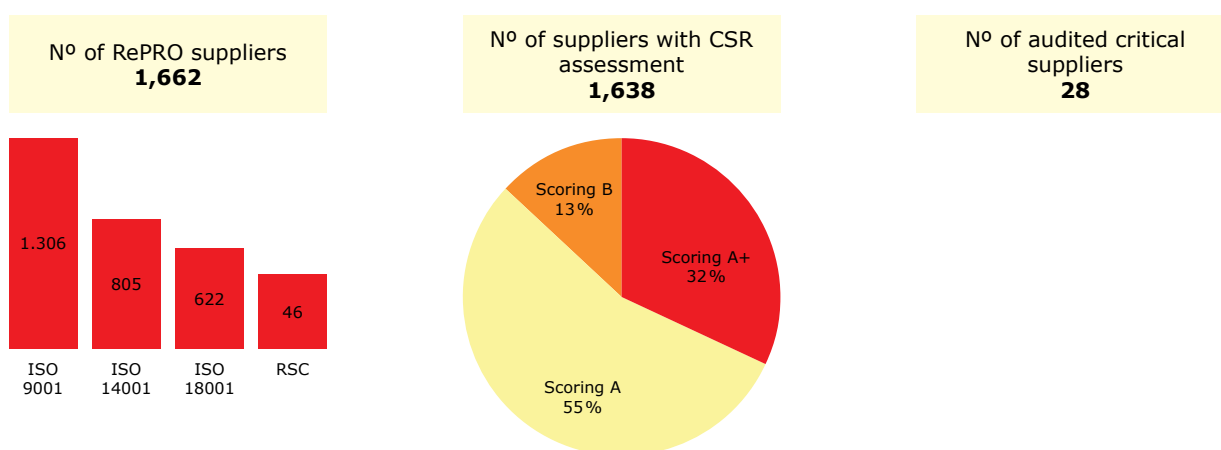
EDP only works with previously approved suppliers, which, therefore, have already shown in the bidding process that they have the safety, economic and technical capacity to carry out the work being contracted. Thus, all the suppliers that bid, do so on a level playing field, with the price being the sole and determining factor for awarding the contract.

In the case of subcontracting, this must have the prior approval of EDP and meet the same requirements as a directly contracted company.

Some of these suppliers are **critical** for EDP, either because they supply products and/or services that stand out for their economic amount or for their impact in the quality of the final product. Apart from having to undergo an external audit to check the truth of the information contributed, those suppliers are given recommendations for improvement and the implementation of those measures is monitored.

With this assessment, along with the identification of the environmental and social risks, **EDP seeks to minimise the risks for the sustainable development of its supply chain.**

During the supplier selection process, EDP provides them with different **communication channels**, including a specific section on the corporate website [www.edpenergia.es](http://www.edpenergia.es) where they can consult the main contracting documents and manuals.



## MONITORING AND CONTROL DURING THE EXECUTION OF THE WORK

When carrying out the work, the business units have an **incident box** to report any problems that are detected. The Purchasing Division analyses and manages those incidents to implement the necessary measures to guarantee the correct implementation of the work.

There is a two-way **communication channel** with the Suppliers, thanks to a Contact Center service to deal with queries regarding invoicing, pending payments or accounting. This service is part of the integration with the work system of the EDP Group and streamlines the query process for the partner companies and for the employees of the group that reroute supplier queries to that service.

In addition, **regular forums and sessions** are held to exchange experiences, where the work carried out and the applicable legal requirements are assessed to identify opportunities for improvement and to optimise resources. Along the same lines, special mention should be made of the Continuous Improvement in the Occupational Health and Safety and the Environment sessions, held regularly and which the Partner Companies attend. During the sessions, the main aspects in two areas as relevant as preventive management and the environmental aspects of the outsourced work are analysed. In 2013, the Global Compact selected this initiative as a good business social practice in human rights.

## bettercoal

EDP signed up to Bettercoal, an international initiative to promote good practices and the integration of sustainability principles in the coal supply chain.

Bettercoal is a non-profit association, created in 2012 by a group of companies from the electric sector. Its mission is to advance the continuous improvement of the ethical, social and environmental performance in the international supply of coal, by improving business practices through engagement with stakeholders and based on a code of conduct.

This code sets out the obligations for mining companies to observe the performance and conduct principles and provision in the use of the management systems, reporting and providing proof of ethical good practices, compliance of labour and human rights, health and safety, and the managing of environmental and social impacts.

The practices and performance of the mining companies are audited in order to guarantee compliance of the code and, when necessary, the implementation of improvement plans.

Apart from EDP, the currently members of Bettercoal are Dong, DRAX, EDF, Enel, E.ON, Gas Natural Fenosa, GDF Suez, RWE and Vattenfall.

[www.bettercoal.org](http://www.bettercoal.org)

## ASSESSMENT OF THE IMPLEMENTATION OF THE WORK

An internal assessment of the Contractor Companies working for the EDP in Spain electricity business is carried out as part of the Quality Management System. The assessment is conducted by means of surveys completed by the project supervisors of the outsourced work and by the Purchasing Division. This assessment takes into account criteria such as the quality of the service, compliance of the committed timelines, safety measures and prevention of occupational risks, measures to prevent environmental risks, incidents during the work and deviations in the amount with regarding to awarding contracts and requesting bids.

According to the results obtained, the suppliers with the best and worst rating are notified and this thus improves the **feedback** with our partner companies: on the one hand, the best results and so that the supplier is aware of this fact and at least maintains that same performance level; and in the case of the suppliers with the lowest ratings, they are informed in which aspects they must improve so that they can implement the necessary corrective measures.

In addition, the EDP Prevention Department showcases the **“Outstanding Occupation Risk Prevention Performance of the Year”** each year, by means of the Prevention Awards, and which go to the partner company that has stood out during the work done for EDP, for its efficient of health and safety management.

**The merits taken into account for this award are as follows:**

- ◆ The degree to which the company has embraced the EDP Preventive Principles.
- ◆ Have contributed efficient solutions, measures or initiative relating to improving the Health and Safety conditions of their workers and which have led to a significant reduction of their accident rate.
- ◆ The application of efficient preventive practices that have demonstrated the stable and effective integration of the Prevention of Occupational risks in the hierarchical line and in its organisation.

### INTERNAL SURVEY RESULTS

	units	VERY POOR	POOR	STANDARD	GOOD	VERY GOOD	N/A
Calidad del servicio	%	1	5	19	48	27	0
Plazos de ejecución	%	1	8	25	46	19	1
Seguridad	%	0	4	27	43	17	9
Medio ambiente	%	0	2	31	41	11	15

	units	NO	YES (SLIGHT)	YES (SERIOUS)	N/A
Incidents when carrying out the work	Nº	76	14	3	7

Total surveys conducted: 40

### 2.2.4. HEALTH AND SAFETY

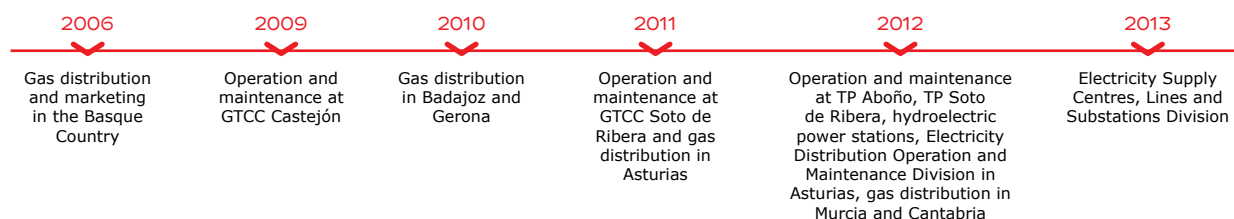
EDP Spain has an ongoing committed to Integrated Prevention, so that the prevention of occupational risks is a cornerstone of all work it undertakes.

Thus, the EDP Spain preventive structure is based on two basic principles to adopt as many measures as deemed necessary to prevent and eliminate all risks arising from the job activity, which may affect the integrity and health of the workers, thus achieving the final target of **ZERO ACCIDENTS**:

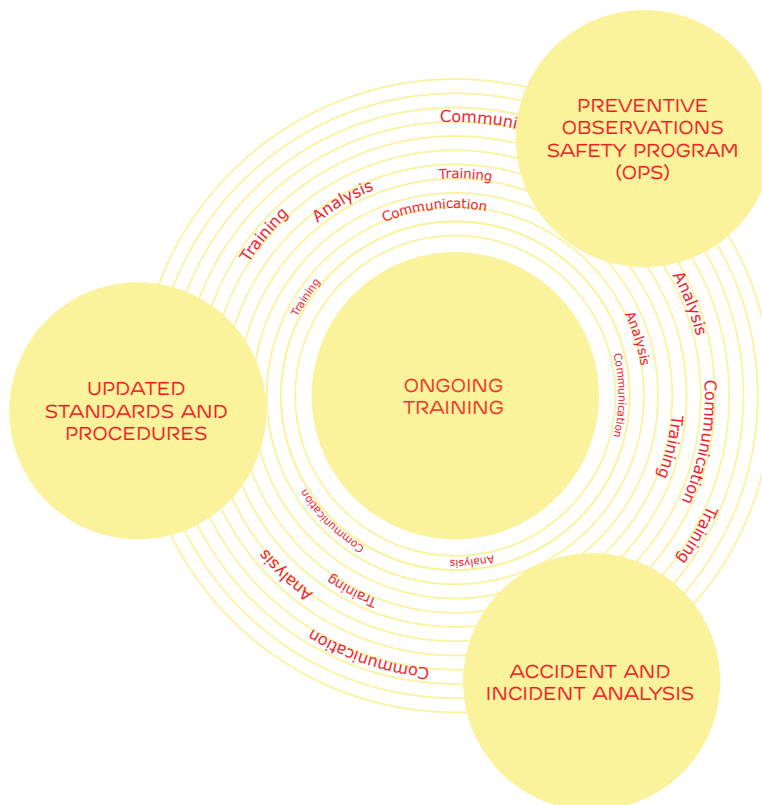
- All damage can be prevented
- Prevention is the responsibility of everyone

This Prevention Policy also seeks to ensure that our suppliers apply the occupational risk prevention practices required by EDP, as the integration of preventive management in all activities of the company also involves extending it to contracted workers, by running information sessions on risks and preventive measures.

In order to support the chain of command in the application of the preventive principles, EDP Spain has the Joint Health and Safety Service, which coordinates and advises the different business units and manages the implementation and monitoring of the Health and Safety Management Systems and **certified externally pursuant to the OSHAS 18001 standard**:



The basic elements of the Health and Safety Management System are as follows:



**Updated work procedures and standards** that set out the preventive practices established to reduce the risks to the minimum, along with complying with them at all levels, both for external and internal workers, and which are a permanent and required benchmark for all managers.

**Preventive Observations Safety Program (OPS)** conducted by the chain of command in order to check compliance of the established standards, assess the potential hazards, correct unsafe acts and improve the working conditions both for the workers of the group and of the partner companies, in the sphere of Accident Prevention.

**Effective communication in all divisions**, between the employees and the chain of command, together with the workers of the partner companies. Therefore, regular forums and sessions are held to exchange experiences, where the work carried out and the applicable legal requirements are assessed to identify opportunities for improvement and to optimise resources.

Special mention must thus be made on the Continuous Improvement in the Occupational Health and Safety and the Environment sessions, held regularly and which the partner companies attend. During the sessions, the latest main aspects in two areas as relevant as preventive management and the environmental aspects of the outsourced work are analysed.

**Ongoing training** to facilitate, on the one hand, knowledge of how the work must be carried out, by maintaining the interest and motivation in prevention. The Prevention Service thus oversees the correct identification of the risks inherent to each workstation in order to detect new training needs for the employees and their priority, or specific refresher needs. These needs may arise from new legal requirements, from the outcome of investigating accidents where applicable or according to the assessment by management of the efficiency of the training actions.

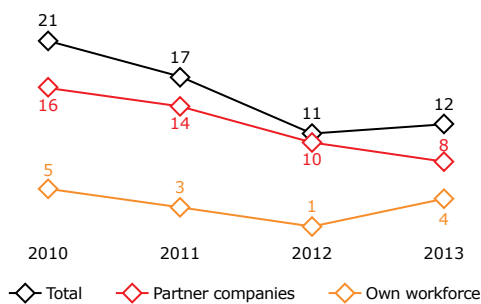
**Accident and incident analysis** by providing very important information to adopt the most appropriate solutions when there is a hazard for the health, integrity of life of the workers, thus seeking to avoid its being repeated in the future.

In line with the integration of prevention in the business units and as the basis for its management and the decision-taking of Management, the EDP (Spain) Prevention Service has implemented the Prevention Scorecard that assess the own preventive performance of partner and its own companies. The accident rate and other factors associated to compliance of preventive management is thus analysed, all of which is aimed at convergence of the accident rates of its own workers and those of partner companies.

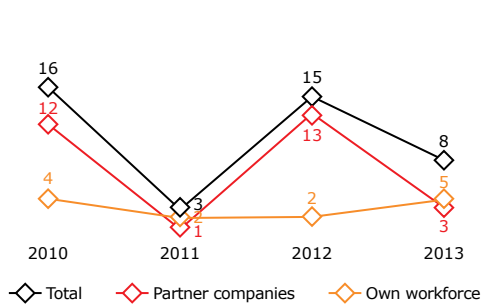
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NEVERENDING ENERGY

ACCIDENT RATE EVOLUTION. Electricity Sector



ACCIDENT RATE EVOLUTION. Gas Sector



Compliance of the Management System is expected to minimise the accident rate.

### NEW PROJECTS IN 2013

Two initiatives should be highlighted as new in 2013.

On the one hand, the **Road Safety and Mobility Plan** both for EDP Spain and for EDP Renewables was prepared. The objectives of the Plan include establishing the mobility habits of the workers over all, both from their homes to the work centre and movements during the working day. The obtained results and the detailed analysis of the accidents recorded and of the road safety audits conducted in the work centres are planned to be used to prepare a plan of action with measures to be implemented during 2014. At the same time, and ahead of the conclusions of the study, training actions, including refresher and safe driving practical courses, are being introduced.

Furthermore, the **Psychosocial Risk Assessment Process** was conducted with the workers from different areas, where aspects were studied such as time, work load and content, autonomy and supervision, and the results were submitted to the Management and workers' representatives. It is planned to extend this study to the other departments of the organisation in 2014.



## 2.3. ADMINISTRATION AND REGULATORY BODIES



THE GAS AND ELECTRICITY ENERGY SYSTEM OPERATES UNDER THE PRINCIPLE OF FREE COMPETITION, BUT THAT GIVEN ITS TECHNICAL COMPLEXITY, AND IN ORDER TO GUARANTEE A DEREGULATED FRAMEWORK, THEY ARE REGULATED.

The link and interdependence of both sectors, the similar problems and the progressive business interrelations in this economic field make it recommendable to have a single energy market monitoring and regulation body, which is the National Energy Commission, that is currently part of the new National **Markets and Competition Commission**. This Commission, together with the Regional and Ministerial entities with competences in the energy sector, have become a key stakeholder for EDP Spain (Administration and Regulatory Bodies), which bases its activity on the production, distribution and marketing of energy (gas and electricity).

Communication with this stakeholder is channelled through the Regulation Direction, in the case of the electricity business, and the Operations Direction, for the gas activity. These departments are involved in the legislation development of the energy sector, by representing the company and acting on its behalf with the agents of the Regulatory System.

In 2013, the energy regulation focus has undoubtedly been the electricity reform and the measures defined by the Government in order to end the electricity tariff deficit. However, in the gas sector, the main regulatory developments were related to the containment of the regulated costs, even though special mention should be made of the Fiscal Measures for Energy Sustainability Act, which has likewise had an impact on natural gas consumers.

Regarding the coming year, the Ministry for Industry has announced that it will be embarking on the gas reform, which will address key issues such as setting up the gas organised wholesale market and the economic sustainability of the system.

### 2.3.1. ELECTRICITY SECTOR

The 2013 regulatory developments are based on the new Electricity Sector Act 24/2013, which repeals and develops the original Act 54/1997. The new legislation and its associated regulations, which are still pending enactment, is focused on eliminating once and for all the tariff deficit, in other words, to balance the cost of the electricity supply and price paid by consumers, by means of distributing the necessary effort among companies, consumers and administration. As the measures approved in 2013 have not been taken, the deficit would reach at least 4,500 million euros a year.

#### PARTIAL MEASURES TO REDUCE THE TARIFF DEFICIT

- A) We must first go back to 2012 to recall the measures that were already taken during that year and which are being felt in 2013. They include:
- ◆ The moratorium on the scheme prioritising new co-generation and renewable facilities (Legislative Royal Decree 1/2012).
  - ◆ Cutting the remuneration to certain regulated activities (distribution grids and island and enclave systems) provided mainly by Legislative Royal Decree 13/2012).
  - ◆ The new taxes on electricity production in the Fiscal Measures Act 13/2012 for energy sustainability.
- B) Back again in 2013, the first measure taken by the Government in February (Legislative Royal Decree) amended the way of increasing the remuneration of the different activities, tariffs and premiums received by the dependents of the electricity system and which are linked to the evolution of the Spanish retail price index (IPC). The new benchmark became the IPC after discounting the effect of unprocessed foodstuff, fuel and taxes. Furthermore, with respect to the co-generation or renewable facilities that receive a priority remuneration, two options for selling the energy they produce were introduced: the transfer of the electricity to the system receiving the regulated selling tariff, or the energy being placed on the electricity market with no premium supplement.
- C) In the first half of the year, an extraordinary credit of 2,200 million euros was announced to contribute to the funding of the 2013 tariff deficit.

## THE 2013 REFORM OF THE ELECTRICITY SECTOR

In order to avoid continuous legislative changes and provide stability to the electricity sector, the Government embarked on a global reform in July, based on a new income and expenditure regime for the electricity system that ensures financial sustainability, an objective that has not been achieved by means of adopting partial measures.

### Reform approval timeline

TOTAL APPROVAL  
OF THE REFORM

JULY 2013	AUGUST 2013	DECEMBER 2013
2013/07/12	2013/08/01	2013/12/27
Legislative Royal DECREE 9/2013	Order IET/1491/2013 August tolls	Act 24/2013 Electricity Sector
		<p><b>Enactment Royal Decree:</b>            Distribution remuneration 2013/12/28            Transport remuneration 2013/12/28            Capacity and hibernation            Renewables, cogeneration and waste            Self-consumption            Marketing            Enclave and Islands</p> <p><b>Enactment Ministerial Orders</b>            Interruptibility            Distribution remuneration 2S 2013            Tolls 2014            ...</p> <p><b>Legislative Royal Decree 17/2013</b>            Energy price 1T2014 2013/12/30</p>

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NEVERENDING ENERGY

THE MAIN CONTENTS OF THE REFORM APPROVED BY LEGISLATION ROYAL DECREE 9/2013 IN JULY, WITH EMERGENCY MEASURES TO GUARANTEE THE FINANCIAL STABILITY OF THE ELECTRICITY SECTOR ARE AS FOLLOWS:

- ◆ The **specific remuneration for generation using waste, cogeneration and renewable energy sources (RCR)** was amended. The new regime is based on the perception of the income from selling energy on the market, plus an addition remuneration if necessary to guarantee the recovery of the operating and investment costs that a well-managed and efficient company does not recover on the market. The aim is thus to ensure coverage of the costs of the renewable, cogeneration and waste facilities needed to compete on the market on an equal footing with the other technologies and obtain a reasonable return, based on the 10-year Treasury Bonds plus three hundred basic points, which is equivalent to a return of 7.5 %.

The new remuneration regime will thus be defined on standard parameters according to the "standard facilities" established; the initial investment made, the income from selling the energy generated valued at the production market price and the average operating costs to run the business will be assessed for each of them throughout their regulatory life. This new regime came into effect in July 2013, but regulatory enactments of the Legislative Royal Decree that allow new remunerations to be calculated will be necessary. Those enactments are expected to be completed in 2014.

- ◆ The **remuneration regime of the distribution and transport activities** has also been altered in the same line as that established for the RCR. The former remuneration regime had been established in 2008 (Royal Decree 222/2208) and was amended in 2012 (Legislative Royal Decree 13/2012). Thus, in July 2013, the remuneration rate of the assets was set as the 10-year State Bonds plus a differential (100 points in the second half of 2013 and 200 points from 2014 onwards, equivalent to a return of 6.5 %). The recognised smaller differential with respect to the RCR is justified by the fact of being a low risk activity, as the network activities are not exposed to the production market risks.

This new regime will likewise require regulatory development to come fully in force, which is likewise expected for 2014.

- ◆ The funding of the **Bono Social discount rate** has been earmarked to the electricity companies as a public service obligation. The Bono Social discount rate was introduced in 2009 to offset the increases in the Last Resort Tariff (TUR) for the most vulnerable customers, who are guaranteed that the tariff price in force as of July 2009 will be maintained. After a period when the discount was funded as a further regulated cost of the system, the Legislative Royal Decree 9/2014 required it to be funded by the groups of companies that simultaneously produce, distribute and market electricity. This cost will be divided between the companies proportionally to the number of their supply points connected to their distribution grids and the number of customers served by their marketing operations.

This new criteria enables the Bono Social discount rate to be divided between the main businesses that are players in the electricity and will come fully into force in 2014.

### ENERGY POVERTY

If we combine the effect of the tariff deficit, in other words, sky-rocketing energy prices, with the drop in salaries due to the current economic climate, we come across a new problem that has taken centre stage in recent years, *energy poverty*.

This term is used to describe the percentage of households that must use an disproportionate amount of their income, that is, over 10 % to pay the electricity and gas bills and which stood at 16.6 % in 2012 in Spain, with around 7 million people or one out of every three households unemployed.

The difficult to access energy, considered to be a commodity of prime necessity and essential for daily life, has become a real problem for the most vulnerable families, single-parents, with members who are unemployed, pensioners, where 9 % of Spanish households stated in 2012 that they could not afford to keep their homes at an appropriate temperature.

This problem is not evenly spread throughout the Autonomous Region and the coldest regions are not exactly the ones where this problem is most felt.

Thus, the conditions in Murcia, Andalusia, Castilla-La Mancha, Catalonia and Extremadura are associated to energy poverty over the national average, possibly due to their not only being the regions with highest unemployment rates and lowest incomes, but also due to the quality of the building and the household appliances. In fact, the poor quality of the housing is precisely the third factor that is mentioned as a cause of energy poverty, together with the electricity hikes and the drop in income.

Asturias, the Basque Country and Madrid are at the opposite end of the scale and are where energy poverty has less impact and are zones, together with Murcia, where EDP has a greater presence.

Mechanisms thus need to be designed to prevent this problem, by improving, on the one hand, the **energy efficiency** of the building, as the best solution in the medium and long term, along with, on the other hand, the funding of the **Bono Social** discount rate by electricity companies as a public service obligation.

- ◆ **Generation capacity payments reformed.** Capacity payments include two types of payments: long-term capacity investment incentive and medium-term availability service.

The first of them, aimed at incentivising the introduction of new capacity to cover long-term national demand and which mainly receive the gas combined cycles installed in the last decade, had already been one-off reviewed in 2012, but given the current climate of reduced demand and the minimum risk of a capacity deficit existing, the Administration decided to reduce their amount (from 26,000 to 10,000 €/MW and year), by duplicating in exchange the period for receiving them in those facilities still entitled to collect that concept.

**ELECTRICITY SECTOR ACT 24/2013, PUBLISHED IN DECEMBER, CONFIRMED THE NEW PAYMENT PROVISIONS ESTABLISHED BY LEGISLATIVE ROYAL DECREE 9/2013 AND SUBSTITUTED ACT 54/1997 IN ORDER TO ADAPT IT TO ALL THE CHANGES EXPERIENCED BY THE ELECTRICITY SECTOR, THAT HAVE LED TO THE ONGOING INTERVENTION OF THE LEGISLATOR.**

The framework for this legislation is noted for the high level of investment in the last decade (in distribution and transport networks, in gas combined cycles and in generation facilities with renewable sources), the economic downturn that has caused some of these facilities to be used much below the envisaged level at the time of being constructed, along with the accumulation of annual discrepancies between income and costs of the electricity system that have generated an accumulated deficit of nearly 30,000 million euros.

In this context, the regulator estimated that Act 54/1997 had been shown to be insufficient to guarantee the financial balance of the system, among other reasons, because the remuneration methodology of the regulated activities lacked the necessary flexibility to adapt to the changes in the system or to the evolution of the economy. The new legislation sought to recover the required regulatory stability to develop a capital intensive activity such as electricity.

With regard to the content of the legislation, apart from the amendments advanced in Royal Decree 9/2013, the necessary mechanisms were introduced to guarantee the **financial and economic sustainability of the system**, effective from 1 January 2014:

- ◆ Any legislative measure of the sector, that implies a surcharge for the system, or a cut in income, should include an equivalent measure of other cost items or an equivalent increase of other income that allows the balance of the system to be maintained and avoid new deficits.
- ◆ The tariff sufficiency principles are recovered in the legislation, so that should there be an income deficit in a year, its amount cannot be more than 2 % of the envisaged income of the system for that year.
- ◆ In addition, the accumulated debt due to the deficit in previous years, and generated prior to 1 January 2014, cannot exceed 5 % of the estimate income of the system for that year.
- ◆ The tariff deficits or shortfalls shall be borne by all the players of the system proportionally to the relevant regulated remuneration.

On the other hand, as a key change as regards the consumer, the Last Resort Tariff (TUR) is replaced by the **"Voluntary Prices for the Small consumer" (PVPC)**, which is defined as the maximum prices – and sole ones throughout Spain – that the last resort marketers, who are now known as benchmark marketers, can charge to the smallest consumers. The "last resort tariff" (TUR) category is reserved for the price of the supply to vulnerable consumers and to those that, without being entitled to the voluntary prices for the small consumer, provisionally lack a supply contract with a marketer.

As another relevant new feature, the new legislation eliminates the "special regime" concept, which had been previously applicable to all RCR facilities whose capacity was under 50 MW.

#### CONTINUITY OF THE REFORMS IN 2014

In 2014, the Administration will complete the legislative enactment of the provisions introduced by the legislative regulations approved in 2013, and which many affects the remuneration of the so-called regulated activities, i.e., distribution, transport, operating the system and the specific remuneration of the renewable generation and cogeneration activities and in enclave and island territories.

However, 2013 ended with the announcement of reforms in the production market, and that, therefore, would affect the free completion activities, that is, generation and marketing. The Government, therefore, plans to reform the production market to guarantee greater transparency, competition and liquidity when setting the electricity supply prices.

At the end of December, the Government thus approved **Legislative Royal Decree 17/2013**, which establishes the electricity prices of the contracts subject to the voluntary price for the small consumer (PVPC) for the first quarter of 2014. This Royal Decree overrides the method of the so-called CESUR auctions to set the voluntary price for the small consumer. The last resort marketers take part in these auctions and electricity purchasers to supply consumers entitled to the former last resort tariff (currently PVPC).

The auction in December 2013 to establish the cost of the energy to be delivered in the first quarter of 2014 was 30 % higher than the result of auctions of the previous quarter, a situation that the Government considered to be abnormal given the extraordinary circumstances of the market (high prices of the daily spot market, a low wind power production scenario, high unavailability of some generation plants and high demand for electricity and gas). The Governments then overrode that auction and published by means of a Royal Decree a provisional and alternative method to establish the PVPC for the first quarter of 2014, based on the electricity futures price in recent months.

For subsequent periods, the Government announced that it is working on a new mechanism to be approved in 2014, where it seeks to pass on the real price of the spot daily market to the consumption of the customer, instead of using as quarterly price as had been the case so far.



### 2.3.2. GAS SECTOR

It was also a difficult year for the Spanish gas system. For the fifth consecutive year, natural gas demand fell to nearly 333 TWh. This demand was down 8 % on 2012 and was driven by a low use of the combined cycle thermal plants, mainly due to cyclical aspects and the weather being highly favourable to other sources.

This situation has worsened the Gas Sector deficit, which as in the electricity sector occurs when the revenue collected as tolls and fees for third-party access to the facilities of the system are not sufficient to cover all the cost of those assets (transport networks, regasification plants, underground storage and distribution networks).

The accumulated deficit balance at year end 2013 stood at 330 million euros, i.e. around 10 % of the total regulated costs of the Spanish gas sector.

#### MEASURES TO REDUCE THE TARIFF DEFICIT

During 2013, the Ministry continued to introduce measures to contain regulated costs in line with the 2012 approach. The main ones include not updating prices for the remuneration of the pre-2008 transport asset and distribution business, whose cost cutting was to the tune of 65 million euros.

#### ORDER IET/2812/2012

Published on 27 December 2012, it updated the tolls and fees associated to third-party access to gas facilities and the remuneration of the regulated activities by a 1 % increase on average to be applied as of 1 January 2013. As regards the remuneration, this Order considers cutting the IPH efficiency factor<sup>(1)</sup> from 0.85 to 0 to calculate the 2013 distribution and transport remuneration, which implies that the remuneration of these activities are not updated by the price increase, as has been already discussed.

There were no additional changes to the tolls during the year.

#### LAST RESORT TARIFF RULING

The DGPEYM Ruling of 28/12/2012 established the last resort tariff (TUR) for the first quarter of 2013, which was down 3.4 % on the values in force in 2012, even though there was no impact on the end user due to the new Special Hydrocarbon Tax.

There were no changes to the TUR values in the previous quarters.

#### FISCAL MEASURES FOR ENERGY SUSTAINABILITY ACT 15/2012, OF 27 DECEMBER

This legislation amended the hydrocarbon tax rate applied to natural gas as of 1 January 2013 (the so-called green cent). Three tax rates were established according to the gas use and the taxable person shifted from the distributor to the marketer.

(1) Half of the sum of the IPC and IPRI (Consumer Price Index and Industrial Price Index).



# 03

## ENVIRONMENTAL OVERVIEW

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> SPAIN  
PLAZA MAYOR  
Coordinates:  
40° 24' 56" N 3° 42' 26" W  
Time of day: 2.00 p.m.

## 3.1. THE ENVIRONMENT

The EDP Group Works in the energy sector, a sector of vital importance for economic and social development.

The company's mission rests on three basic tenets: the creation of value for its shareholders, customer orientation and an approach focused on the potential of the company's staff as it strives to be the most competitive, most efficient electricity and gas operator in the Iberian Peninsula.

In its pursuit of this goal, EDP operates according to the principles of transparency, environmental friendliness and observance of the highest standards of ethics and honesty. With this in mind, it has drawn up the **Group Principles of Sustainable Development** to establish the right balance between economic, social and environment-related activities:

**TO CONTRIBUTE ACTIVELY TO THE CONSERVATION OF THE ENVIRONMENT AND BIODIVERSITY AND TO FOSTER BEST PRACTICES IN ENVIRONMENTAL MANAGEMENT IN THE VALUE CHAIN.**

In 2012, EDP implemented its **MaPA** application to disseminate the environmental best practices implemented at its facilities: [www.mapaedp.com](http://www.mapaedp.com)

**PROMOTING INNOVATION & CREATIVITY.**

EDP has set up various strategic lines aimed at seeking new market opportunities, improving our processes, promoting technological R&D and knowledge management in the field of energy.

**ASSURING TRANSPARENCY & DIALOGUE WITH ALL STAKEHOLDERS.**

EDP maintains channels for queries from and communication with stakeholders. A case in point is the recently approved **Stakeholder Relations Policy**.

**TO COMPLY WITH APPLICABLE LEGISLATION & REGULATIONS, ENSURING PARTICIPATIVE, COMPETENT, ALL-ROUND BUSINESS GOVERNANCE.**

EDP Spain has implemented **management systems** which are externally audited every year to assure top quality service for customers, environmental protection, pollution prevention and preventive performance management. A landmark event in 2013 was the obtaining of energy efficiency certificate for the company's building at Plaza de la Gesta and for the activities of EDP Empresa de Servicios Energéticos, S.L.

**CONTINUOUSLY CREATING VALUE BY PROVIDING EXCELLENCE-BASED SERVICES TO CUSTOMERS, FACTORING ENVIRONMENTAL AND SOCIAL ASPECTS INTO STRATEGIES AND DECISION-MAKING, ENCOURAGING THE DEVELOPMENT OF SKILLS AMONG OUR EMPLOYEES AND RECOGNISING EXCELLENCE AND MERIT.**

The **Lean Programme** has been up and running at EDP since 2006, with the active participation of all employees.

<b>ENVIRONMENTAL FOOTPRINT</b>	units	<b>2013</b>
<b>Net energy generated<sup>(3)</sup></b>	<b>GWh</b>	<b>11,581</b>
<b>Electricity distributed</b>	<b>GWh</b>	<b>9,147</b>
<b>Gas transported</b>	<b>GWh</b>	<b>51,535</b>
Installed power capacity with environmental certificate <sup>(1)</sup>	Gross MW	3,891
Total fuel consumption	TJ with HCV	79,704
Total emissions in CO <sub>2</sub> equivalent <sup>(4)</sup>		
Direct emissions	kilotons	8,795
Indirect emissions	kilotons	281
Total SO <sub>2</sub> emissions	Tons	9,700
Total NO <sub>x</sub> emissions	Tons	11,772
Total particulate emissions	Tons	597
Total water consumption	m <sup>3</sup>	480,777,191
Volume of discharges <sup>(2)</sup>	m <sup>3</sup>	472,691,001
Total hazardous waste managed	Tons	1,547
Total waste & by-products valorised	Tons	226,295
Environmental expenses & investments	Euros	36,659,836

(1) Including the proportional part for the Trillo nuclear plant.

(2) No levels above the limits of detection of the method were found for any of the pollutants classed as hazardous substances (as per Royal Decree 606/2003).

(3) Net generation includes 15.5 % from the Trillo nuclear plant and 15.5 % of the operational MW generated from wind-power in Spain.

(4) Direct emissions include electricity generated at thermal power plants, emissions of SF<sub>6</sub>, losses in networks, our own vehicle fleet and gas consumed by administrative services.

Indirect emissions include internal consumption at power plants, electricity consumed by administrative services, work-related travel and transportation of raw materials & fuel.

### 3.1.1. AIR QUALITY

The atmosphere is a common good which is essential for life, and its protection has been an environmental priority for decades.

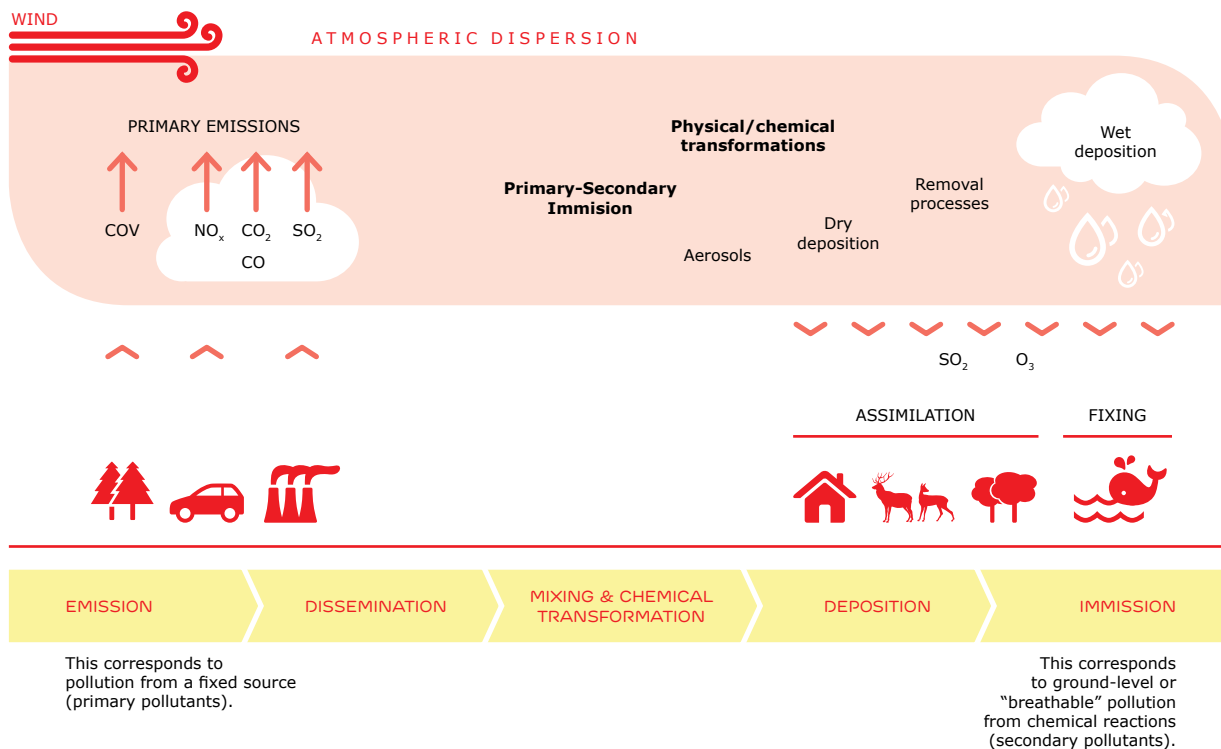
The goodness or badness of air quality is measured in terms of the purity of the air that we breathe. This is determined by the concentration of undesirable elements and substances in the atmosphere, i.e. atmospheric pollutants.

Atmospheric pollution is caused by changes in the proportions of the gases present in the atmosphere (e.g. carbon dioxide) or by the introduction of new pollutants which are harmful to human health or to the environment.

Air quality in Spain has been subject to analysis for more than 40 years. There is a national network of atmospheric monitoring and pollution prevention stations. Air quality has improved in recent years, but the limits recommended or set by law are still occasionally exceeded at some locations in Spain, so additional efforts are required to protect the population and ecosystems from the effects of atmospheric pollution.

In view of this, **the European Commission declared 2003 to be the "Year of Air" in Europe**, to give a boost to policies aimed at reducing the emission of atmospheric pollutants and thus improving air quality.

#### ATMOSPHERIC EMISSIONS



Along similar lines, in 2013 Spain approved its National Air Quality and Atmospheric Protection Plan for 2013-2016, known as the **AIRE Plan**, in an effort to encourage measures to improve air quality, in co-operation with regional and local administrations, with a view to complying with its national ceilings for total  $SO_2$ ,  $NO_x$ , VOCs and  $NH_3$  emissions (acidifying & eutrophication pollutants and ozone precursors) as per the target set for each EU Member State in the Gothenburg protocol and in Directive 2008/50/EC on ambient air quality and a cleaner atmosphere in Europe.

The measures adopted to reduce emissions of these pollutants, which also produce secondary particles with increasingly clear effects on health, will help to minimise the effects of pollution on human health and ecosystems.

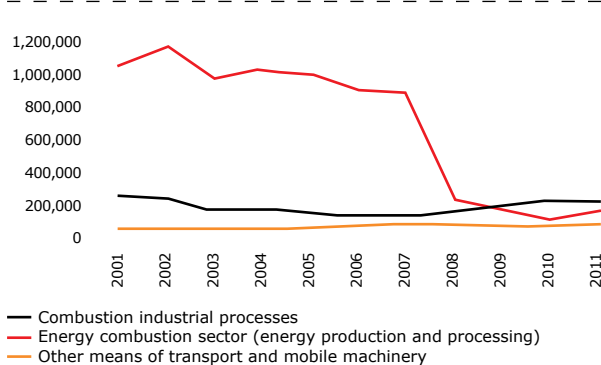


## SULPHUR DIOXIDE (SO<sub>2</sub>)

Sulphur dioxide is produced in the combustion of fossil fuels in industrial processes at high temperatures and in the generation of electricity. It is classed as a pollutant because of its effects on health, biodiversity, the soil and aquatic and forest ecosystems: it reacts with water vapour and other elements present in the atmosphere to cause acidification. It is also a precursor for the formation of ammonium sulphate, which increases particle levels (PM<sub>10</sub> & PM<sub>2,5</sub>).

The level of this pollutant in Spain has been reduced substantially, especially since 2008, when the National Emission Reduction Plan for Large Combustion Plants (PNRE GIC) came into force, leading electricity producers to invest in desulphurization plants.

CHANGES OVER TIME IN SO<sub>2</sub> EMISSIONS IN SPAIN

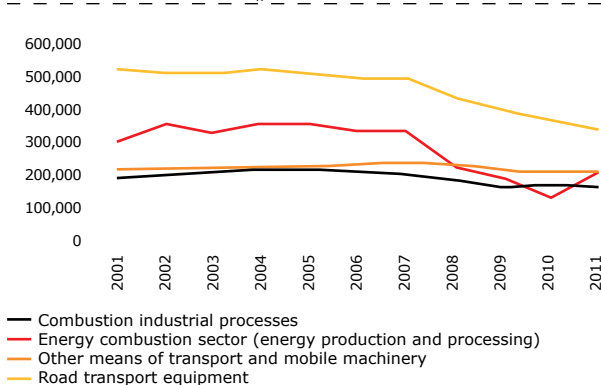


Sulphur dioxide (SO<sub>2</sub>) does not pose an environmental problem as a pollutant in Spain.

## NITROGEN OXIDES (NO, NO<sub>2</sub>, NO<sub>x</sub>)

Nitrogen oxides - NO<sub>x</sub> (NO+NO<sub>2</sub>) - are gases emitted during combustion processes involving traffic and transport in general, and from high temperature industrial facilities and electricity generation plants. They are harmful to human health and to the environment, because they contribute to acidification and eutrophication, and to the secondary formation of particles and tropospheric ozone (O<sub>3</sub>).

CHANGES OVER TIME IN NO<sub>x</sub> EMISSIONS IN SPAIN



Emissions of this pollutant have decreased in recent years, though the main contributor continues to be traffic. Noteworthy emission reductions have been achieved in the electricity industry, due mainly to the application of the PNRE GIC.

EDP has no electricity generation plants in the areas identified that fail to meet the requirements in regard to NO<sub>x</sub>.

## TECHNIQUES FOR REDUCING SO<sub>2</sub>

Sulphur dioxide (SO<sub>2</sub>) is formed from the sulphur contained in fuels which are burned, which is why it is emitted by coal-fired power plants but natural gas-fired and combined cycle plants are not considered as emitters.

Wet-method desulphurization involves scrubbing combustion gases with a limestone slurry that reacts and captures more than 90 % of the sulphur oxides, turning them to gypsum. Almost all large quantity of gypsum produced as a by-product is sold for the manufacture of construction materials.

Desulphurization plants also help to retain any particles entrained in fumes and not already trapped by the electrostatic precipitators.

**EDP Spain has desulphurization plants in place at its thermal power plants in Soto de Ribera (Unit 3) and Aboño (Unit 2); it has also invested in recent years in the construction of 1721 MW of combined cycle facilities to reduce atmospheric emissions.**

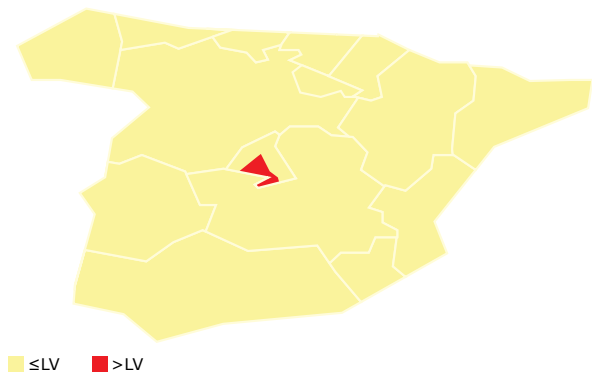
## TECHNIQUES FOR REDUCING NO<sub>x</sub>

NO<sub>x</sub> are produced during the combustion of all fossil fuels, due to high temperatures and the nitrogen content in the fuel and in the air used in combustion.

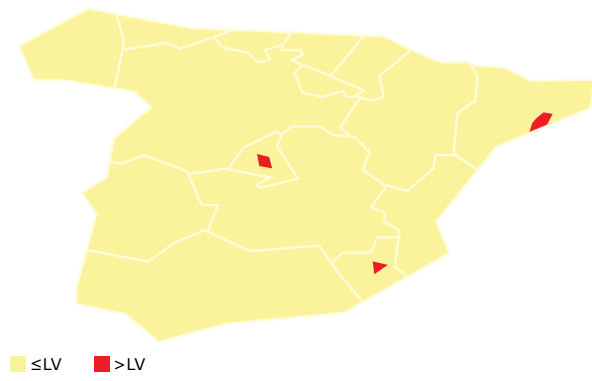
**EDP Spain has implemented primary measures to reduce the formation of these gases, such as low NO<sub>x</sub> burners in its thermal power plants in Aboño (Units 1 & 2) and Soto de Ribera (Unit 3), and additional chromatography equipment in combined cycle facilities to regulate the air intake in the gas turbine, thus enabling the temperature to be lowered and the amount of NO<sub>x</sub> generated reduced accordingly.**

Moreover, EDP is assessing the technical and financial viability of implementing further secondary measures such as SCR denitrification for the treatment of effluents, with a view to retaining NO<sub>x</sub> and fostering its transformation into compounds with less environmental impact, such as water and nitrogen.

SITUATION OF SPAIN AS REGARDS HOURLY LIMIT LEVELS FOR NO<sub>x</sub> (2012)



SITUATION OF SPAIN AS REGARDS YEARLY LIMIT LEVELS FOR NO<sub>x</sub> (2012)



### TECHNIQUES FOR REDUCING PARTICLES

The main cause of particulate emissions is ash from incomplete combustion of coal in thermal power plants. By contrast, natural gas contains no impurities or residues, so combined cycle facilities are not considered as particulate emitters.

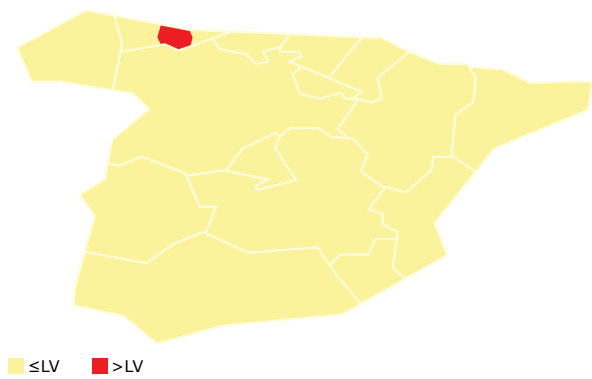
**EDP Spain has electrostatic precipitators in place at all its coal-fired thermal plants to reduce particle emissions. Further reductions are obtained with the installation of desulphurization units, which not only reduce sulphur dioxide levels but also capture particles not trapped in the electrostatic precipitators.**

### PM<sub>10</sub> & PM<sub>2.5</sub> PARTICLES

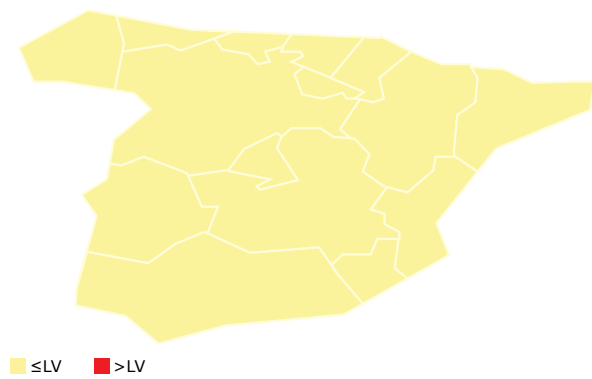
Particles may be primary in origin, from direct emissions into the atmosphere associated with traffic, industrial combustion processes and heating systems, or secondary, from chemical reactions involving precursor gases (mainly SO<sub>2</sub>, NO<sub>x</sub>, NH<sub>3</sub> and VOCs (volatile organic compounds)). They are the most hazardous to human health of all air pollutants, as they can be inhaled (the smaller they are the more hazardous they are), but they also affect the environment.

Spain has high levels of particles, the concentration of which may be raised by one-off, natural events such as the intrusion of dust clouds from Africa.

SITUATION OF SPAIN AS REGARDS THE ANNUAL LIMIT LEVEL FOR PM<sub>10</sub> (2012)



SITUATION OF SPAIN AS REGARDS THE ANNUAL LIMIT LEVEL FOR PM<sub>2.5</sub> (2012)



The annual limit level for PM<sub>10</sub> is only exceeded in Spain in one area of the Principality of Asturias, specifically in an industrial region around the city of Avilés ("Central Asturias"). This is due mainly to emissions from industry, as monitoring stations in other areas with more vehicle traffic show no exceedance of annual limit levels.

Once intrusions of natural particles of dust from Africa were eliminated, 9 areas were identified in which daily limit levels were exceeded. These include the city of Gijón, which is home not only to EDP's Aboño thermal power plant but also to an integrated steel complex and a cement works, plus numerous small and medium-sized industrial facilities on various industrial estates.

To reduce emissions of this pollutant and meet quality targets, the regional government of the Principality of Asturias, in co-operation with local authorities and industrial firms, has drawn up a plan of action involving specific measures to be taken by each party involved. In the case of the Aboño thermal power plant, EDP has undertaken to improve coal stockpiling so as to minimise diffuse emissions. This is in addition to the measures already in place, such as the use of loading and unloading equipment that ensures minimum drop heights for solid fuel, the use of water sprays on coal stockpiles during adverse weather conditions, closed conveyor belts fitted with devices to prevent dust emissions, transport systems designed to minimise the amount of dust transported and produced on-site, the paving of all road surfaces, scrubber systems for lorry wheels and the regular removal of fine dust built up on roadways.

Current legislation also requires the competent authorities to take all necessary steps (provided that they do not result in disproportionate spending) to reduce exposure to PM<sub>2,5</sub> particles, with a view to meeting national exposure reduction targets by 2020 at the latest. In spite of the exceedances detected for PM<sub>10</sub>, the target level for PM<sub>2,5</sub> particles has not been exceeded in any of the areas designated for assessment since monitoring began.

### OZONE O<sub>3</sub>

Ozone is a gas that is naturally present in the stratosphere, where it is necessary to provide protection against ultraviolet radiation. However, the formation and build up of ozone in the troposphere (the layer of the atmosphere in contact with the Earth) is an environmental problem, because it becomes a pollutant that can harm health and affect vegetation, crops and forest, altering ecosystems and reducing biodiversity. It is also a greenhouse gas, and therefore contributes to the warming of the atmosphere.

It is formed in the atmosphere from precursor gases, which may be anthropogenic (NO<sub>x</sub>, VOCs, CO) or natural. Its generation is greatly favoured by high levels of solar radiation and episodes of atmospheric stagnation. In Spain, as in the rest of southern Europe, solar radiation levels are high so there is a high concentration of tropospheric ozone.

### OTHER MINORITY POLLUTANTS

In assessing air quality other pollutants are also measured, including carbon monoxide (CO), benzene (C<sub>6</sub>H<sub>6</sub>), benzo-pyrene (B(a)P), metals and ammonia (NH<sub>3</sub>), all of which are of only minor importance in Spain.

Air quality assessments in Spain reveal that our main problems are similar to those elsewhere in Europe, though in some cases they are exacerbated by particular weather conditions (more solar radiation, favouring photochemical pollution and thus the formation of tropospheric ozone, re-suspension of particles due to low rainfall, etc) and geographical conditions (intrusion of dust particles from the Sahara).

## 3.1.2. CLIMATE CHANGE

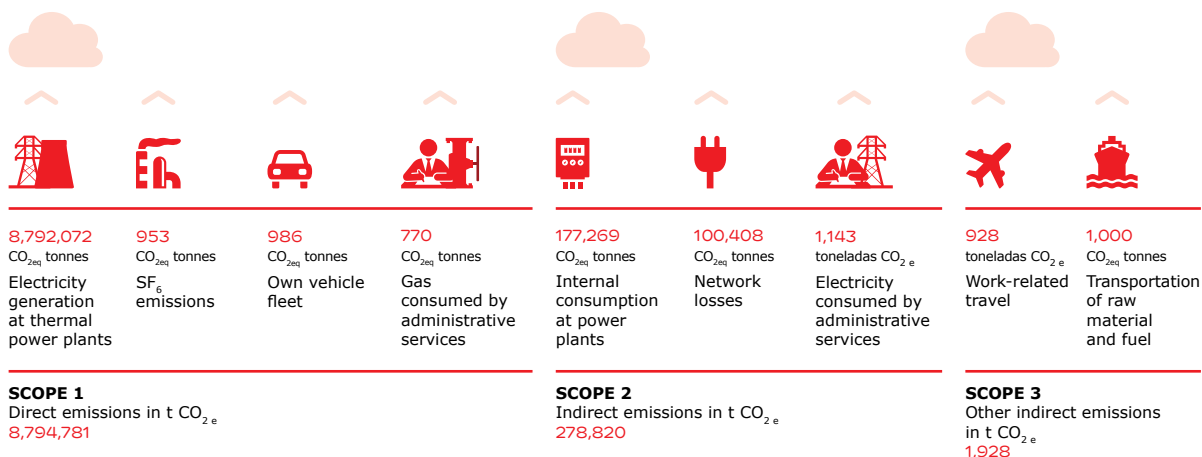
Climate change is caused largely by the high levels of carbon dioxide (CO<sub>2</sub>), a greenhouse gas generated in the combustion of all fossil fuels (coal, petroleum, natural gas, etc). This gas is therefore an important variable for operations by EDP Spain, particularly electricity generation, and reducing it forms part of the Group's global strategy. The target set is to reduce CO<sub>2</sub> emissions by 70 % from 2008 to 2020. Within that global strategy, EDP Spain's part in the struggle against climate change involves action on 2 fronts: mitigation of effects and adaptation to climate change.

### CLIMATE CHANGE MITIGATION

- ◆ The carbon footprint of an organisation, product or service is defined as the amount of greenhouse gases emitted directly or indirectly as a result of that organisation or product. Working out the extent of such emissions provides information concerning their sources and enables efforts to be concentrated in those areas where the potential for reduction is greatest. This is therefore an important tool for deciding the best mitigation measures to take. EDP Spain calculates its carbon footprint as an organisation: the main source of emissions lies in the combustion sources at the group's thermal power plants, so it is there that the priority mitigation measures detailed below are concentrated. However, action is also being taken in regard to emissions from other processes such as the fleet of vehicles and gas distribution network facilities, to reduce the overall carbon footprint of EDP Spain.



**EDP SPAIN'S CARBON FOOTPRINT**



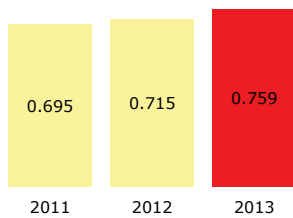
Network losses and internal consumption at power plants: emission factor according to CNMC 4 2013 0.27 kg CO<sub>2</sub>/kWh  
 Own vehicle fleet: emission factor 2.61 kg CO<sub>2</sub>/l  
 Source: *Guía para el cálculo de emisiones de Gases de Efecto Invernadero de la Oficina Catalana del Cambio Climático* ["Catalan Climate Change Office Guide to Calculating GHG Emissions"].  
 Gas consumed by administrative services: emission factor 2.16 kg CO<sub>2</sub>/m<sup>3</sup>  
 Source: *Guía para el cálculo de la Huella de Carbono de la Oficina Española de Cambio Climático* ["Spanish Climate Change Office Guide to Calculating Carbon Footprints"].  
 SF<sub>6</sub> emissions: emission factor 23,900 kg CO<sub>2</sub>/kg SF<sub>6</sub>  
 Source: *Guía para el cálculo de la Huella de Carbono de la Oficina Española de Cambio Climático* ["Spanish Climate Change Office Guide to Calculating Carbon Footprints"].

EDP Spain is a member of SEDIGAS, the Spanish Association of Gas Producers, and as such has coordinated the preparation of a method for calculating the carbon footprint of activities in the gas industry. The scope of this project was not limited to the drawing up of the method itself but also extended to a review of the procedure for monitoring methane emissions in natural gas distribution networks and calculating the direct and indirect emissions (Scopes 1 and 2).

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NEVERENDING ENERGY

SPECIFIC EMISSIONS OF CO<sub>2</sub> (kg/kWh)



◆ In the context of mitigation, generation facilities have been transformed in recent years with the incorporation of combined cycle facilities, whose specific CO<sub>2</sub> emissions are approximately one 3<sup>rd</sup> of those from coal-fired thermal power plants. However, emissions from EDP Spain have not followed the downward path hoped for, because in a context of worldwide reduction in demand, increases in the use of renewables and high natural gas prices, what little space remains for thermal power generation has been occupied basically by coal-fired plants. This is because of the Royal Decree in Spain that encourages the use of domestic coal: this decree was passed by the government to encourage the use of domestic resources and thus reduce energy dependency, and to honour commitments acquired in a plan to support the mining industry.

**USE OF STEEL PROCESS WASTE GASES FOR ENERGY PURPOSES**

A major initiative in the mitigation of CO<sub>2</sub> emissions worldwide in which EDP Spain is taking part involves co-operation with the steel industry (Arcelor Mittal) at the thermal power plant in Aboño and at the Sidergas cogeneration plant. Both plants valorise steel process waste gases for energy purposes. These gases are toxic and cannot therefore be released directly into the atmosphere.

The alternative to this valorisation scheme is direct combustion by flaring. However the boilers at the thermal power plant in Aboño can take multiple fuels, and are able to burn such waste gases along with coal. As a result 20 % of the energy generated by the units at this plant in 2013 came from the combustion of steel process waste gases, thus avoiding the emission into the atmosphere without valorisation of more than 1.4 million tonnes of CO<sub>2</sub>.

Similarly, the Sidergas cogeneration plant makes use of waste gas from the ArcelorMittal factory in Trasona to produce electricity and steam.

- ◆ EDP Spain is also taking part in worldwide efforts to reduce CO<sub>2</sub> emissions through projects under the Clean Development Mechanism (CDM). These projects are undertaken in developing countries, and seek to reduce GHG emissions there. In exchange for the reduction is attained, credits are provided for CO<sub>2</sub> emission targets under the Kyoto Protocol.
- ◆ In 2013 the group also gave strong backing to vehicular natural gas, beginning by renewing the vehicle fleet of its gas distributor in Spain, EDP Naturgas Energía, replacing 50 vehicles and planning the renewal of the entire fleet (around 130 vehicles) in the coming months.

### VEHICULAR NATURAL GAS: A NEW LINE OF BUSINESS

EDP has opened the 1<sup>st</sup> natural gas refuelling station in the Basque Country, connected to the EDP Naturgas Energía distribution network, with an investment of over €300,000. This testifies to the groups backing for innovation, sustainability and economic efficiency. At the same time, the vehicle fleet of the gas distribution company itself is being renewed to make it the 1<sup>st</sup> in the country in which all vehicles run on natural gas.

Vehicular natural gas (VNG) is an alternative to oil for the production of vehicle fuel. It has environmental, financial and technical advantages: on the environmental side it emits 15 % less CO<sub>2</sub>, and thus helps mitigate the effects of climate change. Moreover, it emits no sulphur oxides, 95 % less nitrogen compounds and 36 % less unburned hydrocarbons, all of which are important parameters for the quality of the air that we breathe.

On the financial side, using gas can result in fuel savings of close to 50 % compared to petrol prices, and in technical terms gas is less hard on engines than other fuels, so they suffer less wear but maintain the same power level and range as current petrol-driven vehicles.

Around 3800 gas-driven vehicles are currently driving around Spain. In Europe as a whole, the longest track record and experience can be found in Italy, where there are 850,000 such vehicles. Worldwide there are almost 18,000,000 vehicles and over 22,000 refuelling stations.

The gas refuelling station in Vitoria (Álava) is not EDP's first (there are older stations in Anoeta and Igara (Guipúzcoa) and in Roces (Asturias), but they serve only the company's own fleet), and it will not be the last: another is now being built in Asturias. Moreover, efforts are planned to promote the phasing in of VNG in other areas where the group has influence, making this a major new line of business.



### ADAPTING TO CLIMATE CHANGE

In regard to adaptation, EDP Spain has identified the potential risks to its facilities as a result of adverse weather caused by climate change through the Clim-EDP project. The risks detected are factored in and regularly updated on the EDP Group's Risk Portal, a tool for managing and minimising corporate risk throughout the EDP universe. The portal also enables the management and control of risks identified to be benchmarked against the equivalent areas at other member companies of the Group, thus facilitating the adoption of best practices.

### CO<sub>2</sub> EMISSION TRADING

The European Union's Emission Trading Scheme (EU ETS) began in 2005. Phase I ran from 2005 to 2007 and Phase III from 2008 to 2012. Phase III began in 2013 and is scheduled to run until 2020.

**In this third phase, far-reaching changes have been introduced with respect to the first two:**

- ◆ National Allocation Plans (NAPs) have been phased out. Under these plans each country distributed a number of allowances free of charge to EU-ETS sector companies, according to criteria defined at national level.
- ◆ The European electricity sector (except in certain Eastern countries) now acquires and pays for all the allowances that it requires via auctions, which have become a day-to-day routine. There is a common platform for holding auctions across those countries that wish to sign up for it, plus two independent platforms for the UK and Germany. Poland has also requested its own independent platform, but it is not yet operational.

This framework of regulations applies to all EDP Spain's electricity plants rated at less than 20 MW of thermal energy (coal-fired, combined cycle and some cogeneration plants). Between them all they emitted 8.8 million tonnes of CO<sub>2</sub> in 2013.

Since the onset of the crisis in 2008 the price per tonne of CO<sub>2</sub> has gradually fallen as the allowances available have come to exceed demand. Thus, Phase III of the Kyoto agreement has started off with surpluses of close to 2 billion tonnes. The weekly auctions must be added to this amount: in 2013 they totalled over 800 million tonnes, of which around 80 million corresponded to Spain.

The final price in the auctions is decided as follows: bids are ordered according to the prices offered, from highest to lowest; the number of allowances is added, starting with the largest number; and the price at which the sum of allowances matches or exceeds the total number of allowances to be auctioned is the final price. The average matching value in 2013 was €4.39/ EUA.

### THE POST-KYOTO PERIOD: FROM 2013 ONWARDS

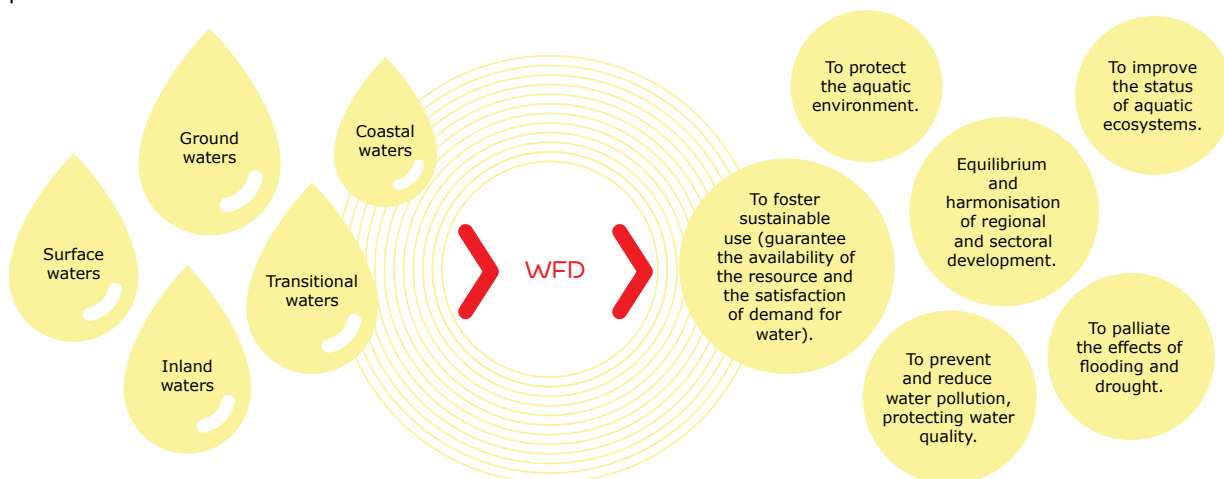
2013 was the first year of the post-Kyoto period (2013-2020), as defined in Doha in December 2012 in an amendment to the Kyoto Protocol, pending a global international agreement including all parties.

In this post-Kyoto period, commitments are set for the few countries that have signed up (Australia, Iceland, the European Union, New Zealand, Switzerland, Monaco, Norway as industrialised countries and Ukraine, Kazakhstan, Belarus and Croatia as countries in transition to a market economy). Between them they account for just 14 % of worldwide emissions. They have committed to reducing emissions jointly by 18 % on 1990 levels from 2013 to 2020. Moreover, they have agreed to review their actions by 2014, with the possibility of intensifying them so as to achieve a worldwide reduction by Annex 1 parties of between 25 and 40 %.

In November the European Commission drew up its proposals for the ratification of the 2nd period of commitment, which are currently working their way through the European Parliament and the Council. It is hoped that ratification by the EU and by its Member States will be ready by February 2015. This amendment agreed in Doha will enter into force once it has been ratified by three quarters of the parties that signed the Protocol. November also saw the Warsaw Summit, a meeting of the signatories (COP19) to the UN Framework Convention on Climate Change. The results were less significant than initially expected, but a working calendar was drawn up for the signing of an international agreement to include all parties in 2015, and the Warsaw Mechanism was set up to deal with losses and damages. This mechanism is envisaged as a way of channelling aid to mitigate damages arising from incidents caused by climate change.

### 3.1.3. THE WATER CYCLE: OFFTAKE, USE & DISCHARGE

Directive 2000/60/EC, known as the Water Framework Directive (WFD) establishes a Community-wide framework of action that for the first time covers the whole of the water cycle, and sets as its target that in 2015 all water bodies should have at least a "good" ecological and chemical status, which means ceasing to consider bodies of water separately and taking on board that they are integrating factors in habitats and ecosystems, and that they provide the basis for different environmental services.



All these objectives fall under the heading of territorial water management and planning. Territories are defined in this sense according to hydrological demarcations, and regulation is via the corresponding hydrological plans.

Electricity production facilities can be described as intensive in their use of water, given that they depend largely on the availability of water to operate. In the case of hydroelectric plants this dependence is obvious, because water is used directly to move their turbines and produce electricity. However this use is non-consumptive.

Thermal power stations use water in two processes: in the water/steam cycle, in which water vapour is produced to turn turbines, and in cooling systems. The latter is where the greatest consumption occurs.



## HYDROELECTRIC POWER PLANTS

2013 saw the approval of the Hydrological Plan for the Western Cantabrian Hydrographical Area, in whose catchment area all EDP's hydroelectric power stations and the reservoirs and auxiliary instalations are located.

Under this new plan and the existing concession agreements governing the various sites, the availability of water and production at these plants are guaranteed. The environmental flows agreed in the previous plan are maintained until a new "process of agreement" is drawn up. It is worth noting that EDP's hydroelectric plants strictly respect for the environmental flow as defined in the concession agreements in force. Since 2012 the environmental status and trends of tributaries and receiving rivers have been monitored. This has served to confirm that the hydroelectric plants are compatible with the habitats and ecosystems in which they are located, many of which are protected areas.

Similarly, the environmental potential and trophic status of EDP's reservoirs in Spain are monitored voluntarily, in accordance with the WFD. This is done to learn the extent of any alteration in the bodies of water dammed in comparison to their natural conditions. The results of this monitoring are used to define the conditions for the operation of reservoirs, factoring in environmental criteria.

## THERMAL POWER PLANTS

The coal-fired thermal power plant and the combined cycle gas plant at Soto de Ribera are located on the River Nalón, the lower reaches of which have been declared a Special Area of Conservation (SAC). The two power plants, as a "community of users", hold a concession for the abstraction of water for industrial and cooling purposes. Their integrated environmental authorisation (IEA) includes authorisation to discharge various flows of wastewater, the most significant of which in terms of volume is the discharge from the cooling systems of the four generation units. The changes in the water are of very little significance, but the temperature gap is monitored continuously to minimise its impact on the watercourse. All other wastewater flows are suitably treated prior to discharging.

As in the hydroelectric plants, the environmental status of the river Nalón is monitored on a voluntary basis, and no significant alterations due to the normal operation of the power plants have been observed.

The coal-fired thermal plant in **Aboño** draws water from the sea for use in its cooling system. Here also the temperature gap in the water returned to the river estuary in Aboño is monitored. Other industrial processes use water from the municipal mains network and from an authorised offtake from the Reconco river, mainly for irrigation purposes.

### REDUCING WATER CONSUMPTION AT THE ABOÑO THERMAL POWER PLANT

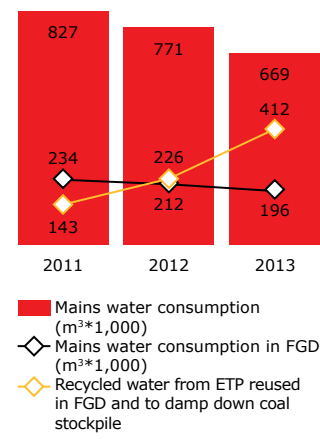
The thermal power station in Aboño has developed a specific project to monitor water consumption from the municipal mains network, in view of the risk of water not being available at times when levels are low and household consumers have preference, and to keep check on financial points concerned with the municipal water mains. This is an ambitious scheme intended to reduce water consumption, developed under the OPEX EDPWay programme. To date the results have been very good.

Thus, based on the idea of reusing water treated at the power station's effluent treatment plant (ETP) a reduction of 20 % has been achieved in water consumption over the past 3 years, mostly thanks to the use of recycled water in the FDG desulphurization in Unit 2.

Recycled water is also used to damp down the coal stockpile and prevent diffuse dust emissions.

It should also be noted that this scheme entails major financial savings for the plant.

WATER CONSUMPTION AT THE ABOÑO THERMAL POWER STATION



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NEVERENDING ENERGY

The combined cycle plant in Castejón falls within the Ebro hydrographical area, where a new hydrological plan for 2010-2015 is currently in the process of being approved.

Like the plants mentioned above, this power station holds a concession authorising it to use water subject to restrictions at times of low water levels. Flow rates are therefore monitored and an emergency reservoir is maintained that is capable of keeping the plant running autonomously for up to 2 weeks.

### WATER STRESS: TRATAMIENTOS AMBIENTALES SIERRA DE LA TERCIA (TAST)

The TAST pig manure treatment plant in Sierra de la Tercia, Lorca (in the Murcia region) is the only EDP plant that is located in an area that suffers from water stress, i.e. where the demand for water may exceed the supplies available for long periods and operations at the plant may be limited accordingly.

In this regard, EDP has drawn up a study referred to as the Water Footprint and Water Cycle Study [*"Estudio de la Huella Hídrica y el Ciclo del Agua"*] based on the Global Water Tool (GWT) drawn up by the World Business Council for Sustainable Development (WBCSD) as a tool for monitoring and managing water management risks, with the following objectives:

- ◆ To define and quantify the characteristic parameters of the use and management of water at the TAST.
- ◆ To analyse the information available from the hydrographical area management body concerning resources and uses available.
- ◆ To propose improvement actions in regard to the water cycle at the plant.

In 2013 studies and tests began to find ways of reducing the main uses of water. Specific schemes are expected to emerge in the coming years.

### OTHER FACILITIES

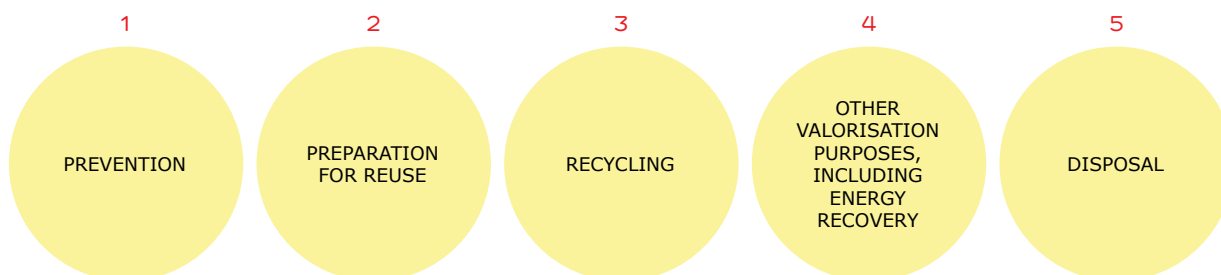
The rest of EDP's facilities, comprising mainly cogeneration plants and substations, have authorisation to discharge their specific flows of wastewater. They all perform systematic checks, and no significant deviations from legal requirements were detected in 2013. The case of the substations is worth highlighting: EDP HC Energía has made major investments in the monitoring and evacuation of rainwater, including the enlargement of safety tanks, the installation of oil traps, coalescent separators and/or oil filters and the preparation of flow control collection boxes and soil infiltration trenches. The Cantabrian Hydrographical Confederation [*Confederación Hidrográfica del Cantábrico*] has inspected these facilities on several occasions, and has highlighted the standards of protection provided by the systems in place and the high level of environmental commitment shown by the company.

In gas facilities, mainly regulation and measurement stations (RMS) and satellite plants for liquefied natural gas (LNG), no significant amounts of water are consumed. The water fed into the backup boilers is supplied via connections to municipal mains networks. A closed circuit is used, so after initial filling only minimal topping up is required. In LNG plants water is used during the discharging of the cisterns to prevent the pipes from freezing. This is restricted to the troughs, and there are no discharges outside the plant at any time. There is no municipal water main near the plant in Cangas de Narcea (Asturias), so a rainwater collection system is used to meet internal requirements.

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### 3.1.4. WASTE

Act 22/2011 on Waste and Contaminated Soil transposes into Spanish law the regulatory concepts of waste prevention and preparation for reuse laid down in the European framework directive, and the "3Rs" strategy: **Reduce, Reuse** and **Recycle**. **The hierarchy for waste management is therefore as follows:**



Waste management at EDP Spain is based on these concepts, and is implemented through various plans and programmes including waste minimisation plans drawn up by those facilities registered as waste producers (classed as major producers on the basis that they produce more than 10 t of hazardous waste per annum). Landmarks in 2013 include a review of the minimisation plan for hydroelectric power plants for 2013-2017 and a review of the minimisation plan for electricity distribution networks for 2014-2017.

**The objectives of these waste minimisation plans are as follows:**

#### PREVENTION

Acting on causes.

#### REDUCTION AT SOURCE

Operational best practices to minimise waste production.

#### REUSE, RECYCLING AND ENERGY RECOVERY

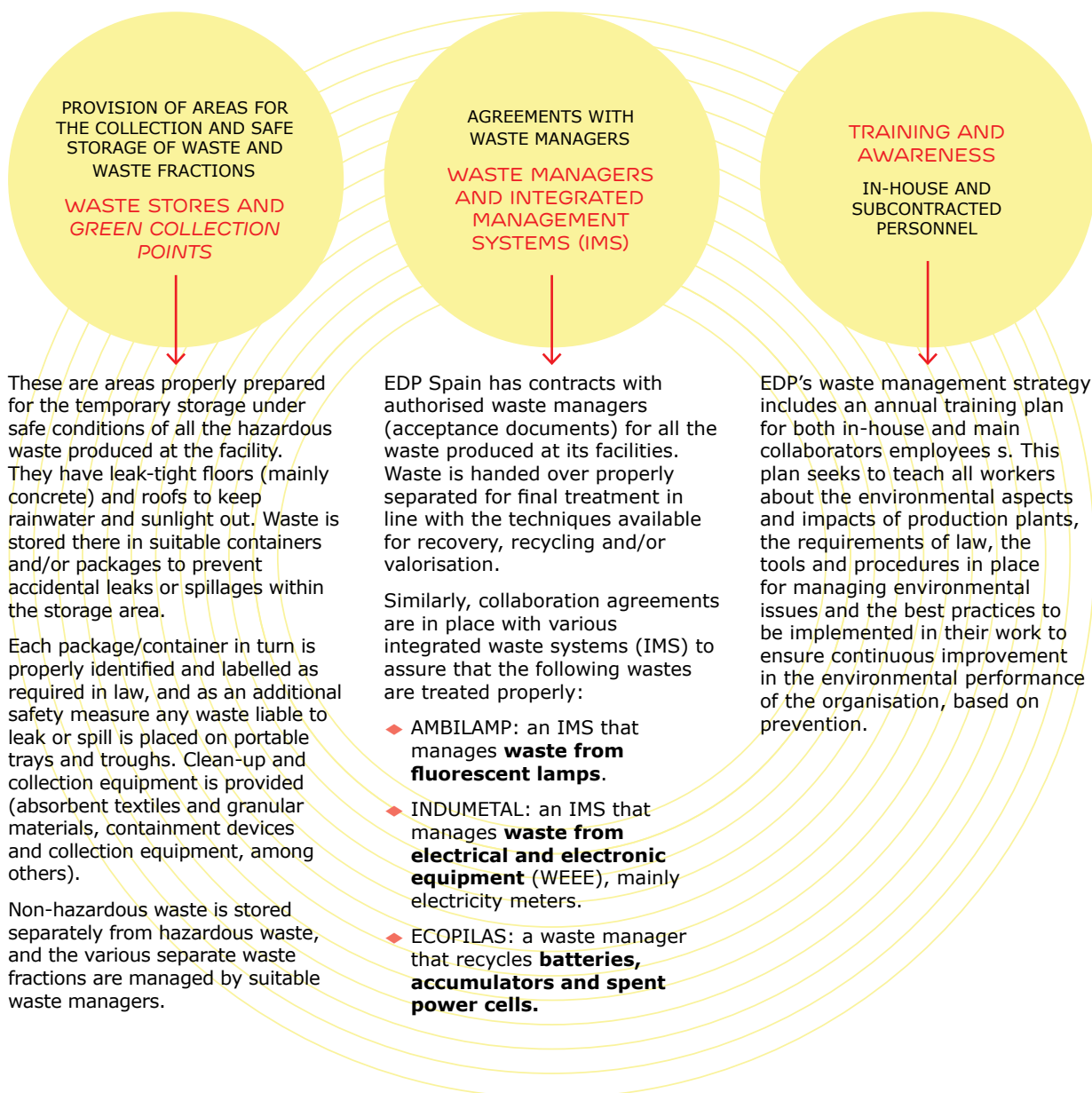
Priority management options.

#### DISPOSAL

The last resort for the management of waste fractions for which no use is determined.

To improve waste management the right tools must be available for measuring and monitoring waste production on an overall basis and in each process. EDP has the REMA (waste management system), which facilitates working procedures for waste management and helps to meet the regulations applicable in this field.

The separation of waste streams at the facilities of EDP Spain is based on the following points:



#### SCHEME FOR REUSING RAGS

One of the main hazardous wastes produced at the Group's plants consists of rags and cotton soaked in hazardous substances from maintenance operations (around 17 t of such waste was produced at electricity production plants in 2013).

To reduce the amount of waste produced, a pilot scheme was set up in the last quarter of 2013 with a soiled rag waste manager. This scheme involves a recovery and return system to replace the current system of disposable, single-use rags.

Under this scheme used cleaning rags are washed using techniques that enable them to be reused and then, when no further reuse is possible, recycled as absorbent fillers or textiles for other purposes.

This system eliminates practically all waste of this type, and at the same time improves equipment and facility cleaning processes, as the rags now used are more absorbent than those used previously.

This scheme is currently in use at the following plants: the Aboño thermal power plant, the Castejón combined cycle plant, the Soto de Ribera combined cycle plant, Sidergas and the hydroelectric plants, (including Salime).

### 3.1.5. SOIL & GROUNDWATER

In 2013 increasing importance was given to the monitoring of soil and groundwater, as the latest updates of the group's Integrated Environmental Authorisations make it compulsory to regularly monitor these points in facilities subject to IPPC (Integrated Pollution Prevention and Control) legislation.

Under national legislation, in the form of Royal Decree 9/2005 on contaminated soil, it was already obligatory to produce a Preliminary Soil Status Report (known in Spanish by the acronym IPSS). This was a qualitatively based descriptive report of the facilities, the substances used, the waste produced and the procedures in place for the use and monitoring of soil and groundwater. IPSSs were prepared in 2006 for all our generation plants, for the main substations and gas regulation and measurement stations and for the liquefied natural gas (LNG) satellite plants.

The current update means that a quantitative baseline report must be drawn up that describes the status of the soil and groundwater as regards the significant hazardous products used at each facility, as a point of comparison for a further assessment when activity at the site ceases, so that it can be returned to its initial status if necessary.

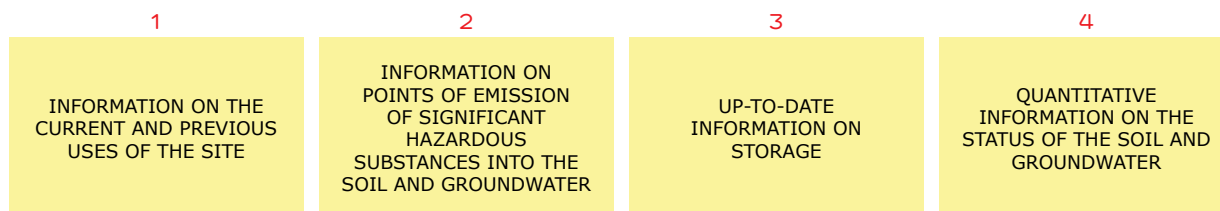
The method shown below was used to determine whether such baseline reports were necessary. **The conclusion reached was that they were only needed at those sites where there was a significant risk of pollution of the soil and/or groundwater by significant hazardous substances:**



There are monitoring and containment measures in place at EDP's plants to minimise the risk of pollution, but in view of the quantities of significant substances handled and an assessment of the risk entailed by potential accidents (the product of likelihood of occurrence divided by severity), it was decided that baseline reports should be drawn up for the coal-fired power stations in Soto de Ribera and Aboño and for the Sidergas cogeneration plant. No such report was considered necessary at the combined cycle plant in Soto de Ribera in view of the possibilities of soil and groundwater pollution as assessed.

According to the regional government of Navarre, no baseline report needs to be drawn up at the thermal combined cycle plant in Castejón, but in line with the EDP Group's environmental policy a characterisation study of the soil and groundwater at the site will be conducted in 2014.

**The contents of the baseline reports drawn up are as follows:**



To draw up these reports, soil and groundwater characterisation campaigns were set up and implemented at various sites, using specific sampling plans that prioritised critical areas where fuel oil and gas oil were handled and stored, along with the locations of the largest overhead chemical storage tanks and hazardous waste stores.

Rotary drilling rigs with core recovery was used to sample and analyse the soil at the facilities on which baseline reports were to be drawn up. Piezometers were installed where possible to monitor groundwater. The presence of hard, mainly alluvial substrates made it difficult to complete some drilling operations. A further campaign is planned for 2014, using different techniques (destructive drilling) to reach the water table and enable groundwater to be sampled.

The results obtained during the year proved satisfactory, taking into account past activities on the various sites. The relevant updates of the Integrated Environmental Assessments are expected to be received in 2014, in which the authorities will set the sampling intervals required for soil and groundwater.



Sampling



Detail of piezometer



Drilling work



### SOIL MONITORING IN GASWORKS

Special mention must be made of soil monitoring in gasworks, as the systematic procedures in place go beyond the requirements of the applicable regulations.

In the Autonomous Community of the Basque Country the publicly-run environmental management company Ihobe possesses advanced expertise in matters of contaminated soil, and years of experience: Act 1 on the Prevention and Correction of Soil Contamination was passed in 2005. In the implementation of this legislation, an inventory of all the soils in the Basque Country where potentially soil contaminating activities have taken place was drawn up. Many of these areas were susceptible to re-zoning for other uses.

Thus, soil analyses are conducted in the course of construction work on new gas distribution networks running over soil inventoried as potentially contaminated in the Basque Country and, depending on the levels of contamination detected, the soil involved may be removed for treatment as hazardous waste.

As an environmental good practice, and in the absence of other applicable regional regulations, this system has been extended to all our gas pipeline and distribution work. Soil checks are conducted as part of the process of environmental monitoring. As in the Basque Country, the purpose of these checks is to determine whether the land is fit for the intended use and to ensure that waste is removed properly, either as inert excavation waste or as hazardous waste.

To date no signs of contamination have been found, so no decontamination or remediation work has had to be performed. The waste produced has been managed as per the legislation in force.

### 3.1.6. MANAGEMENT OF BIODIVERSITY

Given the high standard of environmental protection in place in the Principality of Asturias, many of EDP Spain's production facilities and power stations are located in protected natural areas. The same goes for its hydroelectric plants. They all therefore have environmental monitoring plans in place to ensure that the applicable environmental requirements are met, especially as regards licences, permits and authorisations.

#### HYDROELECTRIC PLANTS

At these sites work on environmental issues goes beyond mere compliance with the law, e.g. in the case of monitoring of the trophic status and ecological potential of reservoirs, voluntary monitoring campaigns to favour the application of environmental criteria in the operation of the systems and ensure that our facilities are compatible with the natural areas in which they stand.

In 2013 Spain's Ministry of Agriculture, Food and the Environment included 53 wetlands in Asturias in the Spanish Inventory of Wetlands (IEZH), among them the following EDP reservoirs: Pilotuerto (La Florida hydroelectric plant), Priañes (Priañes hydroelectric plant), Rioseco and Tanes (Tanes hydroelectric plant), plus the La Malva reservoir and the El Valle lake (La Malva hydroelectric plant).

The IEZH is an administrative instrument that provides information on the number, size and conservation status of wetlands located on Spanish territory, as stated in Royal Decree 435/2004, which regulates it. This Decree implements Article 9.3 of Act 42/2007 (the Natural Heritage and Biodiversity Act – *Ley del Patrimonio Natural y de la Biodiversidad*).

It was drawn up to enable changes over time in wetlands to be detected so that protective measures could be introduced as relevant into the hydrological plans for each area, including specific protective and/or management measures.

#### WORK AT THE PILOTUERTO RESERVOIR

In September and October 2013 repair work was carried out on the floodgates at the Pilotuerto dam (La Florida hydroelectric plant). This entailed exhaustive environmental monitoring, since the site is located in the Cuenca del Alto Narcea SAC (Special Area of Conservation). The reservoir had to be drained, which meant that all fishes in it had to be collected and moved elsewhere. Drainage took place according to a pre-established sequence of opening of floodgates and the bypass channel, which enabled many fishes to leave the site unaided for other areas upstream or downstream, and prevented the formation of isolated pools where trout and other species might be trapped.

The fish remaining in the area afterwards were collected from what little water remained in the reservoir, from the area immediately upstream and from the discharge basin. In all, 3525 common trout (*Salmo trutta*) and a single eel (*Anguilla anguilla*) were captured.

Finally, as work proceeded and the reservoir was drained, it was observed that large quantities of rubbish had built up on the bed, so an additional clean-up campaign was organised in the area involving personnel from Agrupación Hidráulica de La Barca (EDP) working in co-operation with the El Banzao Fishermen's Association and the companies COGERSA and Taxus Medioambiente, in the framework of the Support Campaign for the Voluntary Cleanup of Waste in Natural Areas. In a single day more than 200 tyres dumped in the river bed were removed among other rubbish collected from the reservoir.

### MONITORING RECOVERY FROM THE PROBLEMS CAUSED BY THE FUEL-OIL LEAK AT THE ABOÑO THERMAL POWER STATION

All the studies conducted in the wake of the fuel-oil leak at the Aboño thermal power plant in the summer of 2012 concluded that no environmental damage was caused to coastal waters in terms of environmental and physical/chemical quality or in terms of the habitats and species potentially affected in the vicinity of the plant. Nevertheless, EDP Spain drew up a thorough monitoring plan, which was approved by the relevant authorities.

This plan entailed the preparation and implementation of campaigns to monitor and control the physical and chemical parameters and environmental status of coastal waters and sediments in accordance with the Water Framework Directive, and the monitoring of protected species, rocks and beaches.

Individual and overall results alike corroborate the validity of all the preventive and corrective actions taken, which ranged from cleaning up beaches and accessible rocky cliffs to cleaning up man-made facilities, particularly the rock fills in the harbours of El Musel and Candás.

### THERMAL POWER STATIONS

The thermal and combined cycle power stations in Soto de Ribera are located in the vicinity of the lower reaches of the River Nalón, which have been declared a Special Area of Conservation (SAC) from the Soto de Ribera dam to the bridge at Navia, where the Nalón becomes a sea inlet.

Operations at these power stations have no direct effect on habitats or species in this area. The only indirect impact detected is that of the discharges from the plants, mainly from the thermal plant, though here also compliance with the requirements set in the relevant authorisations is guaranteed and continuous monitoring is conducted. This is borne out by the audit of the certified ISO14001-compliant Environmental Management System (EMS) in place at both plants. The EMS at the combined cycle plant is also registered with EMAS.

### NETWORKS

The main impact on biodiversity from electricity distribution operations has been identified as the maintenance of the routes followed by electrical lines and gas pipelines.

The need to eliminate or at least minimise the risk of fire in overhead electrical lines means that the routes along which they are strung must be cleaned up regularly. This means cutting down trees under lines and keeping check on those nearby that could fall onto or come into contact with lines. It also involves ancillary tasks to ensure that these routes are passable and that it is possible to access the various positions required for regulatory monitoring, control and maintenance purposes. **The ultimate aim of these actions is to guarantee service and minimise the risk of fire caused by contact at all times.** Although the work required may sometimes have one-off negative impacts on biodiversity, it must be seen as positive and necessary as a whole.

In the construction of new lines these points are factored in at the project design stage in an effort to minimise the harm to sensitive species and habitats. No lines with an impact on biodiversity were constructed or modified in 2013.

In the case of gas distribution networks, environmental impact is associated mainly with the construction phase, though subsequent route maintenance work is also necessary. 2013 saw the completion of work on the **Moratalla Mula** pipeline in the North West of the region of Murcia.

This work was covered by a comprehensive monitoring plan and site restoration plan that included recommendations set in the corresponding Environmental Impact Declaration (EID) and in the environmental impact study conducted. These involved mainly protecting the land and minimising physiographic changes in the area and changes in vegetation, and restoring the visual quality of the area where work took place, integrating the pipeline into the landscape in such a way as to favour the return of the plant communities characteristic of the area.

The most critical points of this work involved crossing the rivers Mula, Mortalla, Argós, Quipar and Pliego, and certain areas of forest classed as habitats of community interest. No negative effects have been detected.

In the summer a fire prevention plan was implemented which involved cleaning up and clearing away plant waste from forest areas to reduce the risk of fire there.

As an additional improvement, the new infrastructure has done away with the LNG satellite storage plants that hitherto supplied the municipalities of Calasparra, Caravaca de la Cruz, Cehegín, Bullas and Mula. This has also eliminated the more than 300 trips made each year by tanker trucks to supply those plants, thus further reducing risks

### ENVIRONMENTAL RESPONSIBILITY

In accordance with environmental responsibility legislation, electricity industry facilities must set up a financial guarantee sufficient to meet the cost of repairing any potential environmental accidents that they may cause. This financial guarantee is calculated in line with an environmental risk analysis (ERA) and must take into account the need to return the environmental assets and services harmed to their baseline status. As yet the timetable for the application of these obligations has not yet been established, but it is expected to be approved by means of a specific ministerial order in June 2014.

This legislation allows sectoral instruments to be developed for the conducting of ERAs. Thus, the MIRAT (Standard Form Environmental Risk Report) was developed by UNESA (The Spanish Electricity Industry Association) in 2013. This standard form report will enable risk analyses of electricity facilities to be conducted in a consistent, comparable fashion using simplified methods and forms, with the ultimate aim of securing the financial guarantees required for facilities and laying down basic lines for risk management that each company and each site can subsequently adapt to suit their own risk management strategies.

Standard forms for coal-fired, oil-fired and natural gas combined cycle power plants have now been developed. The next step is to submit them to CTPRDM (the Technical Committee for the Prevention and Reparation of Environmental Damage), a body answerable to the Ministry of Agriculture, Food and the Environment (MAGRAMA) for review and approval.

Pending full implementation of these regulations, EDP is working to identify and inventory the various habitats and biodiversity to be found in the areas of influence of its production facilities, so as to determine the baseline status there and establish methods for managing and minimising risks as required to prevent them from harm in case of any potential environmental damage. An IT application (SICRAM) has been developed to serve as a repository for all the information and documentation associated with the monitoring of environmental risks at the facilities where ERAs have been conducted. This application will provide access to information on the baseline status of the areas surrounding the facilities, including protected areas and habitats and species of wild flora and fauna.

For its part, SEDIGAS is drawing up guidelines for the drawing up of risk analyses covering gas facilities, mainly regulation and measurement stations (RMS), compression stations, LNG and LPG satellite plants and gas storage and operation facilities.

These facilities have little effect on the environment and the scenarios considered do not envisage significant environmental damage, but the Association has decided to assess them using a sector-wide application. Pending the implementation of the regulations currently being drawn up, EDP intends to analyse its various business sites.

### 3.1.7. WORKING SIDE BY SIDE WITH THE LOCAL COMMUNITY

#### THE EDP FOUNDATION

As part of EDP's Responsible Company strategy, the EDP FOUNDATION (FUNDACIÓN EDP) has been set up to support and promote environmental initiatives with a clear impact on the communities where we operate.

**Standout projects include the following:**

#### TREE PLANTING

*"A Tree for Every Customer" campaign.*

Each new customer who switches to EDP Spain's electronic invoicing system becomes a further expression of our commitment to the environment through the "A Tree for Every Customer" [*"Un Cliente, Un Arbol"*] campaign.

The Foundation has signed co-operation agreements with numerous town halls for the planting of autochthonous trees.

Under those agreements land owned by the town halls is set aside to be valorised according to principles of sustainability, and the Foundation handles the planting and maintenance of the trees.

The programme is supported by the prestigious environmental association FAPAS (Fund for the Protection of Wild Animals), because the purpose of planting trees is twofold: on the one hand it increases the amount of woodland in an environmentally friendly way, thus assuring biodiversity, and on the other it produces fruit to feed animals in the area.

*Recovery of El Valledor (Allande).*

In 2003 10,000 saplings were planted in El Valledor, in the municipality of Pola de Allande, an area that was razed by fires late in 2011. This brings the number of trees planted since the commencement of the project to over 70,000.

A further agreement has been signed for 2014 with the participation of Allande town hall, FAPAS and the EDP FOUNDATION.

*"Responsible Points": shared responsibility with customers.*

Through the "Responsible Points" programme (see the Responsible Company section) gas and electricity customers have donated 825,000 points to tree planting initiatives. As in the rest of its initiatives, the EDP FOUNDATION matches the number of points donated, which result in the planting of more trees.



### FISH RESTOCKING

The EDP FOUNDATION and the Association of Fishermen and Friends of the Nalón worked together again during the year to restock the River Nalón with fish.



This year the help of students from the María Inmaculada School in Pola de Laviana was enlisted. The object of this operation was to enhance environmental awareness among young people and encourage them to respect, improve and protect biodiversity.

The students were given the task of releasing 10,000 young brown trout bred in facilities owned by the Association.

The EDP FOUNDATION has been co-operating for some years with this scheme to restock the river, attempting to achieve sustainable development in all those reaches where the company operates.

Young trout were also released in co-operation with the Association of Anglers of Fuentes del Narcea and the Penlés CAI (Integration Support Centre) in Cangas del Narcea.

This served on the one hand to regenerate the river thanks to the release of the young trout, and on the other hand as a contribution to efforts to integrate disabled persons.

As well as the Association of Fishermen and Friends of the Nalón, we also work on projects with other associations such as the Royal Asturias River Fishing Association.

### CO-OPERATION WITH THE ASTURIAS BEAR FOUNDATION



The Asturias Bear Foundation (*Fundación Oso de Asturias* - FOA) is a private, not-for-profit cultural association set up to organise and promote efforts to help conserve the Cantabrian brown bear and its habitat.

The EDP FOUNDATION is a member of its governing board, and as such works with FOA on awareness, education, conservation and scientific research campaigns in regard to the Cantabrian brown bear.

For more information see: [www.osodeasturias.es](http://www.osodeasturias.es)

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### ENVIRONMENTAL VOLUNTEERING

A corporate volunteering programme (see the chapter on Human Capital) is available to EDP employees. The programme includes environmental activities.



June 2013 saw the implementation of a group-wide EDP campaign under the name "*Parte de Nos Forestas*" (Forest: a Part of Us) in which more than 70 volunteers took part.

The EDP volunteers together with their families and friends helped to plant trees in the district of Teverga in Asturias.

The idea was to promote environmental education and co-operation and encourage people to care for nature. The scheme was mentored by FAPAS, (Fund for the Protection of Wild Animals), whose personnel provided the volunteers with explanations on various environment- and landscape-related issues that arose along the way.

The activities arranged included a visit to 2 experimental beehives, where volunteers were given explanations concerning the importance of pollination for the conservation of biodiversity, and shown how this type of hive could resist attacks by brown bears.

In the Basque Country the day of volunteering organised included a public clean-up operation at Barrika beach in Bizkaia, a rocky, hard-to-get-to beach.

More than 2 t of non-organic waste was collected, mostly in the form of wood. At the request of the local council, this wood was stacked on the beach for use on the bonfires to celebrate Midsummer's night on June 24.

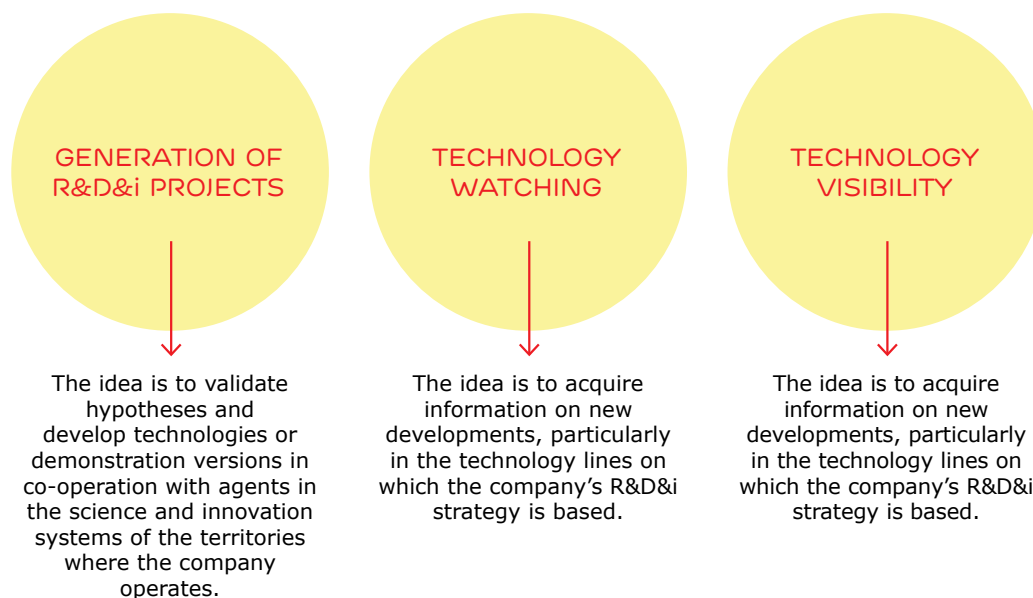


## 3.2. R&D&i



IN 2013 EDP SPAIN REDEFINED ITS STRATEGIC LINES FOR R&D&i WITH A VIEW TO FOCUSING ON THOSE TECHNOLOGIES THAT CAN MEET THE CHALLENGES FACING THE COMPANY'S VARIOUS LINES OF BUSINESS IN THE MEDIUM TERM.

**EDP Spain's R&D&i strategy is implemented basically through 3 activities:**



<b>CLEANER ENERGY</b>	Carbitor 2014 Ashfoam 2014 Proyecto Líquenes Prosave2 Tri-Reform Life Biogrid Inyegas3 Nanotubos	<ul style="list-style-type: none"> <li>◆ European Gas Research Group (GERG)</li> <li>◆ Programme Committee R&amp;D&amp;innovation – International Gas Union</li> <li>◆ Spanish CO<sub>2</sub> Technology Platform</li> <li>◆ Spanish Energy Efficiency Technology Programme</li> <li>◆ Spanish "Futured" Network Technology Platform</li> <li>◆ Spanish "Platea" Steel Technology Programme</li> <li>◆ FOREVE (Spanish Electric Vehicle Forum) and the AEDIVE Association</li> </ul>	<p><b>Universities</b></p> <ul style="list-style-type: none"> <li>◆ Bilbao School of Engineering (University of the Basque Country)</li> <li>◆ University of Oviedo</li> </ul> <p><b>Public Bodies</b></p> <ul style="list-style-type: none"> <li>◆ Spanish Energy Club</li> <li>◆ Official Association of Mining Engineers of Northern Spain</li> <li>◆ ITMA</li> <li>◆ IEEE</li> </ul> <p><b>Sectoral Associations</b></p> <ul style="list-style-type: none"> <li>◆ UNESA - EURELECTRIC</li> <li>◆ SEDIGAS</li> </ul> <p>Sustainability website: <a href="http://www.sostenibilidadedp.es">www.sostenibilidadedp.es</a></p>
<b>SMARTER GRIDS</b>	Innpacto Redox 2015 Localiza2013 Evalgas Ecodis		
<b>CLIENT FOCUSED SOLUTIONS</b>	Enrima Elenna 2015 Nanocomet Cadionat Stirling		
<b>DATA LEAP</b>	Pregas 2013 Telemedida (tele-metering)		

### 3.2.1. GENERATION OF R&D&i PROJECTS

The projects and actions implemented under each strategic line in 2013 were the following:

#### CLEANER ENERGY

##### "CARBIOTOR2014"

The Carbiotator project seeks to contribute to the clean, sustainable use of coal via the joint combustion of coal and roasted biomass, and to minimise CO<sub>2</sub> emissions.

Partner: Instituto del Carbón (INCAR CSIC).

##### "ASHFOAM2014"

This project seeks to valorise fly ash from coal-fired power plants by using it to manufacture composite metal matrix materials.

Partner: Instituto de Materiales de Asturias (ITMA).

##### "LÍQUENES"

This project seeks to use various species of lichen as bio indicators for ongoing air quality sampling. To that end, the baseline contents of various elements in the most common lichens are to be determined, a geographical model of pollutants drawn up and a network to monitor deposition in them proposed.

Partner: Faculty of Biology of the University of Oviedo.

##### "PROSAVE2"

The objective of this project is to develop new technologies in aeronautical systems, focusing on reducing fuel consumption and pollutant emissions, introducing environmentally friendly materials that can be recycled at the end of their useful lives and stressing on-board comfort and safety.

Part of the CENIT programme run by the Ministry of Science and Innovation.

##### "TRI-REFORM"

TRI REFORM is a biogas tri-reform process analysis project.

Partner: University of the Basque Country, Clean Hydrogen Generation.

##### "LIFE BIOGRID"

This project researches new biogas scrubber systems (single cell algae plus cryogenic systems) to turn biogas into renewable natural gas suitable for injection into gas networks and for use in vehicles, with a negative overall carbon dioxide emission count thanks to the capture and storage of CO<sub>2</sub> by algal systems.

Project approved under the LIFE programme: <http://lifebiogrid.es/>

##### "INYEGAS3"

This project seeks to develop treatment and control modules for the safe injection of biogas into the natural gas network.

GAITEK programme.

##### NANOTUBOS

This project seeks to assess the potential for the catalytic decomposition of biogas to produce high added value carbon materials.

#### DATA LEAP

##### PREGAS2013"

The objective of this project is to predict and optimise consumption of steel processwaste gases from Arcelor at the Sidergas cogeneration plant using a cogeneration performance prediction and optimisation tool based on the information available and the analysis of past data.

Partner: European Centre for Soft Computing (ECSC).

##### "TELEMEDIDA"

"Telemedida" is a pilot project involving field trials of an overall telemetric system for reading domestic gas meters.

## SMARTER GRIDS

### INNPACTO REDOX 2015

This project seeks to develop an innovative high-capacity electricity storage system based on redox flow batteries.

*First project promoted by Futured, the Spanish Network Technology Platform.*

### "LOCALIZA2013"

The objective of this project is to locate faults in medium voltage distribution networks and thus facilitate the work of field operatives, using a network short-circuit location algorithm that is also capable of determining what type of fault has occurred.

*Partner: Department of Electrical Engineering of the College of Industrial Engineering at the University of Oviedo.*

### "EVALGAS"

This project involves the development of new, multi-parameter analysis techniques for assessing mixtures of gases in household and industrial settings.

*ETORGAI Programme.*

### "ECODIS"

ECODIS studies the development of technologies for the efficient generation, distribution and management of energy flows in urban and industrial settings, and their application in the shift towards a low-carbon city structure.

*ETORGAI Programme.*

## CLIENT FOCUSED SOLUTIONS

### ENRIMA: ENERGY EFFICIENCY AND RISK MANAGEMENT IN PUBLIC BUILDINGS

This project seeks to develop an integrated management system to support decisions by managers of public areas and buildings classed as energy efficient, with a view to optimising their operation and minimising costs by managing risk and meeting energy, efficiency and emission reduction targets.

*Project conducted under the 7<sup>th</sup> European Union Framework Programme for Research and Technological Development.*

*Partners: University of Stockholm, University College London, Rey Juan Carlos University, Sintef Institute in Norway, IIASA and CET in Austria and the Tecnalia foundation in Spain.*

### "ELENN2015"

This project continues the work done under the "Ecofamilias" project with a view to creating new energy assessment techniques for household customers, using naturally phrased messages. These messages are to be generated from an analysis of customer consumption curves obtained from the new smart meters.

*Partner: European Centre for Soft Computing (ECSC).*

### "NANOCOMET"

The objective of this project is to develop a robust, reliable, low-cost device for simultaneously detecting leaks of natural gas (methane) and carbon monoxide emissions, so as to minimise the large number of false alarms given by the detectors currently available on the market.

*Partners: HYBTRONICS & CEIT.*

### "CADIONAT"

This project seeks to develop a new electrochemical carbon dioxide sensor to measure the quality of biogas and natural gas after the injection of biogas into existing gas networks.

### "STIRLING"

The objective is to achieve market application of new natural gas technologies and renewables. A 1 kWe Stirling motor installed at the new corporate headquarters in Bilbao produces both hot water and electricity, thus demonstrating that the system works well.

### CTEYE 2009-2010

In 2013 the Spanish Patents and Marks Office granted a patent to the Isastur group and EDP for a method and apparatus for detecting blown fuses in low voltage outlets in urban transformer centres.

This patent emerged from the CTEYE 2009 2010 R&D&i project to develop an algorithm and associated equipment for detecting blown fuses in LV fuse boxes. In the course of the project single phase smart meters were assessed as being capable of taking over this function when associated with the appropriate phase.

### 3.2.2. TECHNOLOGY WATCHING & VISIBILITY

As R&D&i activities, "technology watching" and "technology visibility" are based on relations with different groups of stakeholders, such as the scientific community, universities, technological-related platforms and associations sectoral associations in the electricity and gas business, public administrations and bodies, etc.

The links established can be used for technology watching, i.e. to acquire information, learn about new scientific and technological developments that may impact on the company and fit into the strategic lines of R&D&i established. This is a two-way process that also involves technology visibility, through which EDP Spain discloses its R&D&i activities to society, which in turn fosters their valorisation and encourages feedback.

The R&D&i work of EDP Spain is co-ordinated with that of the other EDP Group companies in its field, as EDP Spain takes part in the focal point groups set up by EDP Inovação.

#### SECTORAL ASSOCIATIONS

EDP Spain is a member of various sectoral associations which include working groups and areas of support for R&D&i.

**European Gas Research Group (GERG):** EDP Spain is the current vice president of this group.

**International Gas Union:** representation of the Spanish gas industry (SEDIGAS) on the *Programme Committee For R&D & innovation for 2012 2015*.

**UNESA:** Committees and working groups.

**Eurelectric:** *Innovation Task Force*, led by ENEL and EoN with the co-operation of McKinsey, in drawing up a diagnostic report with recommendations for the European Commission concerning the Horizon2020 Framework Programme.

#### TECHNOLOGY PLATFORMS

**EDP takes part in the following technology platforms:**

##### SPANISH CO<sub>2</sub> TECHNOLOGY PLATFORM (PTE)

The CO<sub>2</sub> PTE was set up in 2006 to help improve energy efficiency in large industrial facilities and to develop techniques for capturing, transporting, storing and using CO<sub>2</sub> and implement them in industry, to help Spain meet its emission reduction commitments.

In 2013, EDP Spain took part in the working groups on "Use of CO<sub>2</sub>", "Regulation" and "Economic, Social and Environmental Studies", and sat on the governing board of the platform.

##### SPANISH NETWORK TECHNOLOGY PLATFORM (PTE): FUTURED

The "Futured" platform was formed in 2005 to bring together all the stakeholders involved in defining and fostering R&D&i in Spain applied to electrical transmission and distribution networks. The "smart grids" of the future will need to find an efficient way of integrating renewables, which means dealing with the twofold problem of their major growth and their decentralised nature.

Futured is highly active, and organises seminars in cities throughout Spain to promote projects of interest to the platform. EDP Spain sits on the platform's management group.

In 2013 it was agreed at the 6<sup>th</sup> Futured Assembly that EDP would lead a working group on energy storage. This group was set up at the proposal of the Ministry of the Economy and Competitiveness, with the participation of the Ministry of Industry, Energy and Tourism. Its remit includes sharing information with 7 other technology platforms, and providing a forum for analysing the capabilities of and opportunities open to companies and technology centres in Spain in the field of energy storage.

##### SPANISH ENERGY EFFICIENCY TECHNOLOGY PLATFORM (PTE)

The Energy Efficiency PTE was founded in 2008 to work on innovation in technology covering products and services that foster smarter, more sustainable consumption of energy from different sources. EDP Spain sits on the management group of this platform.

#### EDP NATURGAS ENERGÍA LEARNING CENTRE

EDP has continued to organise the activities established in the scientific and technological co-operation agreement entered into with the Bilbao School of Engineering, under which the EDP Naturgas Energía Learning Centre was set up.

**The 6 projects implemented at the learning Centre in 2013 and those approved for the coming year are the following:**



## CLEANER ENERGY



## PROJECTS FOR 2013-2104 ACADEMIC YEAR

**Rectification of unscrubbed biogas using hydrogen for injection into natural gas networks.**

**Program for calculating the physical and chemical properties of methane and its mixtures with other gases from biogas.**

## CLIENT FOCUSED SOLUTIONS



**Optimisation of micro-cogeneration for off-the-grid residential developments.**

**Study of small liquefied natural gas and liquefied bio-methane plants.**

**Applications of natural gas in public transport.**

## DATA LEAP



**Optimisation of household gas consumption management (continuation).**

## PROJECTS FOR 2012-2013

**Biogas scrubbing to obtain bio-methane using algae and cryogenic distillation.**

Using microalgae to eliminate CO<sub>2</sub> from biogas by photosynthesis entails the problem that O<sub>2</sub> is produced, and must then be eliminated before quality bio-methane can be obtained. Various natural and laboratory synthesised iron oxide materials have been studied.

**Positioning of natural gas in post-2020 trends (2030-2050 roadmaps).**

This project analysed the trends emerging from EU energy documents for 2030-2050 and the various landmarks and events associated with them, seeking to predict the trends in the different possibilities in which there is no alternative to natural gas, and those in which it could play a prominent part even though alternatives may exist.

**Co-combustion of natural gas and biomass.**

This project consisted of analysing the potential for the co-combustion of solid and gasified biomass with natural gas.

**Implementing micro-cogeneration for off-the-grid homes.**

This project set out to analyse the implementation of off-the-grid facilities using micro-cogeneration.

**Hybrid family cars and natural gas/plug-in hybrids.**

This project set out to study the potential for natural gas as a vehicle fuel, used as a hybrid with other fuels or with electric batteries. The current state-of-the-art is analysed, along with the pros and cons of the various options available.

**Optimisation of household gas consumption.**

The aim is to establish correlations between gas consumption by household and business customers, seasonality in consumption and other significant variables.

## TRAINING ACTIVITIES

**The R&D&i service has worked with various organisations for training, including the following:**

- ◆ European Gas Technology Conference (EGATEC 2013)
- ◆ Spanish Energy Club
- ◆ Bilbao School of Engineering (University of the Basque Country)
- ◆ University of Oviedo
- ◆ Official Association of Mining Engineers of Northern Spain
- ◆ TECNALIA
- ◆ IEEE

## SUSTAINABILITY WEBSITE

EDP Spain's sustainability website, [www.sostenibilidadedp.es](http://www.sostenibilidadedp.es), reports on the company's actions and impacts in the field of economic, social and environmental sustainability in those regions where the company operates.

In this context the R&D&i area plays a particularly prominent role in applying the strategic priorities of the group in matters of innovation. To that end, the main projects and achievements are highlighted in the website.

## University of Oviedo

EDP worked with the University of Oviedo on an informational seminar for the location of projects. EDP presented its facilities and activities to researchers at the University, and detailed its main problems and areas of improvement with a view to identifying potential areas of co-operation. 9 co-operation proposals were received, 3 of which have been implemented.

Along similar lines, EDP took part, alongside 3 more Asturias-based firms, in an assessment by the Ministry of Education, Culture and Sport of the Campus of International Excellence, in which university/business co-operation was rated very highly.

## ITMA

Also along the same lines, a researcher from ITMA spent time at the facilities of EDP Spain under the Jovellanos Programme of the Government of the Principality of Asturias, seeking to identify areas for potential public/private co-operation on specific areas of the electricity business.





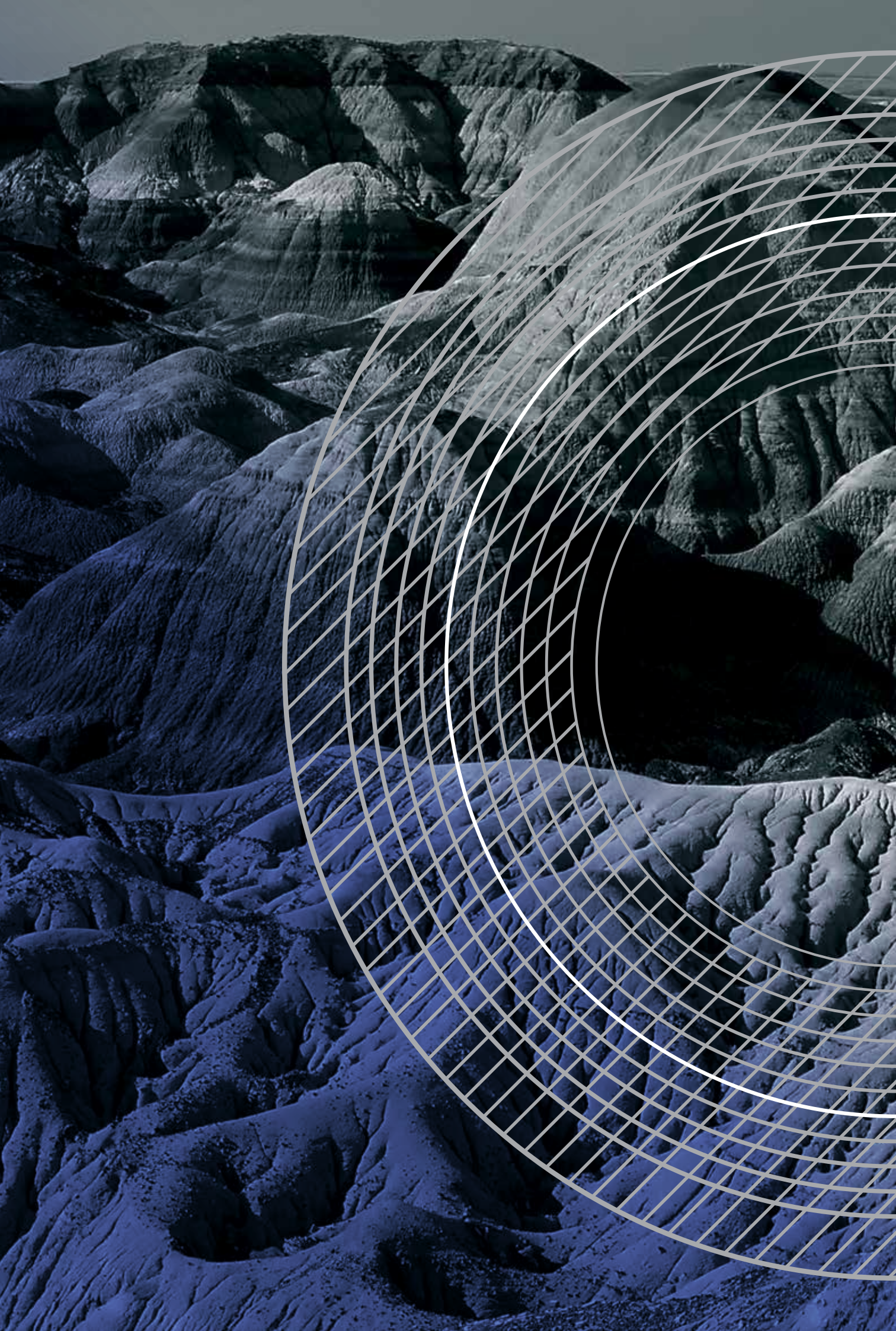
# 04

## ANNEXES

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> CHINA  
TOKYO SKY TREE  
Coordinates:  
35° 42' 36.5"N 139° 48' 39" E  
Time of day: 8.00 p.m.

## 4.1. STAND-OUT EVENTS



### CORPORATE

**EDP is Gold Class in the RobecoSAM index:** for the 6<sup>th</sup> year in a row, EDP was included in the *Sustainability Yearbook*, and in 2013 for the 4<sup>th</sup> year in a row it was placed in the Gold Class, as a world leader.

**EDP was again included in the Iberian Carbon Disclosure Leadership**

**Index:** EDP obtained a score of 97 % for reporting, making this the third consecutive year in which it was included in the Carbon Disclosure Leadership Index, with a rating of "B" for performance.

**EDP was voted best for in the Investor Relations area in 2013:**

the firm obtained 1<sup>st</sup> place for sustainability practices and third place in the CFO category. The *IR Magazine Europe Awards* is an annual event that fosters international excellence in the field of investor relations, rewarding best practices in Europe.



**EDP was distinguished as one of the world's most ethical companies** by the Ethisphere Institute for the 2<sup>nd</sup> consecutive year. The award criteria include the following: ethics, reputation, leadership and innovation, governance, corporate citizenship, social responsibility and sustainability.

**For the 1<sup>st</sup> time, EDP was rated as the world leader in the Utilities sector of the Dow Jones Sustainability indices,** standing out among the biggest companies in the world. It was the highest rated company in several areas, including risk management & control, biodiversity and human capital development.

**EDP was rated as best company in the world for financial reporting,** out of over 300 listed companies examined by the analysts of *IR Global Rankings*. The company was recognised as an example of excellence in terms not just of rigour, transparency and consistency but also of the quality of information available.

**EDP University won a "Global Council of Corporate Universities" (GCCU) award:** EDP won the bronze award from in the category "Best Corporate University embodying the identity, culture and brand of the organisation in its stakeholders".

**edpON won the award for Europe's best intranet,** at the Digital Communication Awards 2013. These awards recognise the most innovative projects each year in the field of digital communication, in 38 categories.



**EDP joined Bettercoal,** an international initiative to promote best practices and integrate the principles of sustainability into the coal supply chain.



EDP SPAIN

**New energy at EDP, with the incorporation of 240 new interns** on work experience at the company. The EDP FOUNDATION has agreements in place with the universities of Oviedo, the Basque Country, Deusto, Cantabria and Murcia under which final-year students can obtain paid work experience with us.



**New edition of EDP Solidarity Day**, to provide energy for an eco-village in Kenya (where 1000 orphaned children and 100 grandparents live), with the co-operation of all employees.



**"Viva nuestra energía" reaches more than 138,000 students.** This programme for schools was started up in late 2010. It is organised in Asturias, the Basque Country, Madrid, Murcia and, from 2013 onwards, also in Cantabria. To date more than 138,000 schoolchildren have taken a trip through the world of renewable and non renewable energy sources with the help of our castoos Carlos Caldera, Nano Solano, Vera Ribera, Lolo Eolo, Juan Volcán and Tomás Biomás.



**EDP's first energy efficiency project in Cantabria** was conducted for the municipal council of Noja, and comprised the renewal of equipment and improvements in monitoring & regulation systems at town-hall facilities.

**Save: to compete** is the new programme designed by EDP to support and promote energy efficiency projects in businesses, identifying measures for cutting back on energy consumption and supporting their implementation and funding through the savings achieved.



**EDP Spain obtained recognition from the Spanish Global Compact Network for good practices in sustainability**, selected via an analysis of both our Sustainability Report and our Communication on Progress, which for the 3<sup>rd</sup> consecutive year obtained the maximum rating of "Advanced".



**Innovation in training** via the implementation of a scheme to replace documentation on paper in training courses by digital documents on tablets.

**Opening of the Group's new corporate HQ in Bilbao**, following investment totalling over €17 million to restore a historic building. The opening was attended by EDP Chair António Mexia and Manuel Menéndez, Chair of Naturgas Energía, along with leading public authorities from the region.

The building was awarded the US Building Council's highest rating in recognition that it had been designed and built following the strictest sustainability criteria.

**Presentation of Prevention & Environment Awards**, recognition of excellence in performance in these two areas, with a special mention for the volunteers who worked on the clean-up after the incident in Aboño in 2012.

**First open day** at the combined-cycle power station in Castejón for families and friends of employees, where the youngest visitors were allowed to give free rein to their creative impulses at painting workshops while the adults enjoyed an instructive tour of the plant.

**EVALGAS, innovation in the service of customers:** Naturgas Energía Distribución and Naturgas Energía Servicios developed this project alongside 6 other firms. The objective was to improve standards of service by offering customers the possibility of improving energy efficiency and savings and at the same time increase safety at their homes/businesses.

**EDP Spain has set up the Consumer Office** to settle the disputes of those consumers who are not satisfied with the company's response to their claims without having to resort to court proceedings. The process is straightforward and free of charge and uses the consumer arbitration systems.

**Award to EDP Spain's Occupational Risk Prevention Service**, from *Sociedad Castellana de Medicina y Seguridad y Salud en el Trabajo* for integrating issues concerned with the safety of contractors into the Risk Prevention Service.

**Second prize at the 5<sup>th</sup> Academic Network Event organised by GERG** (European gas Research Group) for a project submitted by the University of Navarra TECNUN, with the patronage of EDP Naturgas Energía, which seeks to develop a sensor capable of detecting biogas and natural gas simultaneously, using nanotechnology.

**GERG**

**EDP support for sport**, the company sponsored various races, some associated with solidarity-based projects (the Women's Race in Vitoria Gasteiz to support the fight against breast cancer and the Women's Race in Gijón to support child leukaemia research) and others with professional events (the 3<sup>rd</sup> Bilbao Triathlon, the Cangas de Onís half marathon in Asturias and the 30<sup>th</sup> San Silvestre race in Oviedo).



**EDP Spain obtained an energy efficiency certificate for its building in Oviedo** attesting compliance with ISO 50001; a certificate of compliance with the ISO 14001 Environmental Management Standard was also obtained for the La Gesta building.

**EDP continued to support sustainable mobility**, with the incorporation of 3 more EDP electric vehicles into the fleet of Santander City Hall and the assignment to the Fundación Príncipe de Asturias [Prince of Asturias Foundation] of electric vehicles from its fleet for use during the presentation of the Prince of Asturias Awards.



**Meetings with science**, sponsored by EDP in Vitoria in October, in which secondary school students were given the chance to meet Nobel Prize-winners Aaron Ciechanover and Rafael Yuste, seeking to spark a passion for science and research in them.

**Responsible sport.** EDP promoted various forms of sport, sponsoring the Asturias Sailing Week, the EDP International Basketball Campus (with students of 14 different nationalities), an expedition to open up a new route to Paiju Peak on Karakorum in Pakistan and an event in Derio to promote cycling as a means of transport an leisure pursuit for the young.

**The HC Group at EDP Spain signed its 2<sup>nd</sup> collective bargaining agreement** after a long period of negotiations. This agreement will be in force until the end of 2017.

**Asturias International Trade-Exhibition: Building the Future Together.** This was the slogan under which EDP attended this event in 2013. The trade exhibition takes place in Gijón every summer, and the aim at this edition was to reinforce the EDP brand, transmitting EDP's new image and its values as a human, innovative, sustainable company.



**EDP Spain Volunteers' Day**, featuring activities in the Basque Country (cleaning up Barrika beach, where 2 tonnes of non organic waste was collected) and in Asturias (the planting of fruit trees in an cantabric brown bear protected area, accompanied by members of FAPAS).

**EDP opened the Basque Country's 1<sup>st</sup> gas refueling station.**

The station is connected to the EDP Naturgas Energía distribution network, and entailed investment totalling over €300,000. This evidences the Group's support for innovation, sustainability and economic efficiency. At the same time, a plan to renew the gas distribution company's own vehicle fleet was implemented, seeking to make it the first in the country to consist entirely of gas-fuelled vehicles.

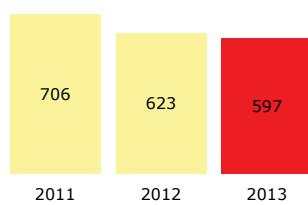


## 4.2. KEY INDICATORS

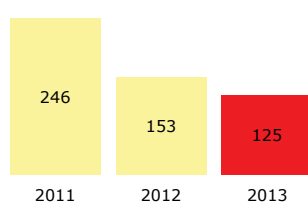
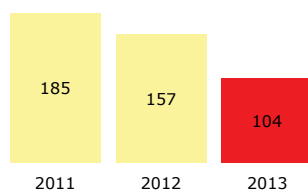
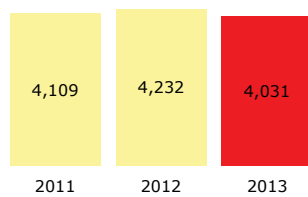


### 4.2.1. FINANCIAL INDICATORS

EBITDA (€ million)



NET PROFIT (EAT) (€ million)

OPERATIONAL INVESTMENTS  
(€ million)ECONOMIC VALUE  
DISTRIBUTED (€ million)

#### FINANCIAL INDICATORS

	units	2013	2012	2011
<b>EDP IN SPAIN</b>				
Turnover	Millions of euros	4,125	4,358	4,233
EBITDA	Millions of euros	597	623	706
Net profit (EAT)	Millions of euros	125	153	246
Working Cash Flow	Millions of euros	397.0	410.2	512.2
Operational investments	Millions of euros	104	157	185
Current assets	Millions of euros	1,645	2,040	2,175
Total assets	Millions of euros	7,299	7,694	7,992
Total equity	Millions of euros	2,802	2,874	2,944
Net debt	Millions of euros	2,215	2,631	2,536

#### ECONOMIC INDICATORS

	unidades	2013	2012	2011
Economic value generated	Millions of euros	4,171	4,422	4,315
Economic value distributed <sup>(1)</sup>	Millions of euros	4,031	4,232	4,109
Economic value retained <sup>(2)</sup>	Millions of euros	140	190	206
<b>Environmental expenses&amp;investments</b>				
Waste management, waste water & soil protection	Millions of euros	18.1	8.4	3.0
Energy-efficiency-related projects	Millions of euros	9.8	4.8	
Environmental management & prevention	Millions of euros	4.0	4.5	3.7
Others	Millions of euros	4.3	6.8	11.3
Research projects associated with the environment	Millions of euros	0.4	0.4	0.4

(1) Payments to employees, suppliers, shareholders & foundations, financial amounts & taxes.

(2) Difference between economic value generated and distributed.



## 4.2.2. TECHNICAL INDICATORS

## INSTALLED GENERATING CAPACITY

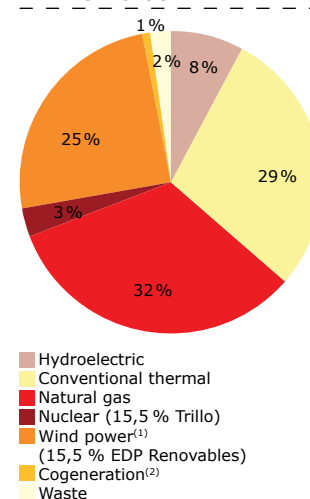
Situation as of 31 December 2013		units	2013	2012	2011
<b>Total hydroelectric</b>	<b>Gross MW</b>		<b>433</b>	<b>433</b>	<b>433</b>
Conventional thermal	Gross MW		1,535	1,535	1,535
Natural gas	Gross MW		1,721	1,721	1,721
Nuclear (15,5 % Trillo)	Gross MW		166	166	166
<b>Total thermal</b>	<b>Gross MW</b>		<b>3,422</b>	<b>3,422</b>	<b>3,422</b>
<b>Overall total</b>	<b>Gross MW</b>		<b>3,855</b>	<b>3,855</b>	<b>3,855</b>
Wind power <sup>(1)</sup> (15.5 % of EDP Renewables' operational capacity)	Gross MW		1,316	1,238	1,160
<i>Operational MW in Spain (15.5 %)</i>	<i>Gross MW</i>		<i>358</i>	<i>358</i>	<i>341</i>
Cogeneration <sup>(2)</sup>	Gross MW		35	57	57
Waste	Gross MW		83	83	83
<b>Special total</b>	<b>Gross MW</b>		<b>1,433</b>	<b>1,380</b>	<b>1,302</b>
<b>Total</b>	<b>Gross MW</b>		<b>5,288</b>	<b>5,235</b>	<b>5,157</b>

(1) Investments in wind power generation are through EDP Renewables.

(2) Transfer of Serantes.

Net electricity generation = gross electricity generation - plant self supply

GENERATING CAPACITY PER TECHNOLOGY



## NET ELECTRICITY GENERATION

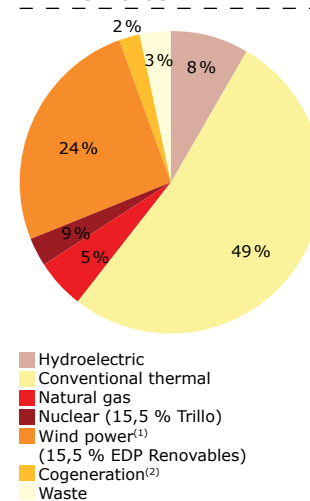
Situation as of 31 December 2013		units	2013	2012	2011
<b>Total hydroelectric</b>	<b>MWh</b>		<b>1,098,482</b>	<b>620,781</b>	<b>584,032</b>
Conventional thermal	MWh		6,406,606	6,714,429	5,353,702
Natural gas	MWh		654,244	1,598,269	2,754,049
Nuclear (15,5 % Trillo)	MWh		1,157,058	1,230,170	1,212,044
<b>Total thermal</b>	<b>MWh</b>		<b>8,217,908</b>	<b>9,542,868</b>	<b>9,319,795</b>
<b>Overall total</b>	<b>MWh</b>		<b>9,316,390</b>	<b>10,163,649</b>	<b>9,903,827</b>
Wind power <sup>(1)</sup> (15.5 % of EDP Renewables' operational capacity)	MWh		3,084,965	2,858,975	2,604,000
<i>Operational MW in Spain (15.5 %)</i>	<i>MWh</i>		<i>899,310</i>	<i>791,430</i>	<i>710,520</i>
Cogeneration <sup>(2)</sup>	MWh		213,492	292,851	300,024
Waste	MWh		431,643	523,691	540,882
<b>Special total</b>	<b>MWh</b>		<b>3,730,099</b>	<b>3,675,517</b>	<b>3,444,906</b>
<b>Total</b>	<b>MWh</b>		<b>13,046,489</b>	<b>13,839,166</b>	<b>13,348,733</b>

(1) Investments in wind power generation are through EDP Renewables.

(2) Transfer of Serantes.

Net electricity generation = gross electricity generation - plant self supply

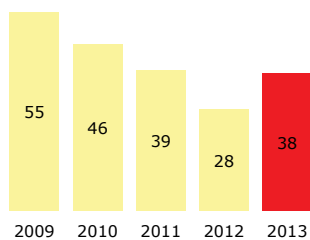
NET ELECTRICITY GENERATION PER TECHNOLOGY



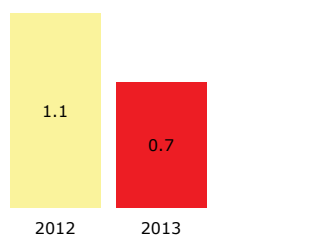
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NEVERENDING ENERGY

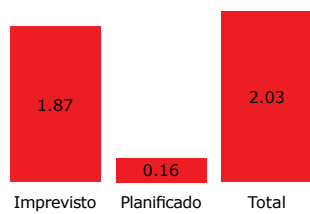
**TREND IN TIEPI**  
(INSTALLED POWER EQUIVALENT  
INTERRUPTION TIME) (minutes)  
Electricity sector



**GAS NETWORKS RUPTURE INDEX**  
(per 100 km)  
Gas sector



**GAS SUPPLY CONTINUITY INDEX**  
(minutes per annum & user  
connected)  
Gas sector



**ELECTRICITY DISTRIBUTION FACILITIES**

	units	2013	2012	2011
HV overhead lines (50/132 kV)	km	1,270	1,270	1,263
MV overhead lines (5/10/16/20/22/24 kV)	km	4,748	4,736	4,710
HV underground lines (50/132 kV)	km	38.48	38.46	30.91
MV underground lines (5/10/16/20/22/24 kV)	km	1,590	1,550	1,513
LV overhead grids	km	12,452	12,391	12,240
LV underground grids	km	3,196	3,001	2,796
Transformation centres	Nº	6,730	6,714	6,686
Transformation centre installed capacity	MVA	2,272	2,254	2,222
Sub-stations	Nº	57	58	56
Transformers in sub-stations	Nº	120	120	101
Installed capacity in sub-stations	MVA	5,258	5,165	4,423

**GAS DISTRIBUTION NETWORKS**

	units	2013	2012	2011
Gas distribution networks	km	9,996	9,875	9,690
Gas transport networks	km	0	470	445

## CLIENTS AND ENERGIES BY COMMERCIALIZATION TYPE

## ELECTRICITY MARKETING

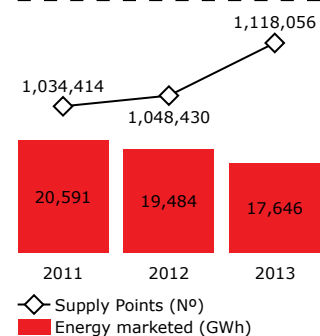
	units	2013	2012	2011
<b>Supply Points</b>	<b>Nº</b>	<b>1,118,056</b>	<b>1,048,430</b>	<b>1,034,414</b>
Last resort	Nº	255,761	277,527	316,728
Free market	Nº	862,295	770,903	717,686
EDP Spain's share	%	9.8	9.2	
<b>Energy marketed</b>	<b>GWh</b>	<b>17,646</b>	<b>19,484</b>	<b>20,591</b>
Last resort	GWh	608	709	833
Free market <sup>(1)</sup>	GWh	17,039	18,775	19,758
EDP Spain's share	%	9.6	9.9	

(1) Not including energy sold by UN Generación to CHC.

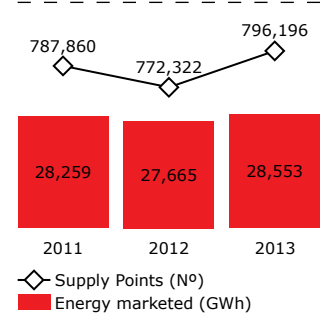
## GAS MARKETING

	units	2013	2012	2011
<b>Supply Points</b>	<b>Nº</b>	<b>796,196</b>	<b>772,322</b>	<b>787,860</b>
Last resort	Nº	73,060	87,595	
Free market	Nº	723,136	684,727	
EDP Spain's share	%	10.7	10.4	
<b>Energy marketed</b>	<b>GWh</b>	<b>28,553</b>	<b>27,665</b>	<b>28,259</b>
Last resort	GWh	354	410	
Free market	GWh	28,199	27,254	
EDP Spain's share	%	10.3	9	

## ELECTRICITY MARKETING



## GAS MARKETING

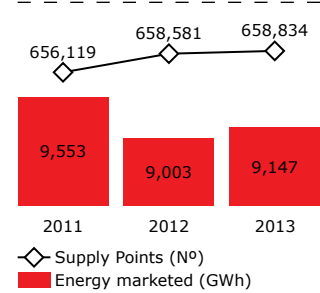


## GAS SUPPLY POINTS &amp; ENERGY DISTRIBUTED

## ELECTRICITY DISTRIBUTION

	units	2013	2012	2011
<b>Supply Points</b>	<b>Nº</b>	<b>658,834</b>	<b>658,581</b>	<b>656,119</b>
Low voltage (<1 kV)	Nº	657,707	657,459	655,004
Medium voltage (>1 kV y < 36 kV)	Nº	1,104	1,098	1,091
High voltage (> 36 kV)	Nº	23	24	24
<b>Energy distributed</b>	<b>GWh</b>	<b>9,147</b>	<b>9,003</b>	<b>9,553</b>
Low voltage (<1 kV)	GWh	2,483	2,491	2,461
Medium voltage (>1 kV y < 36 kV)	GWh	1,260	1,260	1,279
High voltage (> 36 kV)	GWh	5,405	5,252	5,812

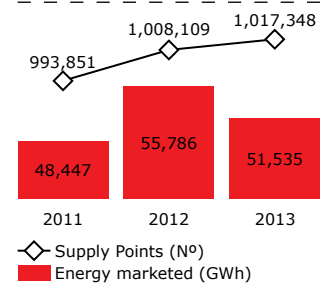
## ELECTRICITY DISTRIBUTION



## GAS DISTRIBUTION

	units	2013	2012	2011
<b>Supply Points</b>	<b>Nº</b>	<b>1,017,348</b>	<b>1,008,109</b>	<b>993,851</b>
<b>Energy transported</b>	<b>GWh</b>	<b>51,535</b>	<b>55,786</b>	<b>48,447</b>

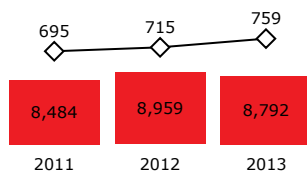
## GAS DISTRIBUTION





### 4.2.3. ENVIRONMENTAL DATA

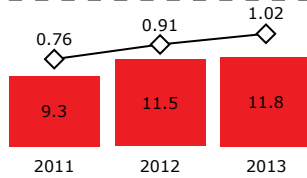
#### CO<sub>2</sub> EMISSIONS



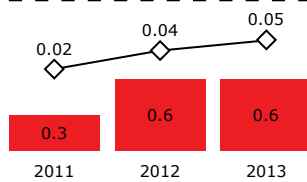
#### SO<sub>2</sub> EMISSIONS



#### NO<sub>x</sub> EMISSIONS



#### PARTICULATE EMISSIONS



◇ Specific emissions (g/kWh)  
 ■ Total emissions (kt)

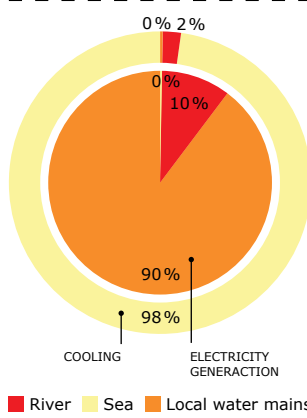
#### ATMOSPHERIC EMISSIONS

	units	2013	2012	2011
<b>TOTAL EMISSIONS</b>				
CO <sub>2</sub>	kilotons	8,792	8,959	8,484
SO <sub>2</sub>	kilotons	9.7	12.2	6.4
NO <sub>x</sub>	kilotons	11.8	11.5	9.3
Particulates	kilotons	0.6	0.6	0.3
<b>SPECIFIC EMISSIONS</b>				
CO <sub>2</sub>	g/kWh	759	715	695
SO <sub>2</sub>	g/kWh	0.84	0.97	0.52
NO <sub>x</sub>	g/kWh	1.02	0.91	0.76
Particulates	g/kWh	0.05	0.04	0.02

100

NEVERENDING ENERGY

#### WATER ABSTRACTION



#### WATER

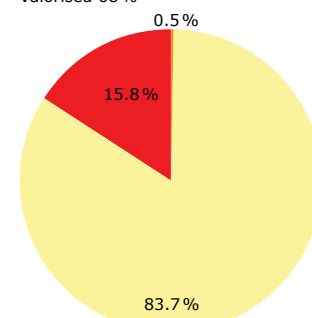
	units	2013	2012	2011
Cooling water	m <sup>3</sup> x10 <sup>3</sup>	477,351	446,930	437,482
Electricity generation	m <sup>3</sup> x10 <sup>3</sup>	1,887	2,366	2,267
Water recovered of water abstracted	%	99	99	

**WASTE & BY-PRODUCTS**

	units	2013	2012	2011
Total hazardous waste	Tons	1,545	1,211	
Total non-hazardous waste	Tons	278,756	355,902	
Total by-products	Tons	52,587	60,984	
Total produced	Tons	332,888	418,097	
Total valorised	Tons	226,295	325,818	

**WASTE & BY-PRODUCTS**

Valorised 68%



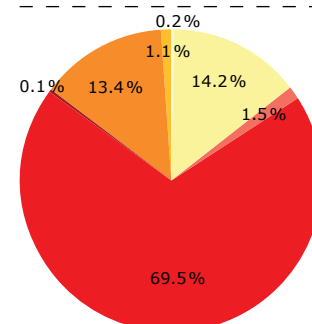
■ Total hazardous waste  
■ Total non-hazardous waste  
■ Total by-products

**INTERNAL CONSUMPTION**

	units	2013	2012	2011
Plant self supply of electricity	GWh	657	694	609
Electricity distribution network losses	GWh	372	360	344
Electricity consumed by administrative services	MWh	4,234	6,294	
Gas consumed by administrative services	MWh	4,234	17,489	17,156

**FUEL CONSUMPTION**

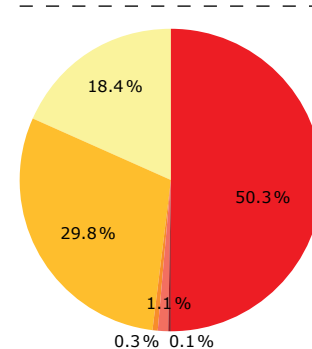
	units	2013	2012	2011
Fuel-oil	TJ	132	152	164
Natural gas	TJ	11,316	19,587	27,419
Coal	TJ	55,430	64,507	48,258
Gas-oil	TJ	92	142	124
Blast-furnace gas (GHA)	TJ	10,719	7,375	9,470
Coke Oven gas (GBC)	TJ	842	682	1,507
Basic Oxygen Furnace Gas (GLD)	TJ	1,173	1,329	1,668

**FUEL CONSUMPTION**

■ Fuel-oil  
■ Natural gas  
■ Coal  
■ Gas-oil  
■ Blast-furnace gas (GHA)  
■ Coke Oven gas (GBC)  
■ Basic Oxygen Furnace Gas (GLD)

**OTHER CO<sub>2</sub> EMISSIONS**

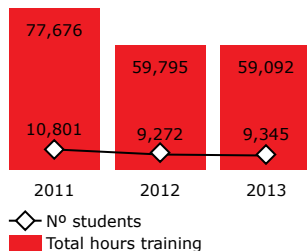
	units	2013	2012
Own fleet	Tons	963	979
Own fleet: electric cars	Tons	1	1
Own fleet: natural-gas powered cars	Tons	21	0
Rail	Tons	6	4
Air	Tons	570	757
Hire-cars	Tons	352	328

**OTHER CO EMISSIONS**

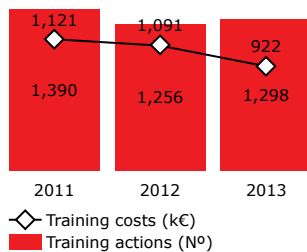
■ Own fleet  
■ Own fleet: electric cars  
■ Own fleet: natural-gas powered cars  
■ Rail  
■ Air  
■ Hire-cars

### 4.2.4. CORPORATE INDICATORS

#### TRAINING HOURS & STUDENTS



#### TRAINING ACTIONS & COST PER ANNUM



#### EMPLOYEE DATA

	units	2013	2012	2011
Employees	Nº	1,612	1,645	1,679
Female employees	%	24	23	23
Overall satisfaction index	Score	73	n.a.	76
Turnover	%	1.9	1.5	2.3
Average age of employees	Years	47	45	45
Absenteeism rate in the electricity business	%	3.52	3.66	3.40
Absenteeism rate in the gas business	%	3.49	4.02	
Employee remuneration costs	k€	108,173	109,227	108,046
Pension plan contributions	k€	3,436	3,675	3,558

#### TRAINING

	units	2013	2012	2011
Total hours training	Hours	59,092	59,795	77,676
Employees with training	Nº students	9,345	9,272	10,801
Training actions	Nº	1,298	1,256	1,390

#### OCCUPATIONAL RISK PREVENTION DATA

##### Own personnel

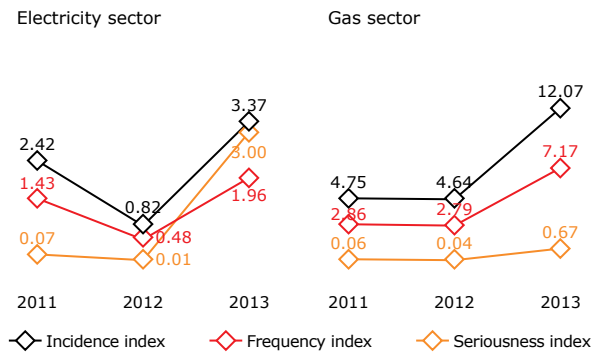
Index	(1)	2013	2012	2011
Incidence index: electricity business	(1)	3.37	0.82	2.42
Frequency index: electricity business	(2)	1.96	0.48	1.43
Severity index: electricity business	(3)	3.00	0.01	0.07
Incidence index: gas business	(1)	12.07	4.64	4.75
Frequency index: gas business	(2)	7.17	2.79	2.86
Severity index: gas business	(3)	0.67	0.04	0.06

##### External personnel

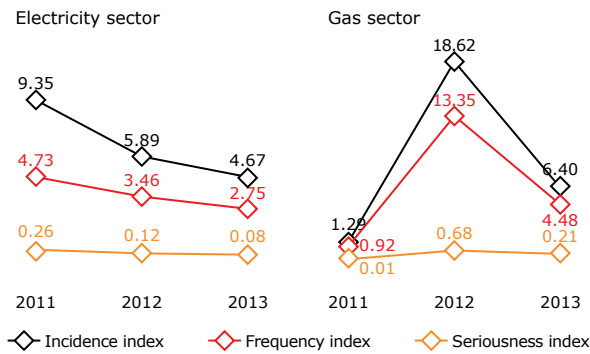
Index	(1)	2013	2012	2011
Incidence index: electricity business	(1)	4.67	5.89	9.35
Frequency index: electricity business	(2)	2.75	3.46	4.73
Severity index: electricity business	(3)	0.08	0.12	0.26
Incidence index: gas business	(1)	6.40	18.62	1.29
Frequency index: gas business	(2)	4.48	13.35	4.84
Severity index: gas business	(3)	0.21	0.68	0.01

(1) N° of accidents resulting in time off work/persons exposed \*10<sup>3</sup>  
 (2) N° of accidents resulting in time off work/hours worked\*10<sup>6</sup>  
 (3) N° working days lost/hours worked\*10<sup>3</sup>

#### HEALTH & SAFETY RATES - Own personnel



#### HEALTH & SAFETY RATES - External personnel

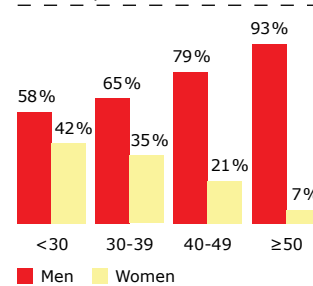


### ELECTRICITY BUSINESS

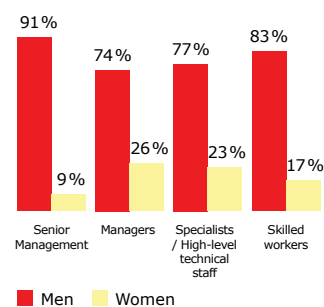
2013	TOTAL	MEN	WOMEN
<b>TOTAL WORKFORCE<sup>(1)</sup></b>	<b>1,197</b>	<b>964</b>	<b>233</b>
<b>BY AGE</b>			
< 30	24	14	10
30-39	321	209	112
40-49	369	290	79
≥ 50	483	451	32
<b>BY PROFESSIONAL CATEGORY</b>			
Senior Management	67	61	6
Managers	203	151	52
Specialists / High-level technical staff	295	226	69
Skilled workers	632	526	106
<b>AVERAGE AGE OF WORKFORCE</b>	<b>47</b>		

(1) Data as of 31 December, including all personnel from Saltos del Navia and CHC Energía.

EMPLOYEE PROFILE  
BY AGE  
Electricity sector



EMPLOYEE PROFILE  
BY PROFESSIONAL CATEGORY  
Electricity sector

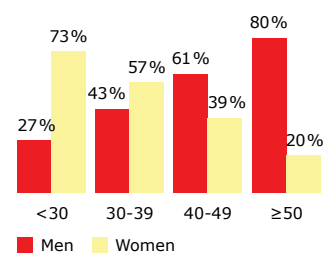


### GAS BUSINESS

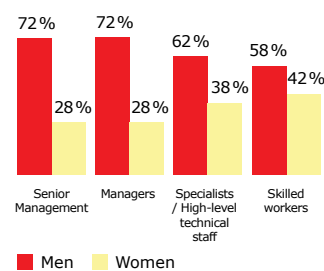
2013	TOTAL	MEN	WOMEN
<b>TOTAL WORKFORCE<sup>(1)</sup></b>	<b>415</b>	<b>263</b>	<b>152</b>
<b>BY AGE</b>			
< 30	11	3	8
30-39	100	43	57
40-49	133	81	52
≥ 50	171	136	35
<b>BY PROFESSIONAL CATEGORY</b>			
Senior Management	25	18	7
Managers	112	81	31
Specialists / High-level technical staff	92	57	35
Skilled workers	186	107	79
<b>AVERAGE AGE OF WORKFORCE</b>	<b>47</b>		

(1) Data as of 31 December.

EMPLOYEE PROFILE  
BY AGE  
Gas sector



EMPLOYEE PROFILE  
BY PROFESSIONAL CATEGORY  
Gas sector





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TO BE CONTINUED...

*edp*





