

Sustainability Report for the REN Group 2009



Year **2009**

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About the report

The annual sustainability report of REN - Redes Energéticas Nacionais, SGPS, S.A. (referred to from now on as REN or the Group) covers the activities of the following companies: REN-Rede Eléctrica Nacional, REN Gasodutos, REN Armazenagem, REN Atlântico, REN Trading and REN Serviços, with the exception of economic data, which are consolidated to the REN Group. Whenever the scope of an indicator is not indicated, it should be assumed to be that of the report.

This comprehensive report has been drafted to the highest standards of sustainability reports in accordance with the GRI (G3), level A+. The information in our 2009 Sustainability Report can be supplemented by reading our 2009 Annual Report and Accounts and Corporate Governance Report or going to the REN website:

www.ren.pt.

Attached is a GRI correspondence table, which explains omissions or limitations of indicators whenever their scope differs from that of this report. The information in this Sustainability Report has been verified in accordance with the ISAE 3000 (International Standard on Assurance Engagements 3000), with reference to the Global Reporting Initiative, version 3 (GRI3) and the AA1000APS 2008 (Accountability Principles Standard), by an independent body, PricewaterhouseCoopers & Associados, SROC, Lda, in order to increase its credibility.

	C	C+	B	B+	A	A+
Self-declared						
Third-party checked						
Checked by GRI						

In 2009, REN's sustainability performance has been recognized with the following awards:

Recognition with distinction of Notable Global Compact's COP (Communication on Progress).



WE SUPPORT

REN has been a member since 2005.
www.unglobalcompact.org

CEEP/CSR European social responsibility label under the DISCERNO 3 project set up by the European Centre of Enterprises with Public Participation and Enterprises of General Economic Interest (CEEP).



REN is a member of:




WE SUPPORT




WE SUPPORT

Global Compact Network
Portugal

The display of this symbol in the report means that the chapter or subchapter is in line with the Global Compact principles.



BCSD Portugal
Conselho Empresarial para o
Desenvolvimento Sustentável



apee
Associação Portuguesa de Ética Empresarial



Chairperson's statement

At REN we are actively committed to providing energy to the community and contributing to the country's energy independence. Very few people recognize the key role that REN plays in society. Indeed, the expression "no news is good news" suits REN very well. It is mainly thanks to the reliability of the service we provide that we are able to calmly turn on our domestic appliances, switch on the lights in our homes and turn on our air conditioning in summer or heating in winter. It is the quality of our service that allows Portuguese companies, schools and hospitals to trust in their equipment day in and day out and provide the goods and services, many of which are vital to meet society's needs. It is our infrastructures that carry the energy that is supplied to distributors, which then make sure that it reaches end users. It is in our despatch centers that dozens of operators ensure a balance between customers' needs and producers' supply at all times - day and night, at weekends and on business days and holidays.

In recent years, Portugal has experienced a real revolution in the energy sector, with the markets' liberalization and the growing contribution made by renewable energy sources to generate electricity. In order to embrace the new challenges, REN kept its focus on innovation and technological development. It took part in a number of multinational projects and participated in dozens of committees and working groups of energy sector organizations from other countries, thereby keeping the company at the cutting edge of new technologies in energy transmission in both the electricity and natural gas sectors.

In 2009, REN invested an all-time high of 466 million euros. All the investments made this year respond to the country's energy needs that are essential to energy security and the competitiveness of Portuguese society. Our large investment made in infrastructures will make it possible to integrate in the system the electricity generated from wind power, from new natural gas combined-cycle power stations and new hydroelectric generation capacity from new dams or from the increased capacity of the existing ones. The reinforcement of electricity interconnections between Portugal and Spain has made it possible to improve the security and competitiveness of our country's energy supply. The entry into operation of another underground natural gas storage salt cavity and the begin work on increasing the storage and emission capacity of the Sines liquefied natural gas terminal have also stepped up the country's energy security and competitiveness.

In order to embrace the new challenges, REN kept its focus on innovation and technological development.

Meanwhile, we have continued to invest in environmental protection and preservation and in measures to reduce our contribution to climate change, on a voluntary or regulated basis. Important measures were taken in this area in partnership with NGOs and other bodies: the agreement to protect the nature reserve in the Santo André and Sancha lagoons, the systematic protection of biodiversity and the use

of renewable energies instead of other sources for operating our infrastructures. I would also like to mention an educational and entertaining television programme designed to raise young people's awareness of energy and environmental protection issues.

As signatories of the United Nations Global Compact, the largest world sustainable development initiative, we were recognized with distinction in 2009 for our commitment to complying with the 10 principles. As shown in our fifth sustainability report, stakeholder dialogue and engagement throughout the country continue to be a priority for REN, particularly when it comes to local communities directly affected by our infrastructures.

Within the company, in 2009, we invested in efficient human resources' management in order to ensure that our business activities are as competitive as possible and to reduce energy transmission costs without affecting the priorities of security and quality of service. This was also the year in which several employees went into pre-retirement in harmonious and mutual consent environment, thereby paving the way for the rejuvenation of the company. As a reference company in the energy sector and being deeply committed to improve the energy efficiency of our processes and facilities, we have prepared and are implementing a number of initiatives aimed to reduce our energy consumption and using endogenous and renewable energy, for example.

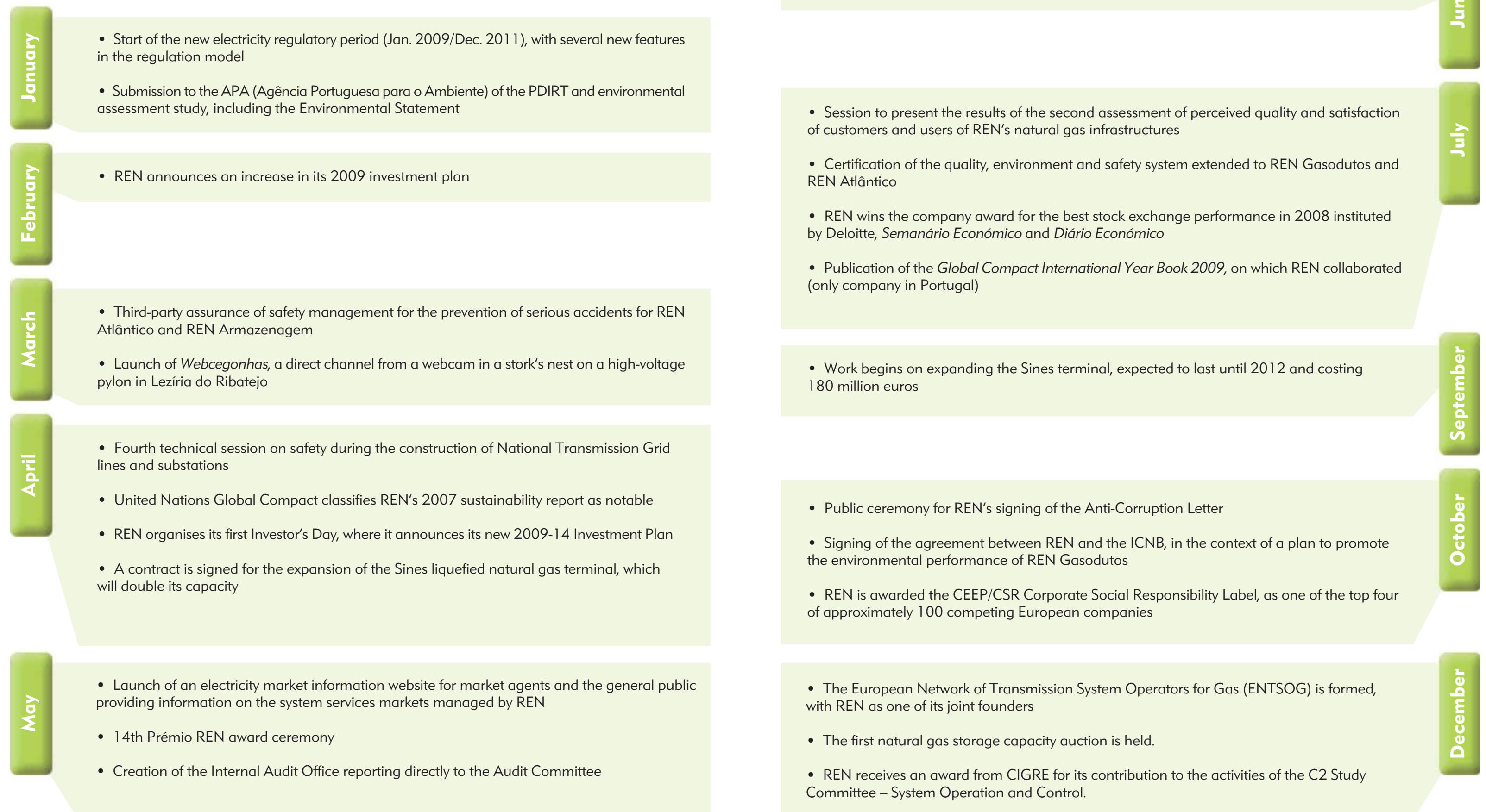
Finally, I would like to express my gratitude for the involvement and commitment of all those who, directly or indirectly, help REN to face its new business challenges with enthusiasm and within a framework of sustainability, to the benefit of all energy end users.



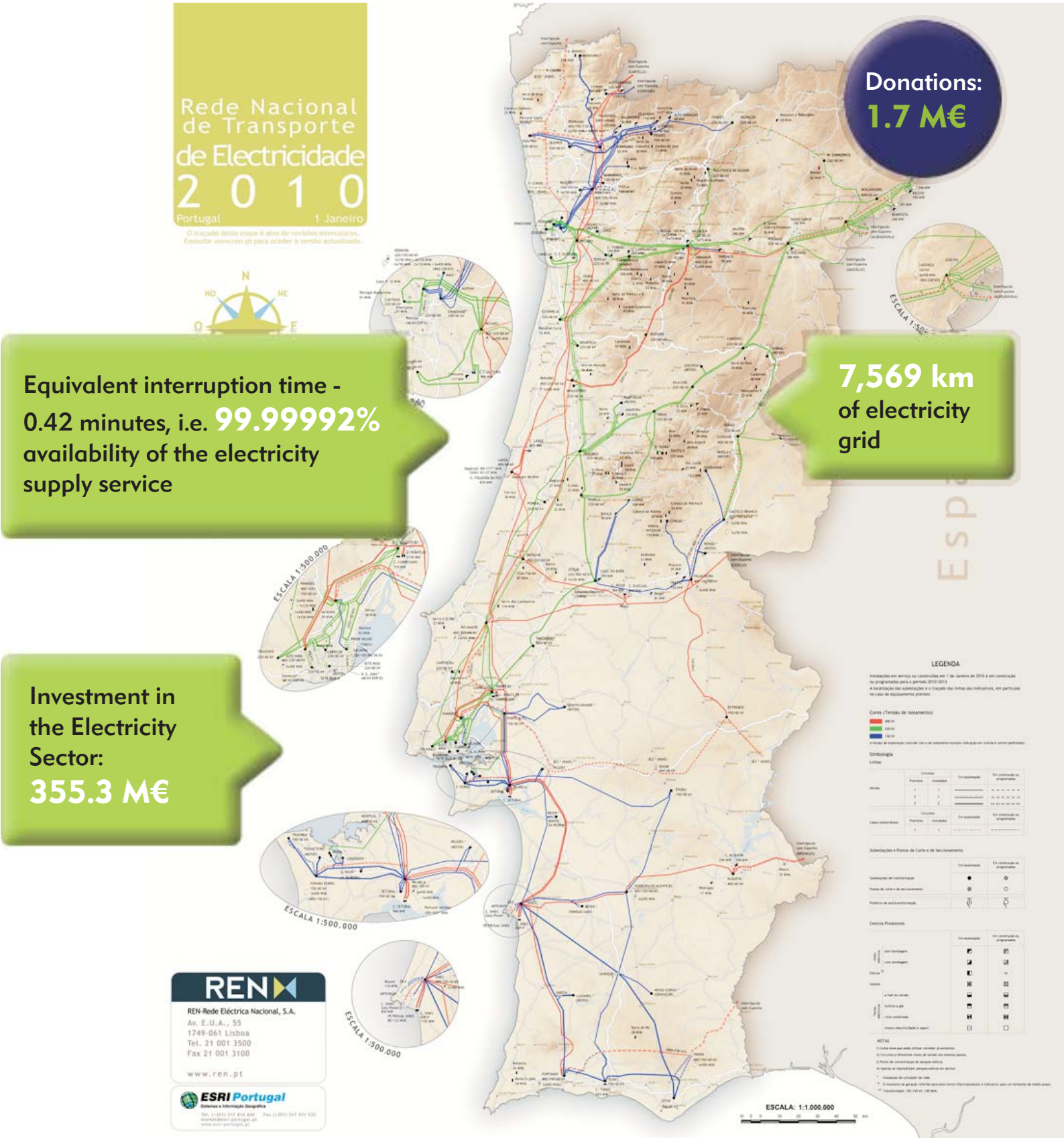
Rui Cartaxo
Chairperson
REN - Redes Energéticas Nacionais



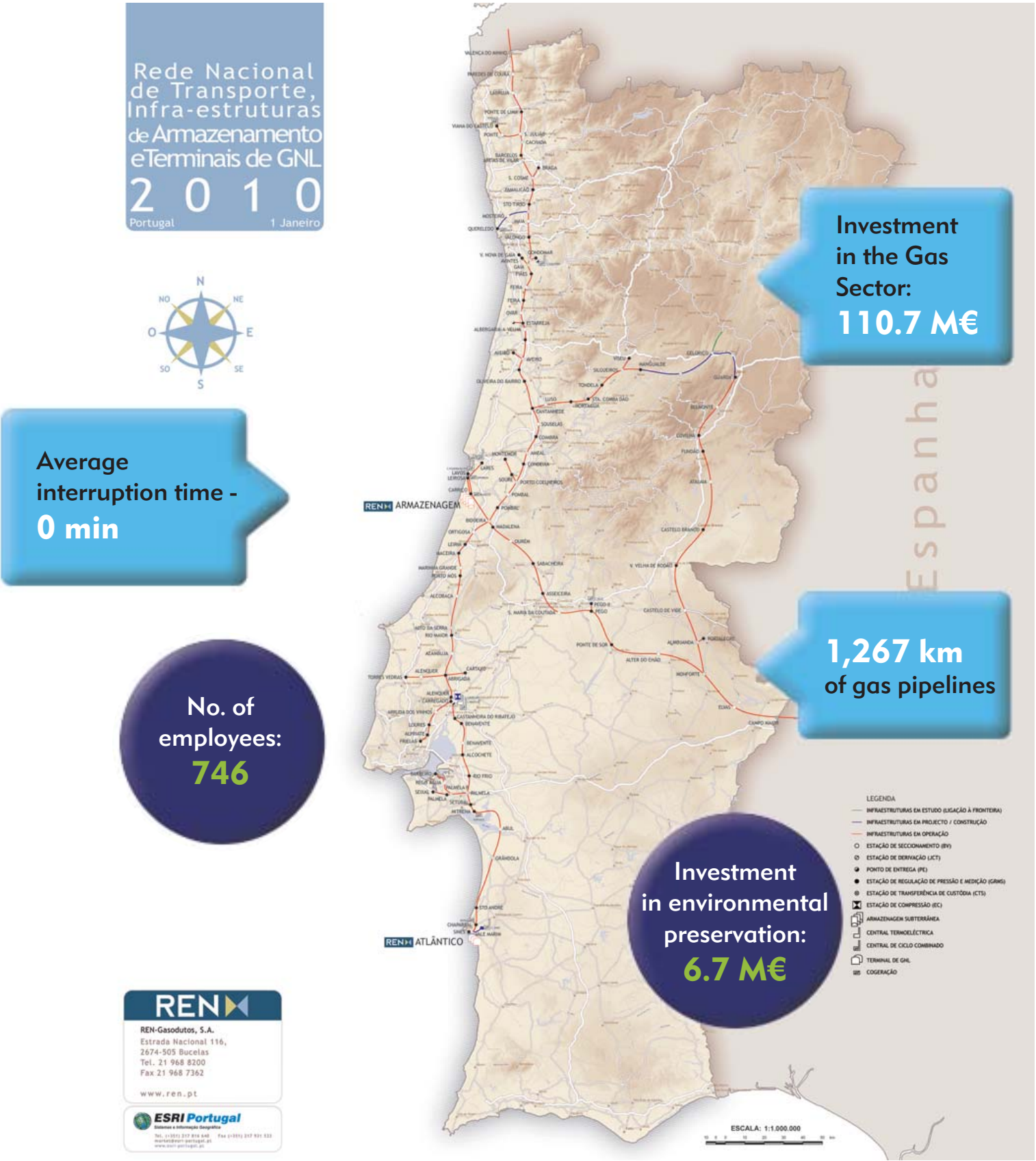
Significant events in 2009



Electricity grid



Gas network



Information up to date on 31 December 2009.

Mission statement



To guarantee the uninterrupted supply of electricity and natural gas at the lowest cost, meeting quality and safety criteria, maintaining the balance between supply and demand in real time, defending the legitimate interests of market agents and reconciling its missions as a system operator and network operator.



Vision

To be one of the most efficient European energy transmission operators while creating shareholder value within a sustainable development framework.



REN's values

Security of supply

To operate and develop the NTG and NGTI and the interconnections with Spain in order to guarantee the uninterrupted supply of energy meeting all quality criteria.

Neutrality

To guarantee to all participants in the electricity and natural gas markets, from generators and distributors to consumers, equal and non-discriminatory access to the grid.

Efficiency

To perform the tasks that are assigned in the most technically efficient way, contributing to the development of the country, for the well-being of its citizens and the creation of shareholder value.

Sustainability

To conduct its business in accordance with financial, social and environmental principles of sustainable development, with social responsibility and a commitment to research and human resources development.



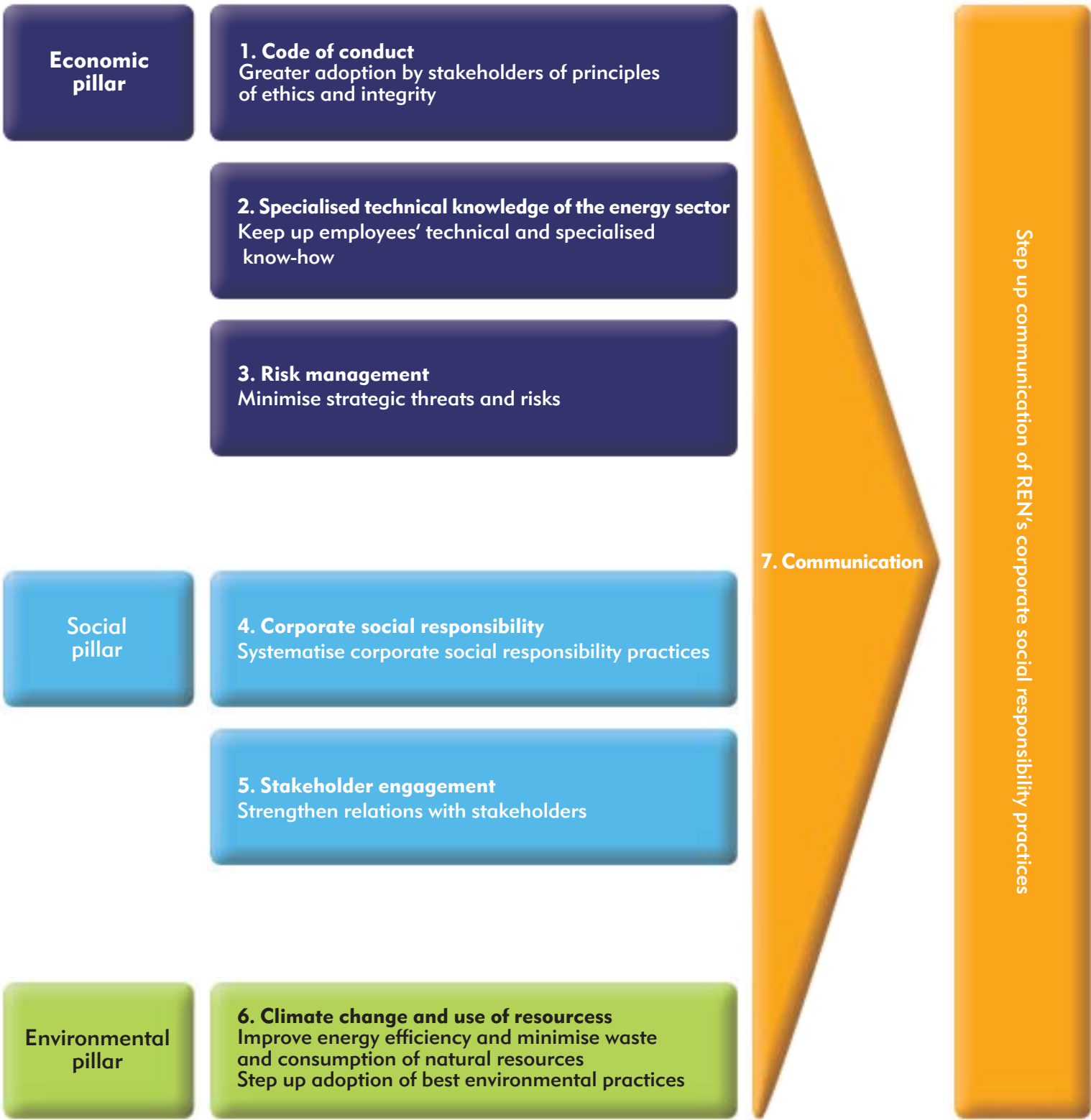
Commitments

What we said and what we did

Category	Goal or commitment for 2007-2009	Global Compact principle	Status	Done in 2009
Business	Reinforce risk management	2,3,6,7	<div><div></div></div> <div><div></div></div> <div><div></div></div> <div><div></div></div> <div><div></div></div> <div><div></div></div>	<ul style="list-style-type: none">• Harmonisation of risk management processes at Group level• Implementation of a new environmental and safety risk assessment procedure for REN’s activities• Second safety award to service providers with the best safety performance• Continued installation of equipment for analysing sulphur components at the gas network entry points with connections to the Spanish network• Management of trees and bushes in line corridors under municipal forest fire prevention plans• Creation of Internal Audit Office
Climate change	Implement measures to minimise REN’s impact on climate change		<div><div></div></div> <div><div></div></div>	<ul style="list-style-type: none">• Installation of solar panels at REN Gasodutos regulation and metering stations• Implementation of a reconditioning plan for circuit breakers using SF₆ in order to reduce emissions of this greenhouse gas
Environmental management	Adopt best international practices in the assessment and minimisation of environmental impact	7,8,9	<div><div></div></div> <div><div></div></div> <div><div></div></div> <div><div></div></div> <div><div></div></div> <div><div></div></div> <div><div></div></div>	<ul style="list-style-type: none">• Implementation of measures to minimise environmental impacts, especially on flora, fauna and noise and landscaping measures for REN’s new investment projects• Completion of energy and indoor air quality audits at REN buildings in Av. EUA, Sacavém (Building B), Bucelas and Pombal• Start of energy certification procedures at Vermoim, Sacavém (E and A) and Ermesinde buildings• Audit of REN Atlântico and REN Armazenagem facilities as part of the intensive energy consumption management system• Revision of environmental guidelines to be adopted by service providers• Start of implementation of environmental responsibility directive• Implementation of measures set out in PPDAs of gas sector companies
Human resources' management	Implement competence management system	6	<div><div></div></div>	<ul style="list-style-type: none">• Start of <i>Eficiência A+</i> project to implement new human resources' management processes and policies
Social responsibility	Redefine REN’s areas of action in community support and implement our social responsibility policy	1,2,3 4,5,10	<div><div></div></div> <div><div></div></div>	<ul style="list-style-type: none">• First phase of the <i>+ sustentabilidade</i> project aimed at implementing a social responsibility management system• REN’s joining of the Partnering against Corruption Initiative (PACI) on signing a letter addressed to the United Nations Secretary-General, Ban Ki-Moon

What we are going to do

REN's strategy of action for sustainability for 2010-2012 reflects the Group's commitment to sustainability. REN has established the following lines of action for seven main areas of intervention:



Area of intervention	Motivation	Main actions
1. Code of conduct	<ul style="list-style-type: none">Adoption of ethics and integrity principles by employees and other stakeholders	<ul style="list-style-type: none">Assess suitability of our code of conduct to social responsibility principlesStep up dissemination of the code of conduct
2. Specialised technical knowledge of the energy sector	<ul style="list-style-type: none">Keep up employees' specialised and technical know-how	<ul style="list-style-type: none">Guarantee the transfer of technical and specialised knowledge between generations of REN employees
3. Risk management	<ul style="list-style-type: none">Minimise strategic threats and risks	<ul style="list-style-type: none">Step up implementation of risk management model
4. Corporate social responsibility	<ul style="list-style-type: none">Systematise corporate social responsibility practices in a social responsibility management system and combine it with REN's certified integrated quality, environment and safety management system	<ul style="list-style-type: none">Extend the scope of procedures that are common to the Integrated quality, environment and safety management systemImplement the requirements of the social responsibility standard in order to step up REN's practices and policies in this area
5. Stakeholder engagement	<ul style="list-style-type: none">Improve employees' motivationImprove relations with REN's stakeholders	<ul style="list-style-type: none">Strengthen commitments to employeesDevelop a community engagement programmeReinforce relationship with and engagement of ownersPromote sharing of information and specialised knowledge by energy sector companies and organisations
6. Climate change and use of resources	<ul style="list-style-type: none">Reduce greenhouse gas emissions and improve efficiency in use of resources.	<ul style="list-style-type: none">Improve energy efficiency of facilities and operationsStep up use of renewable energies at facilities
7. Communication	<ul style="list-style-type: none">Recognition by society and employees of REN's sustainability practices in the different business aspectsREN stakeholders satisfactionConsolidation of REN's positioning in the field of new technologies, innovation and research	<ul style="list-style-type: none">Reinforce communication of REN's corporate social responsibility practices;Incorporate social responsibility principles in the selection and evaluation of suppliers;Improve mechanisms for handling complaints

1. About REN

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Key indicators

Economic	2007	2008	2009
Net profit (EUR millions)	145.2	127.4	134.0
Taxes (EUR millions)	1.2	1.2	0.7
Personnel costs (EUR millions)	42.6	49.7	48.0
Ordinary dividends distributed (EUR millions)	87.0	88.1	87.1
Total net assets (EUR millions)	3,970	3,823	4,294.1
Investment in R&D (million euros)	0.305	1.491	0.986**
Standard & Poor's rating – short term	-	A1	A1
Standard & Poor's - long term	-	A+	A+
Moody's – long term			A2
Direct economic value created (1)	315	314	314
Direct economic value distributed (2)	259	274	265
Direct economic value of shareholders held	56	40	48
Operating	2007	2008	2009
Electricity supplied (GWh)	49,308*	39,090*	51,084*
Length of electricity lines (km)	7,426	7,513	7,569
Number of substations & switching stations	65	69	73
Transformer capacity (MVA)	23,097	26,194	28,235
Natural gas supplied (billion m³)	4.1	4.5	4.6
Length of gas pipelines (km)	1,218	1,248	1,267
Capacity of LNG tanks (m³ (n))	2x 120,000	2x 120,000	2x120,000
Underground gas storage capacity (million m³)	66.3 (3)	66.3(3)	138.2
Environmental	2007	2008	2009
Environmental costs (EUR millions)	6.2	6.1	6.7
SF ₆ emissions (tCO ₂ eq)	1,167	396	683
Emissions from grid electricity losses (tCO ₂ eq)	269,165	268,415	201,598
Social	2007	2008	2009
Number of employees	802	807	746
Donations (EUR millions)	0.9	1.0	1.7
Training (hours per employee)	22.9	16.7	23.1
Turnover (%)	2	5	10.59

(1) Direct economic value created is the sum of net value added (NVA) (366M€), net earnings not inherent in GVA (36M€), financial earnings (8M€), dividends from subsidiaries (3.3M€), minus other costs and losses (100M€).
(2) Direct economic value distributed – costs of employees and management bodies (48M€), dividends paid to shareholders (89.2M€), interest payments (76M€), taxes paid to the state (0.7M€) and corporate income tax (51M€) and donations to the community (1.7M€).
(3) The volume indicated in the following years is the maximum capacity available for commercial purposes, which is conditioned by the specific thermodynamics of storing natural gas at high pressure in salt caverns.
* As of January 2007, energy supplied included REN's physical deliveries plus production embedded in the distribution network.
** These figures do not include the costs of personnel participating in R&D activities.

1.1 REN’s profile

REN operates essentially in two business areas:

- The very high voltage transmission of electricity and the overall technical management of the National Electricity System, holding the public service concession for operating the only very high voltage transmission grid in mainland Portugal
- The high-pressure transport of natural gas and overall technical management of the National Natural Gas System, reception, storage and regasification of liquefied natural gas at an ocean terminal and underground storage of natural gas, holding the public service concessions in question

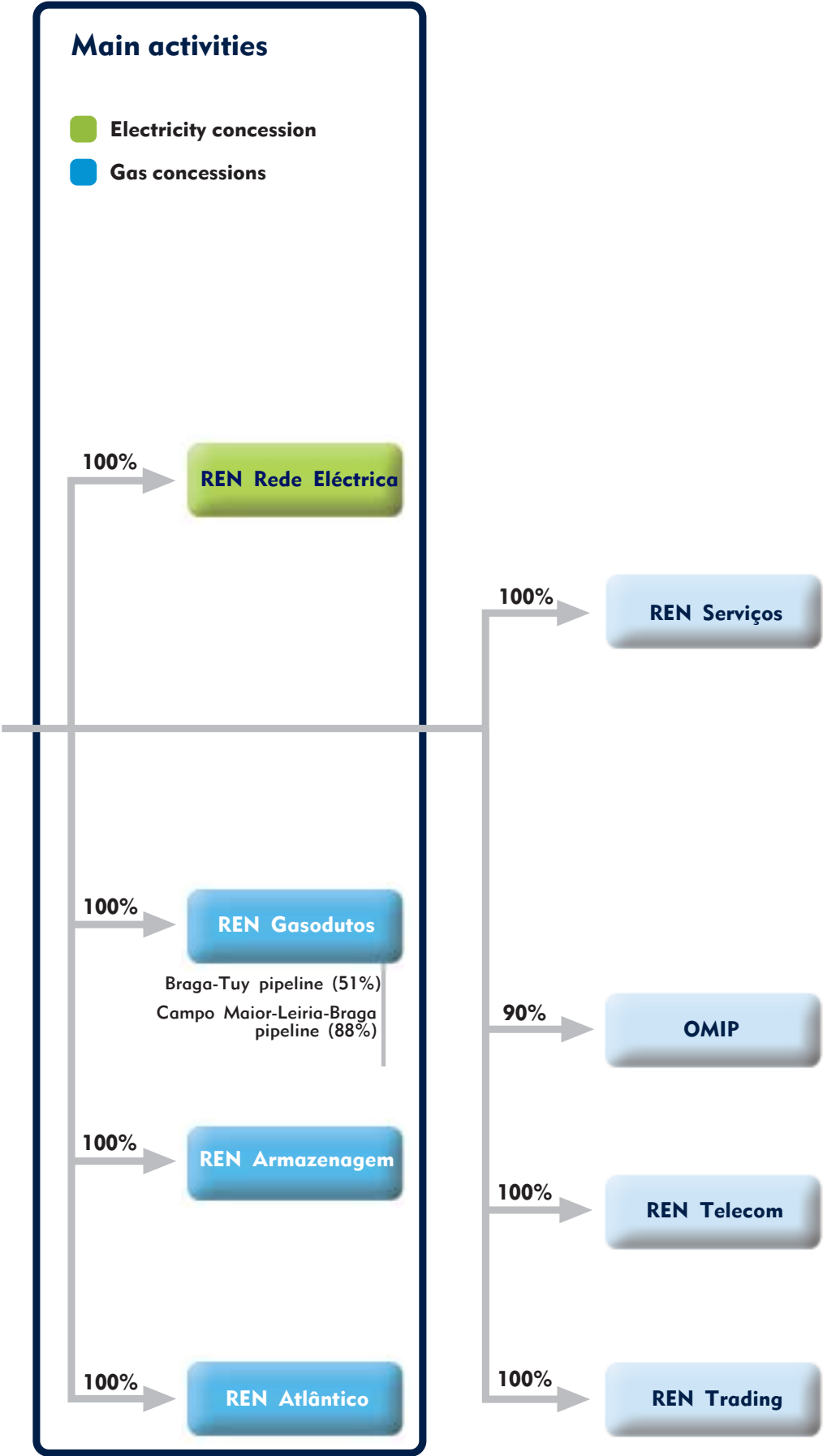
REN operates in a demanding regulatory framework defined by its public service concession contracts with the state and regulations set out by the Directorate-General for Energy and Geology (DGEG) and the Energy Service Regulator (ERSE), in order to allow a balanced, sustainable performance in the Group’s financial and business management.

REN’s economic regulation

In 2008, ERSE changed the economic regulation model for the electricity sector and introduced several incentives to electricity transmission at the beginning of 2009. In order to parameterise the incentive for new investments in electricity transmission, which involves regulatory valuation of these investments at “reference cost”, ERSE, in partnership with REN, requested a study on the matter so that the ERSE could take a position on it. In regard to the natural gas sector's economic regulation, in 2009 ERSE revised its regulations, which were subject to public consultation in November and a public meeting on 4 December. During this process, REN submitted to ERSE a proposal to amend the regulations in order to improve the companies’ efficiency and competitiveness and the sustainability of the sector.



REN also operates in the telecommunications business through REN Telecom. This company, which was originally set up to take advantage of the surplus capacity in the safety telecommunications network at REN – Rede Eléctrica Nacional, extended its services to the other Group companies. REN Trading was specially set up to manage the power purchase agreements (PPAs) that had not been terminated early, such as the PPAs covering the Pego and Tapada do Outeiro thermoelectric power stations in their management, sale and development. REN also has a shared service unit, REN Serviços, which provides the Group’s companies with business support services. REN is also involved in the energy supply business, through its 90% shareholding in Operador do Mercado Ibérico de Energia, S.A. (OMIP), the Portuguese centre of the Iberian market for the trading of electricity derivatives. The Portuguese government has also granted REN a concession for the management of a pilot area for generating electricity from wave energy in order to stimulate national and international research and investment in this high-potential field.



Case study

Project

REN publicly pledged to make the most of the synergies provided by the merger of the electricity transmission and natural gas transport, storage and regasification businesses, during the first privatisation phase of REN SGPS in July 2007. REN Serviços was set up for the purpose and went into operation in April 2008. The SINERGIAS Project involves the entire company and is designed to improve the quality and efficiency of the back-office services provided to the Group's companies by optimising processes, rationalising resources and reducing costs. In the first half of 2009, with the assistance of a consulting company specialised in optimising shared service centres, the first three phases of the project were performed, involving the following actions.

- 1. Identification and quantification of opportunities for rationalising processes and resources and reducing costs, by means of cost, quality and efficiency benchmarks per process.
- 2. Identification of 87 "initiatives", by benchmarking practices, the implementation of which will increase service quality and efficiency and reduce costs. These initiatives included reorganisation, process reengineering, system improvements and outsourcing opportunities.
- 3. Development of a first plan or commitment for implementing the initiatives between 2009 and 2011, with their resizing goals. Skills were also diagnosed in order to draft plans for training and the development of the necessary competences for achieving the planned improvements.

The fourth phase, Implementation of Initiatives, began in September 2009 and has been undertaken using the company's own resources only.

The following were the most important activities in this phase:

- Appointment of people in charge of implementing the initiatives approved by the Board of Directors and setting up of their teams
- Identification of critical initiatives and redesign of processes (ongoing)
- Estimation of any costs associated with initiatives
- Specification of effects of initiatives on information systems (ongoing)
- Identification and planning of quick-win initiatives
- Planning of implementation of remaining initiatives (ongoing)
- Drafting of training, qualification, retraining and retirement / pre-retirement plan (ongoing).

Of the 26 quick-win initiatives identified, the following had been implemented by the end of the year:

- Creation of an Administrative and Logistics Management Division
- Reduction in manual cheques
- Alignment of the organisation responsible for accounting and finance by process
- Harmonisation of financial policies of the gas and electricity businesses
- Decentralisation of loading of budget and automatisisation of forecasts
- Use of Intr@REN (intranet channel) as a tool for managing and sharing information during projects
- Centralisation of HR processes at corporate level
- Disintermediation of scheduling and management of occupational medicine exams
- Optimisation of single application pool to allow automatic data feed
- Implementation of call-centre management tool for the HelpDesk
- Reduction of geographical dispersal by centralising the resources of the Information Systems Division in Ermesinde, Sacavém and Av. E.U.A.
- Reformulation and/or formalisation of the quality, environmental and security governance and reporting model

Once this project has been completed, REN Serviços will have some of the best practices in processes, organisation and technology in the shared services sector.

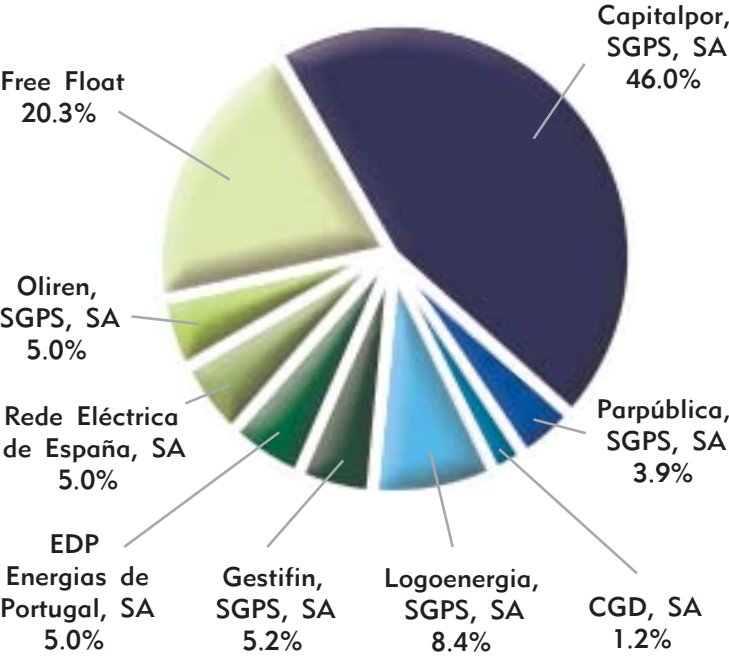
Shareholder structure

Some shareholdings were changed in 2009, including those owned by Parpública – Participações Públicas SGPS, S.A. (Parpública), Caixa Geral de Depósitos, S.A. (CGD) and Gestmin SGPS, S.A:

- Gestmin SGPS, S.A. announced that, due to a simple merger, REN’s shares and their voting rights would be transferred to Gestfin, SGPS, S.A., as at 31 December 2008.
- Parpública announced that it had purchased from CGD 20,826,000 non-privatised REN shares (type B) representing 3.9% of its share capital, meaning that Parpública directly or indirectly held 49.9% of REN’s voting rights.
- On 30 December, CGD directly owned 5,868,660 non-privatised type B shares representing 1.12% of REN’s share capital and voting rights and indirectly owned 331,895 reprivatised shares (type A) and therefore no longer owned a qualifying holding, pursuant to Article 20(1) of the CVM.

The shareholders were therefore as follows as at 31 December 2009:

Shareholder structure



Source: 2009 Annual Report and Accounts

Strategy

Main strategic guidelines

To foster environmental sustainability and research and development

- Promote initiatives that minimise the environmental impact of REN’s activity
- Be at the cutting edge of technology and grid performance

To focus on our main regulated activities in Portugal

- Develop the electricity transmission grid and natural gas transport network and prepare them for long-term needs
- Raise technical competences

Create an integrated energy infrastructure

- Lead the integration of transmission, transport, storage and management of the electricity grid and natural gas network infrastructures

To improve operating performance and quality of service

- Achieve cost efficiency
- Increase safety and reliability of networks

To strive for an efficient capital structure

- Optimise capital structure
- Maintain and solid credit rating

To maximise shareholder value

- Create value for shareholders
- Create a competitive level of dividend distribution

In line with its business strategy, in March 2009 REN began a project called “+Sustentabilidade”, which has the support of an external consultancy firm. The design of the project should be completed in July 2010 and is intended to improve the inclusion of sustainability in the organisation’s different business processes.

Main developments in 2009:

- Reassessment of stakeholders’ importance, including identifying their needs and expectations**
- Identification and mapping of most important stakeholders
 - internal group meetings and interviews with employees
 - Individual interviews with 12 outside entities representative of the main interest groups
 - Validation of issues that are materially relevant to REN and the energy sector in terms of sustainable development
 - Diagnosis of compliance with the principles of the inclusion, relevance and response of standard AA1000 APS (2008)

- Alignment with best national, international and sector practices and strengthening of REN’s positioning in terms of sustainable development**
- Participation in surveys on REN’s performance (e.g. Carbon Disclosure Project 2009)
 - Preparation of a 2010-2012 sustainability action plan

- Diagnosis of the current situation and planning of implementation of a social responsibility management system under standards SA8000 and NP4469-2007**
- Internal and external communication of performance and commitments**
- Project to restructure the REN website on sustainability matters
 - Publication of a brochure on REN’s sustainability performance in 2008



1.2 Governance model

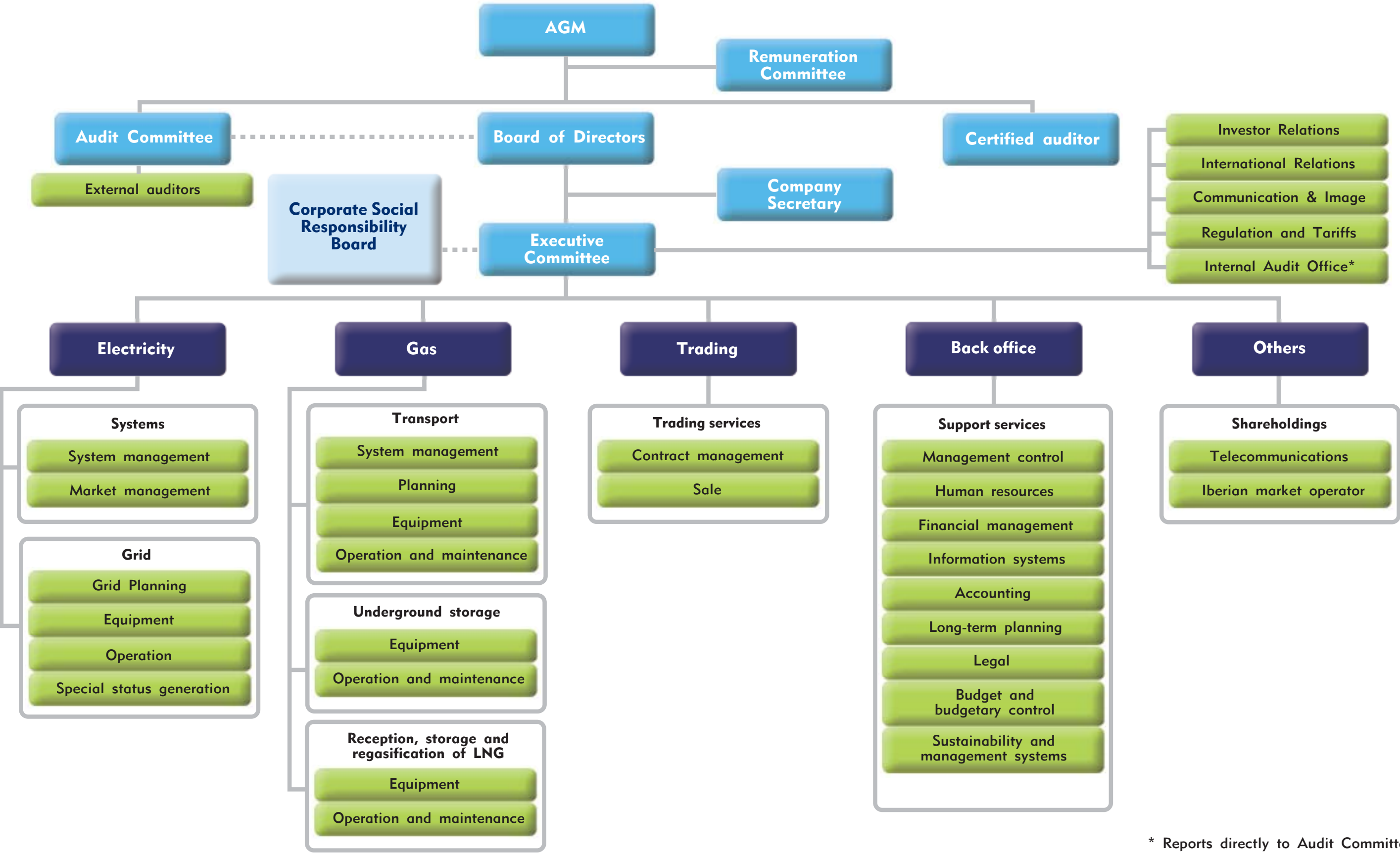
REN has a corporate governance model in which the Board of Directors runs the company, its Executive Committee is responsible for everyday management and the Audit Committee supervises and monitors its activity. The certified auditor examines the company’s financial statements.

The Board of Directors consists of 13 members, three of whom are on the Audit Committee. In 2009, the Board of Directors included eight non-executive members, four of whom were independent.

On sustainability matters REN’s Executive Committee is assisted by the Sustainability and Management Systems Division at REN Serviços, which manages and implements the strategy set out by the Executive Committee and monitors the Group’s sustainable development agenda.

In this context, the Executive Committee has appointed a **Corporate Social Responsibility Board**, which is its advisory body on strategic sustainability matters.

Corporate Social Responsibility Board



* Reports directly to Audit Committee

For more information on REN's functional structure and corporate governance, go to:

- www.ren.pt > Corporate Governance
- 2009 Corporate Governance Report

Conduct



Fight all forms of corruption

The behaviour, actions and decisions of employees at Group companies must abide by the principles, codes and responsibilities in their relations with market agents, regulators, official bodies and service providers.
The ethical principles and values governing the relationship between employees and with third parties

are set out in codes and policies that REN publishes and subscribes, such as the REN Code of Conduct. There is an in-house whistleblowing channel for informing the Audit Committee of irregularities and violations of ethical codes and principles. Since 2005, REN subscribes the ten Global Compact principles on human rights, labour relations, environmental preservation and the fight against corruption.



Response to all Global Compact principles

Codes and policies	Principles
Code of Conduct	REN's Code of Conduct covers areas like: equal treatment and non-discrimination, duty of loyalty, independence and responsibility, conflicts of interest, relations with shareholders, regulatory and supervisory bodies and suppliers and compliance with legislation.
Specific codes of conduct	These are currently being revised with a view to the adoption of a single code that defines ethical principles of conduct with regard to the functional independence of the electricity transmission grid operator and the natural gas infrastructure operators
Global Compact www.globalcompact.org	This was a commitment made in 2005 to abide by 10 fundamental principles in the areas of human rights, labour rights, environmental protection and the fight against corruption.
International Anti-corruption Letter	In order to step up REN's performance in the fight against corruption, in 2009, REN joined the different Portuguese companies and associations that signed the international charter against corruption, designed to draw attention to the importance of the issue.
Quality, environment and safety policy	It includes the principles that guide REN's activities in terms of environmental protection. It lays down guidelines on quality of service and compliance with contractual requirements. It sets out guidelines for reducing the number of accidents by minimising exposure to risk. It lays down the principles for preventing serious accidents involving hazardous substances and occupational accidents and diseases in order to maintain high standards of safety and occupational health. It sets out the principles for, internally and in partnership with other entities, fostering research and development and innovation in services provided, corporate organisation, processes and communication.
Social responsibility policy	It expresses a commitment to respect human rights, guarantee equal opportunities, a balance between employees' personal and working lives, minimisation of environmental impacts, support for initiatives with communities and society as a whole and the fight against corruption.
Company and HIV Code of Conduct	It sets out a commitment not to discriminate against people who are HIV positive, help to disseminate information on HIV infection and facilitate access to health care and social protection on an equal footing.
To access these policies, go to: www.ren.pt	

1.3 Risk management

Managing risk is intrinsic to the short-, medium- and long-term management of REN's activities. In 2009, REN set up an Internal Audit Office, which it tasked, among other duties, with revising risk management and internal control policies and assessing implementation of internal controls on activity and risk management at strategic and top level, including management of the Group's risk matrix.
From an operational point of view, the Internal Audit Office reports to the Audit Committee.

Audit Committee's Responsibilities

The Audit Committee has authority and is subject to the duties laid down by law and REN's articles of association. In particular, it is responsible for:

- Supervising the company's management and ensuring compliance with the law and its articles of association
- Checking the accuracy of the accounting documents prepared by the Board of Directors and supervising their revision
- Overseeing the preparation and publication of financial information
- Proposing a certified auditor to the AGM
- Convening an AGM whenever its chairperson fails to do so.

The Audit Committee's plan of activities for 2009 included a number of measures for monitoring internal control systems, in order to:

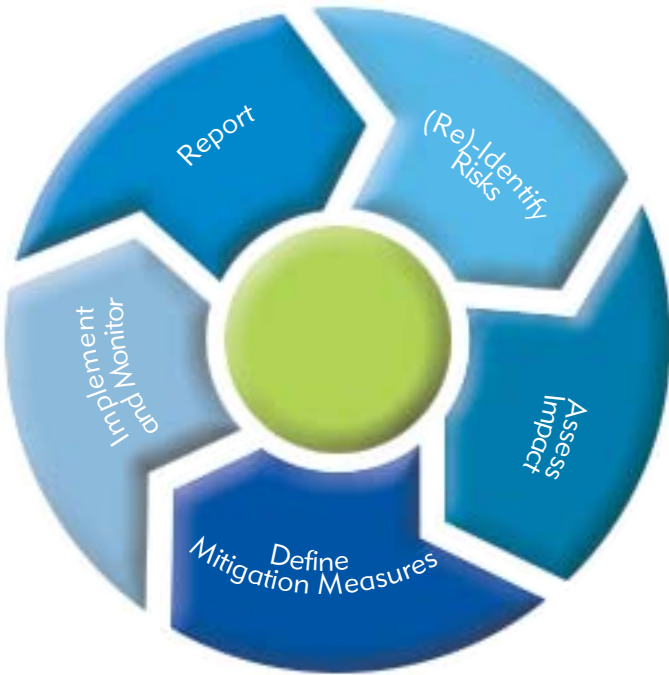
- Identify business and internal control risks with an impact on financial information as soon as possible
- Analyse the information processing system
- Detect risks of fraud
- Control risks arising from the Group's activities, especially in areas subject to the most important operating risks
- Ensure the conformity of the Group's operations and transactions with the law, regulations and the company's regulations and general policies

REN has pinpointed as the most important risks to the Group's activity:

- The regulatory risk
- The operating risk
- The financial risk
- The human resources' risk
- The information technologies risk

Risk assessment takes account of the probability and impact on the businesses in REN's chain of value. The combination of these two variables defines the overall impact of the risk on REN's activity (severity) and therefore priority of action.

Chart for Methodology in Managing Risk



Operating risk

The effectiveness of REN's operating risk control enables us to achieve high levels of service, which are described in the chapter "Guaranteed supply and continuity in energy transmission and transport". Measures for the prevention or possible mitigation of effects on the reliability, guarantee and quality of service are established for the different types of risk identified, regardless of their potential impact. The high-pressure natural gas transport network is continuously monitored from the Main Despatch Centre in Bucelas, whose redundancy is guaranteed by a similar facility in Pombal, the Emergency Despatch Centre. Whenever an anomaly in the national natural gas system (SNGN) detected by or reported to the RNTGN operator's Despatch Centre may potentially develop into a crisis or emergency, the centre's actions are governed by a specific procedure for "crisis situations". This procedure is based on the principles, definitions and classifications in the REN Gasodutos Safety Manual and Safety and Emergency Plan. In order to ensure that the Emergency Despatch Centre operates correctly, there is an annual drill in which supervision and control of the system is transferred to it from the Main Despatch Centre, as set out in the internal contingency plans in the operational and system support fields.

The electricity grid has a control and an operation centre that complement each other and can provide both functions in the event of a disaster. Both have the same IT capacities. Their system servers are geographically separated in order to guarantee supervision of the electricity system in the event of a disaster at either one. The Control Centre manages the national electricity system, interconnections and dispatchable electric power stations. The Network Operation Centre supervises the functioning and remote operation of the national transmission grid facilities and manages the interface with the high-voltage distribution grids.

www.ren.pt > Electricit y > Real Time Information (Centro de Informação) > Publicações > Manuais de Procedimentos

The management of strategic infrastructures entails taking action to mitigate risks that jeopardise quality of service, the integrity of infrastructures, uninterrupted supply and the safeguard of neighbouring areas at different levels:

Planning

- **Electricity** - Sophisticated simulation tools are used to forecast and study generation division scenarios, international exchanges and electricity consumption at each point in the grid representative of the overall operation of the SEN in order to guarantee balanced development of the system to meet users' quality of service needs. The grid's expansion takes account of safety criteria and standards approved by ERSE. They abide by ENTSO E guidelines, in particular in order to guarantee that an isolated failure of any grid component does not jeopardise the system's safety or supply.

The safety of infrastructures is regularly checked. The overhead line between both the Sines refinery and substation was recently submitted to an inspection by the Directorate-General for Energy and Geology (DGEG).

- **Gas** - The development of RNTIAT infrastructures is planned upon request of new consumption points' connection to the network as well as upon forecasts of demand growth, based on econometric models, and peak demand forecasts on the basis of their historical evolution, including the distribution by nature of the different market segments and their geographical distribution. This information is used in simulation tools that forecast and determine the appearance of possible congestion and test and optimise solutions for problems before they occur. Where satisfaction of demand and security of supply are concerned, these models help estimate natural gas and liquefied natural gas storage needs and requirements for additional entry or exit points in the high-pressure transport network. This is in order to meet market agents' needs and satisfy, at long term, the n-1 redundancy criterion for the infrastructure that contributes most to the country's gas supply.

Design and construction

- **Electricity** - In this phase, the latest, most reliable technologies are used in equipment, machines and automation and protection systems. REN complies with the latest European regulatory standards on the design of lines and substations and technical planning, construction and maintenance procedures are based on certified quality, environment and safety management systems. Where the protection of people and property are concerned, such as health, REN follows national regulations and World Health Organisation recommendations. We also regularly monitor significant parameters.
- **Gas** - Top quality materials, equipments and construction techniques and strict inspection and testing methods are used, which have contributed to high-level performance and guaranteed infrastructure quality.

Operation and maintenance

- **Electricity** - All electricity transmission grid infrastructures are constantly supervised by means of automation and protection systems at substations, which communicate in real time with the system managers' two control rooms via the REN safety telecommunications network. In the event of a disruption (incident), the first possibility is remote action to restore service or reconfigure the grid. Only when necessary are the assistance teams strategically positioned throughout the country called on to intervene. It is also possible to use service providers' resources to quickly and effectively restore any infrastructure affected by an emergency. Maintenance work is essentially planned and preventive in nature. All facilities are periodically inspected. Overhead lines are inspected by helicopters specially equipped to detect technical failures and distances to obstacles that may endanger their operation. The methods and efficiency of maintenance work have been subject to international benchmarking every two years since 1998. The results have been highly positive and the national electricity grid was in the most efficient group with the best overall performance in 2009.



- **Gas** – Every day, the system's technical management validates programmes and appointments for moving gas from market agents and checks its coherence and compatibility with the RNTIAT infrastructures and interconnections with the Enagás (Spanish counterpart) network. Where high-pressure transport is concerned, look-ahead supply and demand profiles are generated and physical feasibility analyses are conducted with system simulation tools, starting from the real process variables taken from the SCADA system database. This system is used for real-time monitoring of the behaviour of the entire high-pressure transport system. All monitoring and simulation tools are available at the main and emergency despatch centres (redundant facility), with synchronised updates of their databases. The implementation of maintenance management software will enable us to record and control all maintenance work and management and quality of service indicators and subsequently publish them. Also in this field, in the last quarter of 2009, at a pilot unit, REN began implementing a new maintenance method, RCM II (Reliability Centred Maintenance), which will identify types of malfunction, place them in order, pinpoint the effects and define economically justified maintenance work to repair them. REN is also currently implementing a system for the combined use of GPS and laser sensors and digital video cameras for a more effective, complete analysis of infrastructure integrity. We currently carry out control, monitoring, maintenance, cleaning, inspections and erosion assessments, among others.

In construction and maintenance activities, in addition to its own human resources, REN also has high-quality portuguese and international suppliers to guarantee grid and network safety. Their excellence is reflected in operating indicators. The following safety control mechanisms are also important in monitoring the electricity grid and gas network infrastructures:

- In-house simulations
- On-site supervision of safety conditions
- Audits of the safety management system
- SEVESO Directive audits of REN Atlântico and REN Armazenagem

Additionally, in order to guarantee the technological recovery of information systems in the event of a disaster, REN has a technological recovery plan, which articulates with the Group's internal emergency plans for the facilities aimed at business continuity. Pursuant to the Environmental Liability Directive, in 2009 REN began negotiations with insurers to set up an insurance or similar product including the activities covered by the directive.



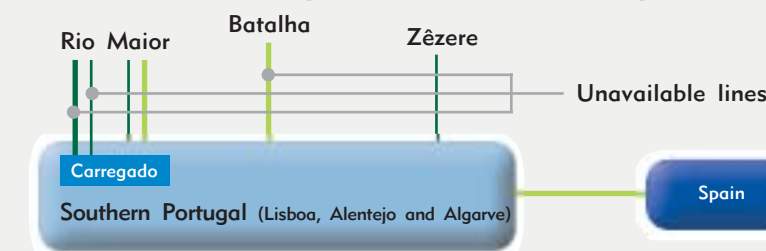
Incidents in the national transmission grid in the western area and in the Algarve on 23 December 2009

The electricity transmission grid was seriously affected by a storm in western Portugal in December 2009, though the energy supply was not interrupted. This was thanks not only to the redundancy of the grid and the planning of infrastructures but also to annual unavailability planning, which uses strict risk analysis and close communication between all areas to avoid the elimination of redundancies

during work on the grid in order to ensure continuity of supply and minimise effects on level of service.

The storm was extraordinary and highly unusual considering the country's latitude and climate pattern, with winds of around 195 kph.

Incidents in the grid in western Portugal



In the REN universe, only REN Atlântico and REN Armazenagem are covered by the SEVESO directive, as they are the only companies that store natural gas, one in liquid state and the other in a gaseous state, in quantities exceeding the lower limit set by legislation. Both companies have safety management systems in place to prevent serious accidents.

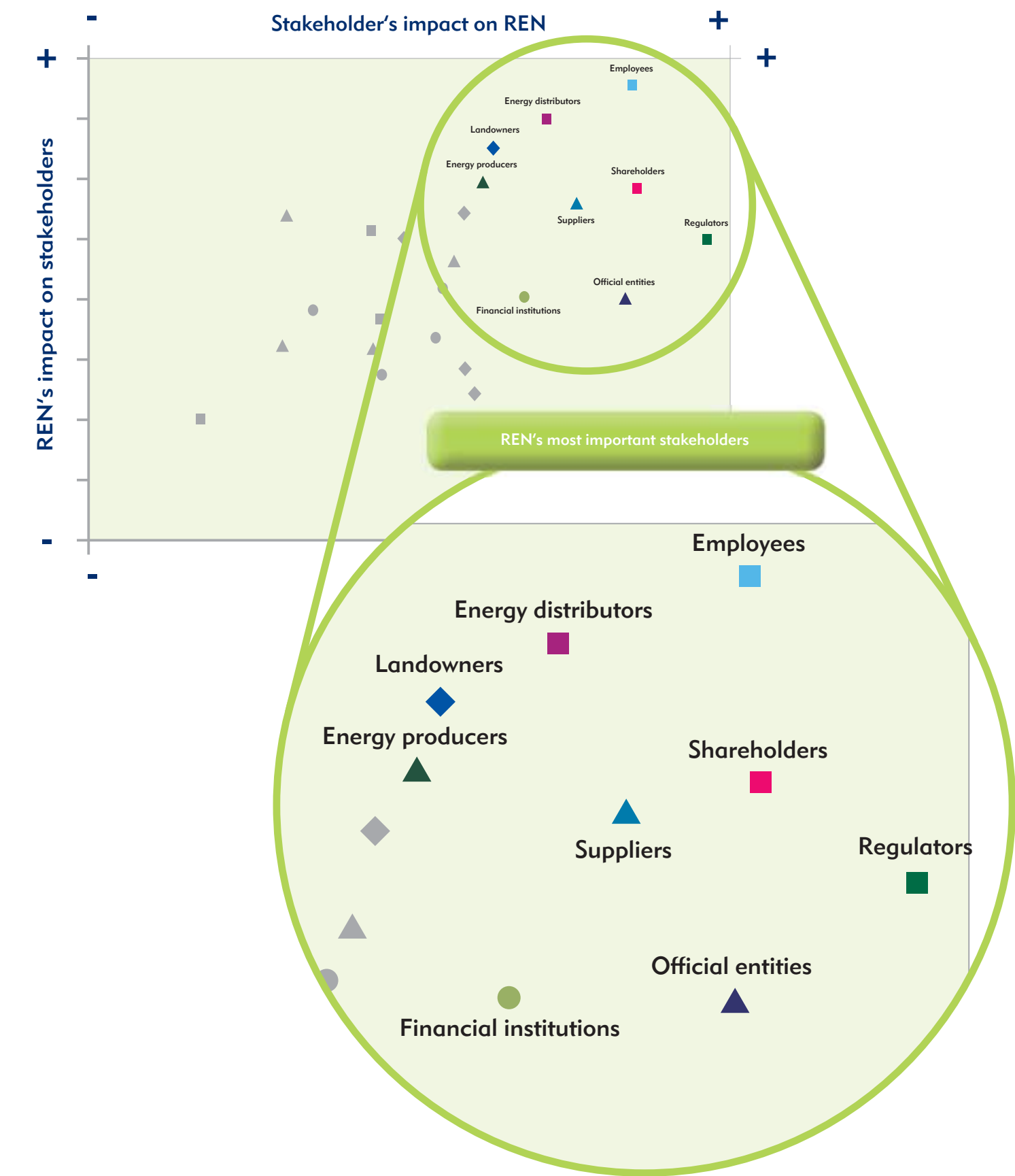
Curiosity: Seveso, in Italy, became world famous when, on 10 July 1976, the ICMESA chemical storage tanks burst and released several kilos of dioxin into the air. The product spread over a large area of the Lombardy plain between Milan and Lake Como. More than 70,000 animals died due to the contamination. No humans are thought to have died as a direct result of the accident, but 193 people contracted diseases in the affected areas. The event later became known as the Seveso Disaster.

1.4 Stakeholder dialogue

In 2006, REN took the first step towards systematising stakeholder engagement by identifying, characterising and assessing stakeholders on the basis of the six criteria in the AA1000 Stakeholders Engagement Standard. The work was based on the stakeholder's impact on REN's decision-making versus REN's impact on the stakeholder's activity or performance.

In 2009, REN conducted a thorough revision of the work previously carried out. The starting point was the validation of the stakeholder groups' importance to REN considering the organisational and business changes that had occurred since 2006. This reassessment resulted in mapping the most important stakeholder group by means of consultations with their representatives in order to identify each group's most important issues.

REN stakeholders



The consultation with external stakeholders consisted of individual interviews with representatives of shareholders, financial institutions, landowners, official entities, employees, regulators, energy producers and distributors and suppliers. Internal stakeholders were heard at focus group meetings and in individual interviews.

Material issues based on the expectations of the most important stakeholders were cross-referenced with the issues identified in a benchmark analysis of leading international companies in the sector in sustainability and prospective issues for the energy sector.

Material issues



Official entities

In 2009, REN conducted its second perceived quality evaluation as part of its project to improve stakeholder relations, which began in 2006. This year it also covered the natural gas business. The results show positive overall satisfaction. The results of this study are available on:

www.ren.pt > Destaques > Estudo de avaliação do Cliente REN_Gás natural

A satisfaction survey addressed to official entities (regulators, central government, state institutes and regional and local government) with which REN related was conducted in 2009 to assess the quality of the relationship, information provided to them by REN and their degree of satisfaction. The results show positive overall satisfaction, particularly with “quality of information”.

Also as part of relations with official entities, REN issued 128 opinions in response to requests from municipal councils or private individuals in 2009.

The importance of corporate responsibility for a modern company

The idea of sustainability and corporate responsibility applied to business management has become so important to organisations and society in recent years that it is now fundamental when laying out the strategy of a modern company.

Defining and implementing a company's sustainability measures and communicating them to employees and external stakeholders are an essential management task that belongs to the highest levels of responsibility in organisations today. This concern for sustainability or corporate responsibility has developed from concepts and practices of many years characterised by simple corporate philanthropy approaches, especially in the United States, where there has always been a tradition of redistribution of wealth through private initiative. However, corporate responsibility today is much more than mere philanthropy, as it has evolved towards the inclusion of not only social but also environmental and market sustainability concerns. In this process, it has gained size and critical mass that, today, mean that companies regard their responsibilities to society in a more inclusive, informed and technically capable way. Curiously, it was European companies that embraced these ideas more quickly at the start, leading to the dissemination of good practices all over the world and forcing American companies to move on from their traditional philanthropy to a more complete approach integrated with management.

Nonetheless, this area lacks a well-defined identity, despite its generalised application. Suffice it to say that there is no commonly accepted term to describe it and a wide variety of synonymous expressions are used, such as sustainability, corporate responsibility, corporate social responsibility, corporate citizenship and even global responsibility, to mention only a few.

REN has adopted the term sustainability, which perhaps suggests a greater inclination towards environmental matters. Indeed, the company has made considerable efforts in the field of corporate responsibility, in line with the best international

practice. As a company quoted on a regulated market and with the global exposure that the Euronext Lisbon stock exchange offers, REN presents to its investors, customers, suppliers, regulators and employees the modern face of a company that is accountable to society and creates values that lead to social, environmental and economic sustainability.

Listed companies have added responsibilities because of their public visibility and are normally a showcase, a benchmark, an example of good practice, a reference in their sector and the countries and communities where they operate. The transparency that companies must have makes them favourite targets for observation in comparative sectoral, domestic or international analyses and studies and so they will influence the image of their markets and the countries that they come from. Also because of their public nature, listed companies, with their capital disseminated among a vast number of individual shareholders, tend to come under added scrutiny in their relations with society and must therefore come over as exemplary corporate citizens. Institutional investors also have similar requirements today, as they are increasingly concerned about corporate responsibility issues, to such an extent that some of them limit their investment universe to companies that have effective policies on sustainability of the environment, society and market.

Miguel Athayde Marques
President of Euronext Lisbon
Member of the NYSE Euronext Management Committee

Service providers

In order to standardize the hiring of service providers and contractors and render it more transparent, in 2009 REN began the implementation of an electronic platform for certified public contracting, with the following actions:

- Identification and training of all users
- Communication to suppliers of REN's use of the platform
- Introduction of a citizen's card with a digital signature for all users and installation of scanners for these cards

REN has also implemented a system for qualifying and evaluating suppliers and service providers. It has a pool of qualified entities for critical classes of supplies. The qualification criteria include social responsibility, occupational safety and environmental management. The construction and maintenance of REN's infrastructures can count on a group of high-quality national and international suppliers that help its own teams to guarantee the intrinsic safety of the electricity transmission grid and gas transport network.

These are reflected in excellent operating indicators, when compared to similar foreign grids and networks. The work of REN's service providers is indissociable from the high safety standards of all activities performed for REN. In 2009, REN held the fourth Technical Session on Safety in Line and Substation Construction in the National Electricity Grid. These annual safety meetings arose from the need to raise awareness of service providers involved in the construction of grid infrastructures. In addition, in order to encourage good safety practices, REN organises a safety award ceremony for service providers with the best on-site safety performance. Every year, two performance prizes are awarded. They are for merit in safety management in the construction of extra-high voltage lines and of extra-high voltage substations, in order to distinguish and encourage good occupational health and safety performance. The second edition of the awards took place in 2009.

Safety Performance Awards



The award for merit in safety management in the construction of extra-high voltage substations went to ENSUL MECI.



The award for merit in safety management in the construction of extra-high voltage lines went to PINTO & BENTES.



Relations with landowners

Relations with landowners, which are established mostly through service providers, are proactive, in order to improve knowledge of conditions associated with REN's infrastructures. Thanks to the investment made, more than 5,000 landowners were contacted for right of way for the installation of infrastructures in 2009. A satisfaction survey was conducted to assess the level of service. The construction of new energy transmission infrastructures has always been a somewhat controversial matter. Enlightening people enabled local authorities to increase the number of approvals for the construction of buildings closer to infrastructures, in which REN has participated by drafting binding opinions.

As at 31 December 2009, REN's landowner database had around **40,000 entries** for the electricity grid and **17,000** for the gas network, which reflects their importance among the REN Group's stakeholders.

Case study

Conversion of fast-growing crops in protection strips

The establishment and management of rights of way for the National Electricity Transmission Grid (RNT) entails two stages:

- Construction - identification and documentation of each area to be crossed by lines and those subject to compensation for losses as a result of being crossed
- Operation - strict monitoring to ensure continuation of the safety conditions required by law

This case study looks at the way in which these areas are handled in the operation stage, including a comparison of maintenance costs of grid protection strips.

Purpose

To assess the economic feasibility of converting the use of the soil in protection strips occupied by fast-growing trees. Determining the costs of the different alternatives, comparing them and finding that some entail lower costs, better environmental practices and additional income for landowners will make it possible to devise incentives for REN to give to strip owners so that they will be responsible for maintaining them.

Action taken

The conversion of soil use in protection strips began in 2000 as a result of REN's difficulty in conducting periodic maintenance (every three years) in some areas. The following action was taken on the basis of their history:

- Calculation of average frequency of work for each type of soil occupation and previous treatment
- Assessment of maintenance costs when using traditional methods

- Evaluation of maintenance costs for partially converted areas
- Calculation of partial conversion costs with planting of alternative species

Conclusions

After processing all data, the conversion of soil use precisely during lines' construction stage showed to be advantageous, because of:

- Lower costs during operation stage
- Easier negotiations with landowners
- Joint responsibility of landowners in management of areas in question
- Better environmental indicators (trees felled / trees planted)
- Improvement in REN's image
- Reduction in overall maintenance costs though with slight increase in initial expenses

Channels for dialogue with stakeholders with the highest impact on activity, their expectations and REN’s response

Group of stakeholders	Group's importance to REN	Forms of communication	Expectations	Response
Investors/ shareholders	<ul style="list-style-type: none">• Shareholders• Contribute to REN's performance• Promote investment	<ul style="list-style-type: none">• General Meeting of Shareholders• Investor Relations Office• Investor channel on REN website• Investor's Day• Roadshows	<ul style="list-style-type: none">• Sustainability of profits• Dividends• Sustained growth• Higher profits• Stock exchange price	<ul style="list-style-type: none">• Better, efficient management.• Clarity and transparency of information
Energy distributors	<ul style="list-style-type: none">• Ensure availability of energy to end users	<ul style="list-style-type: none">• Meetings• REN website• Parity Committee	<ul style="list-style-type: none">• Connections to grid• Compliance with planning• Infrastructure needs• Development of grid, location, deadlines, contracts	<ul style="list-style-type: none">• Monitoring reports• Service quality reports
Energy producers	<ul style="list-style-type: none">• Impact on quality of service provided by REN	<ul style="list-style-type: none">• Meetings• Perceived quality survey• Energy market information system (electricity sector)• Parity Committee	<ul style="list-style-type: none">• Transmission grid connection conditions• Environmental and spatial planning factors	Electricity: <ul style="list-style-type: none">• Characterisation of RNT for access to grid and interconnections Gas: <ul style="list-style-type: none">• Publication of energy availability programme• Adaptation of regulations• Drafting of operating manual
Financial institutions	<ul style="list-style-type: none">• Efficiency of REN's investment depends on financing capacity	<ul style="list-style-type: none">• REN website• Annual Report and Accounts• Meetings• Conferences	<ul style="list-style-type: none">• Create business opportunities• Strengthen relations with REN• Reinforce REN's positioning	<ul style="list-style-type: none">• Close relationship and provision of relevant information
Academic institutions	<ul style="list-style-type: none">• Source of technical and specialised knowledge	<ul style="list-style-type: none">• Conferences• Workshops• Jobshops• Field trips• REN website	<ul style="list-style-type: none">• Creation of partnerships and closer proximity to business world	<ul style="list-style-type: none">• R&D partnerships• Intake of young interns• Sharing of know-how
Employees	<ul style="list-style-type: none">• Represent specialised know-how and capacity to make the organisation operate	<ul style="list-style-type: none">• TV channel• REN events• Meetings• Surveys of satisfaction and organisational climate• Weekly in-house newsletter• Human resource portal• REN intranet and internet website	<ul style="list-style-type: none">• Career progression and training plans• Performance evaluation• Benefits	<ul style="list-style-type: none">• Promotion• Career plans• Ongoing on-the-job, function-specific training



Group of stakeholders	Group's importance to REN	Forms of communication	Expectations	Response
Regulatory entitites	<ul style="list-style-type: none">• Have impact on REN's profits and performance• Impose operating rules• Source of information	<ul style="list-style-type: none">• REN website• Periodical sending of regulatory information• Technical and institutional meetings• CMVM website• AGM• ERSE – SIGNO computer system	<ul style="list-style-type: none">• Regulatory and tariff models• Tariff deviations• Operational compliance• Technical quality of service	<ul style="list-style-type: none">• Publication of monitoring reports• Quality of service reports• Clarity and transparency of information
Local community / landowners	<ul style="list-style-type: none">• Stakeholders most affected by construction of energy transmission infrastructures	<ul style="list-style-type: none">• Meetings• Information sessions• Support Office• Phone numbersNatural gas – 800 201 819Electricity – 800 207 470• REN website• Publication of notices• Strategic environmental assessment• Environmental impact assessments	<ul style="list-style-type: none">• Impacts and limitations caused by infrastructures	<ul style="list-style-type: none">• Disclosure of information on EMF• Opinions on feasibility of construction• Maintenance of grid corridors• Noise tests and monitoring
Official entities (local, regional and central government)	<ul style="list-style-type: none">• Lay down laws and regulations• Represent concession granter	<ul style="list-style-type: none">• Periodic meetings with committees and working groups• Perceived quality survey• Information sessions• REN website• Strategic environmental assessment• Environmental impact assessments	<ul style="list-style-type: none">• Best construction practices• Design of grid with concern for spatial planning and minimisation of environmental impacts	<ul style="list-style-type: none">• Information sessions on plans and programmes (PDIRT and PDIR)• Revision of projects• Opinions and technical reports
Suppliers of goods and services	<ul style="list-style-type: none">• Influence REN's profitability and quality of service and infrastructures	<ul style="list-style-type: none">• RePro system• Electronic buying platform• Service evaluation• Themed information sessions• Award ceremony of the prize for safety management in national grid substation and extra high voltage line construction work• REN website	<ul style="list-style-type: none">• Achieve technical capacity and quality of products and services as per REN requirements• Competitiveness in cost vs. quality of service	<ul style="list-style-type: none">• Publication of service evaluation league table• Creation of right conditions for market diversification• Awards for best safety performance



2. Guaranteed supply and continuity in energy transmission and transport

Contents

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- 2.2 Market integration 48
- 2.3 Innovation and technological development 50

As concession holder for the National Electricity Transmission Grid (RNT) and National Natural Gas Transport Network (RNTGN), REN works with the Directorate-General for Energy and Geology (DGEG) in monitoring security of supply of the national electricity system (SEN) and national natural gas system (SNGN). REN drafted reports on medium- and long-term prospective elements in the electricity generation and natural gas system in order to prepare the Security of Electricity Supply Monitoring Report and Security of Natural Gas Supply Monitoring Report to be submitted for approval to the Minister of the Economy and Innovation by DGEG.



Electricity highlights

Demand	Supply
<p>As part of monitoring the security of supply of the SEN and MIBEL, annual forecasts of long-term electricity demand for mainland Portugal are conducted. They take account of the hypothesis of “average temperature” combined with different economic growth scenarios and variables:</p> <ul style="list-style-type: none">• GDP• National expenditure components• Households’ gross disposable income• Sectoral GVA <p>They also include expected impacts on electricity demand of energy efficiency and rational energy use measures. In 2009 a joint REN/REE report contained an analysis of demand in the MIBEL and a forecast for 2009-2020.</p>	<p>The report “Security of supply in Electricity Generation 2010-2030” focuses on national energy policy and the following prospects for the electricity generation system:</p> <ul style="list-style-type: none">• Security of supply and requirements for keeping it at appropriate levels• Security of grids and intentions to invest in interconnection capacity• Share of renewable sources in supply• Developments in fuel use in the electricity sector (natural gas and coal)• Environmental aspects• Competitiveness of national system in the MIBEL

Natural gas highlights

Demand	Supply
<p>In the monitoring of security of supply in the SNGN, annual studies are conducted of long-term demand for natural gas in mainland Portugal. These forecasts are broke down by conventional market and electricity market, using the following factors as a reference:</p> <ul style="list-style-type: none">• Historical breakdown of demand• Calculation of growth rates by market segment• Start-up of new industrial projects or demand points resulting from requests to connect to the RNTGN <p>The main difficulty in forecasting demand in the conventional market lies in the small number of observations as a result of the “youth” of natural gas in Portugal. The scenarios for the forecast of natural gas demand in the electricity market are the result of prospective studies conducted during monitoring of security of supply of the electricity generation system. In 2009, the report “Natural gas demand scenarios 2010-2020” served as a basis for medium- and long-term analyses on the demand side.</p>	<p>The report “Security of supply of Natural Gas 2010-2020” complied with the main energy policy guidelines. The analyses in the report are based on expected growth in the SNGN and scenarios for natural gas demand and peaks. These analyses covered two areas:</p> <ul style="list-style-type: none">• Balance between supply and demand – checking sufficiency of available capacity to withstand critical supply conditions (coverage rate 1.0), characterised by an increase in daily peak demand (extreme peak) and unavailability of one of the main supply components• Security reserves – developments in security reserves as required by law and assessment of insufficient capacity of infrastructures to set them up



Pursuant to its responsibilities in monitoring security of supply in the SEN and SNGN, REN also drafted reports on expected security of energy supply (electricity and natural gas) in summer 2009 and winter 2009-2010. It submitted both reports to the DGEG.

2.1 Reliability, guarantee and quality of service

The diversification of sources of imported energy of fossil origin, the increase in renewable energy sources, the growth in gas storage capacity at the Sines terminal, the expansion of power grids and the reinforcement of the connection with Spain will guarantee security of energy supply in Portugal.

in Energy Policies of IEA Countries – Portugal
Executive Summary and Key Recommendations, 2009
International Energy Agency

As the manager of energy transport and transmission systems, REN is responsible for guaranteeing continuity and security of supply and ensuring coordination between connection points, grids and networks and delivery to the distribution grid and network, all supported by high investments from REN.

REN continued to conduct studies of the expansion and optimisation of the electricity grid defining an optimal medium- and long-term strategy for ensuring reliability and high standards of continuity and quality of service. Examples of this are studies to guarantee an increase in renewable energy in the grid, to a total of around 750 MW in 2009 and the forecast for connection to the grid of the hydroelectric power stations in the National Plan for Dams with High Hydroelectric Potential. In this plan, there is a high concentration of power from the Alto Tâmega area, totalling around 1,140 MW, divided between the Daivões, Alto Tâmega, Gouvães and Padroselos power stations. About 900 MW of this total is reversible, i.e. its pumping function can be used to store energy when market prices justify this.

For 2015-2019 REN received other requests for connection of reinforcements of hydroelectric power in the northern area for existing power stations in the Cávado system, all of which are reversible and also have high power (just over 1,000 MW). This goal resulted in an optimisation study to present an integrated development strategy for the EHV grid in the region so that it could be coordinated to simultaneously receive these amounts of power from the hydroelectric systems in the Alto Tâmega and Cávado basins.

¹ This indicator was introduced by the ERSE for availability of components of the electricity transmission grid and the target for 2009 was 97.5%.

Quality of service in the electricity grid was once again very high, as shown by the following indicators:

- Combined availability rate¹ - 97.84%
- Overall availability of line circuits - 97.8%
- Overall availability of transformers and autotransformers - 98.0%
- Equivalent interruption time (EIT) - 0.42 minutes
- Energy not supplied (ENS) - 40.4 MWh
- Average frequency of system interruptions - 0.07
- Average duration of interruptions - 0.39 minutes
- Number of defects per 100 km of circuit - 2.35
- Number of incidents and disruptions - 240

For more information, see:
Relatório de Qualidade de Serviço on www.ren.pt

REN operates the system services market for contracts and settlements in order to ensure a balance between electricity generation and demand using efficient, transparent, competitive mechanisms. The market information system gives out information on the system services market for market agents and the general public, including:

- Legislation and regulations governing the markets
- Characteristics of the market and agents
- Operational information



Find out more on <http://www.mercado.ren.pt>

The gas sector in Portugal is facing countless challenges. The same applies to REN because of its responsibility for guaranteeing gas supply. These challenges include the supply of new combined-cycle power stations and the increase in gas consumption expected in upcoming years. In order to meet this increasing demand, REN began to work towards the expansion of the liquefied natural gas terminal (LNG) at Sines, which will double the facility's supply capacity and significantly raise its LNG storage capacity. In 2009, the gas network's storage capacity was increased when the third underground natural gas storage cavern went into operation at the REN Armazenagem Carriço facility. As a result, the amount of natural gas stored rose 62% against 2008, thereby meeting the need to comply with mandatory reserves and handle variations in demand caused by peak consumption or unexpected slumps.

Another statistic used in the performance analysis of the gas network is the quantity of gas supplied, which, in 2009, was 23.5 TWh for the ordinary status electricity generation market and 28.9 TWh for the conventional market, 6.3 TWh of which refer to conventional market demand points supplied directly from the national high-pressure natural gas transport network.

Continuity of supply in the natural gas transport network is assessed with the following indicators:

- Average number of interruptions per exit point
- Average duration of interruptions per exit point (minutes/exit point)

- Average duration of interruption (minutes/interruption).

In 2009, these indicators reflected an excellent performance, with no interruptions in supply. There were also no incidents in the high-pressure transport infrastructure and therefore zero incidents per 1,000 km of exposed infrastructure per year. Availability was 99.83%.

In 2009, all the natural gas parameters were within the limits established in the quality of service regulations published by the ERSE in 2009.

These and other indicators are available on:

- www.ren.pt > Electricidade > Centro de informação > Publicações > Rel. Qualidade serviço
- www.ren.pt > Electricidade > Centro de informação > Informação Exploração
- www.ren.pt > Gás Natural

2.2 Market integration

The creation of two major players in the natural gas and electricity sectors and the construction of a single concession holder to operate the energy grids (and the natural gas storage and reception terminal) were an important step towards the liberalisation of the energy markets in Portugal. The implementation of an Iberian electricity (MIBEL) and gas (MIBGAS) market was also an important step in this direction.

in Energy Policies of IEA Countries – Portugal
Executive Summary and Key Recommendations, 2009
International Energy Agency



Iberian Electricity Market (MIBEL)

In 2009, REN – Rede Eléctrica Nacional continued to make every effort to increase interconnection capacity with the Spanish grid, thereby helping to introduce a framework more favourable to the operation of the MIBEL and to reduce the average cost of energy, while also increasing the security and reliability of the service provided to grid users. The new Lagoaça substation (Douro Internacional) went into operation in 2009 and there were important internal reinforcements of some 220 kV lines, some of which are already equipped for 400 kV.

REN has an ambitious programme for the construction of new interconnection lines and facilities and related internal reinforcements that it has undertaken in partnership with its Spanish counterpart. The aim is to practically double its interconnection capacity to around 3,000 MW, both for import and export, by 2013/14.

The cross-border interconnection capacity of energy transmission grids is extremely important in terms of their commercial component and of the need to respond in a crisis.

Iberian Electricity Market - MIBEL

As the overall technical manager of the National Electricity System, REN schedules and controls the balance between supply and demand in real time, so that it can correct any imbalances. Its remit also

includes programming international energy exchanges and managing mechanisms for solving congestion in interconnections.



For further information see:
www.omip.pt

Iberian Gas Market (MIBGÁS)

The development of MIBGÁS is one of REN's priorities. In 2009, its activity focused on furthering the REN and Enagás study of the feasibility of a third interconnection between the gas systems in Portugal and Spain. The new pipeline would have a reversible capacity, and it is included in the European Economic Recovery Plan. The main advantages of this interconnection include:

- Greater security of supply for the two countries;
- Joint reinforcement of their sources of supply by means of a connection between two important

underground storage infrastructures.

This will also bring immediate advantages to the liquidity of the natural gas market and flexibility of market agents. At the same time, this new interconnection will be a development factor as it will make it possible to supply natural gas to north-eastern Portugal.

2.3 Innovation and technological development

Innovation and technological development is crucial to the Group, which is looking for a strategic leading position in the energy sector. In this context, REN capitalises its resources, know-how and experience in order to contribute proactively to technological advances and to the sharing of knowledge and experience among economic agents and counterpart organisations. In 2009, REN maintained its focus on innovation and technological development and participated in countless working groups at energy sector organizations and associations on cutting-edge issues for the electricity and gas sectors, such as:

Working Groups in which REN participates

ENTSO-E - European Network of Transmission System Operators for Electricity	
ENTSO-G - European Network of Transmission System Operators for Gas	
CIGRÉ - International Council on Large Electric Systems	
GIE - Gas Infrastructure Europe	
EGIG - European Gas Pipeline Incident Data Group	
Marcogaz - Technical Association of the European Natural Gas Industry	
EURELECTRIC - Union of Electricity Industry	
World Energy Council	

As a result of recognition of its high technical competence, REN engages in intense international cooperation in consultancy, European projects, benchmarking groups, and conferences, among others.

The main European projects in which REN was involved in 2009 were the following:

- **PEGASE - Pan European Grid Advanced Simulation and State Estimation** - a project to define information requirements for integrated control of the security of the European electricity transmission grid
- **EWIS - European Wind Integration Study** - a project set up by the ETSO, which studied the large-scale inclusion of wind energy in the European grid
- **Reservas project** - a project to assess the appropriate operating reserve to guarantee security of supply in the Iberian electricity system at medium and long term



For the first time in Portugal, REN organised the annual meeting of Study Committee C3, System Environmental Performance, and its working groups in Porto in September. An international colloquy was also held on Renewable Energy Sources: Environmental and Social Issues.

More information on <http://www.cigre-c3.org/>

International activity also included the signing of an agreement on a project for the diagnosis and prospects of the Venezuelan energy sector in June 2009, as part of economic cooperation between Portugal and Venezuela. REN was one of the Portuguese companies involved in technical consultancy for this project. The main goal was defining the milestones needed in order to establish short- and long-term instruments and policies with a view to achieving pre-defined levels of energy efficiency for the Venezuelan power system. In Portugal, REN was involved in R&D projects in cooperation with several universities, such as the Faculdade de Engenharia da Universidade do Porto, the Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa and the Universidade do Algarve, with R&D institutes, including Instituto de Engenharia de Sistemas e Computadores and Instituto Electrotécnico Português and with a number of consultancy companies.

MERGE - Mobile Energy Resources in Grids of Electricity

This project is headed by INESC Porto and involves 16 companies and institutions, including REN. Its purpose is to prepare the European electricity system for mass use of electric cars, particularly by finding solutions that minimise the need to reinforce the infrastructures of electricity grids and generation systems. It is also designed to contribute to the construction of an intelligent system that will adapt the charges of electric vehicle batteries to energy availability in electricity grids.

In 2009, REN also completed a study conducted for Electricidade da Madeira, S.A. (EEM), which analysed the technical feasibility of the planned reinforcement of wind power for the island's grid. The study was performed under a cooperation agreement with Instituto Superior Técnico - Centro de Energia Eléctrica (CEEL/IST).



Case study

Evaluation of appropriate operational reserve in Iberian electricity systems at medium and long term (RESERVAS Project)

Reasons and goals

The RESERVAS project was undertaken in partnership with REE, as part of the activities of the joint REN/REE working group for the joint forecast of demand and planning of the MIBEL, using the services of INESC Porto. The use of innovative methods made it possible to improve the assessment of appropriate operational reserves² in the Iberian electricity systems, which are necessary to guarantee medium- and long-term security of supply in a framework of integration of high levels of intermittent generation, as is the case of wind energy. The project was divided into two phases. In the first, in 2007 and 2008, the following analyses and studies were carried out:

- Benchmarking of criteria for defining appropriate operational reserves
- A reference for the degree of risk of loss of load
- Appropriate reserves in future stages and their relations with penetration of intermittent capacity
- Technical and economic comparison of ways of setting up reserves
- Contribution of interconnection to security of supply;
- Assessment of the risk of loss of generation from renewable sources

The second phase took place in 2009 and consisted of adapting the model developed in the first phase for independent use by REN and REE in their long-term monitoring of security of supply.

² Secondary and tertiary rapid regulation reserves (that can be mobilised in less than one hour) needed to offset sudden imbalances between supply and demand.

Main results and conclusions

The project was based on a sequential (chronological) Monte-Carlo simulation model with hourly resolution, which was profoundly revised and improved with new functions, such as the calculation of security of supply indicators reflecting the appropriateness of the operational reserve. The great advantage of this approach is that it pinpoints critical situations in the transition between elementary periods, which are totally ignored in the traditional Monte-Carlo sequential simulation. This aspect is more relevant, the greater the penetration of intermittent generation capacity and/or the inappropriateness of available operational reserves.

The operational reserve will have to deal with unexpected variations in wind power and demand (against forecasts) and variations in generation resulting from fortuitous availability. If at time "t" the available operational reserve is greater than the variations, the sufficiency test is successful. Otherwise, time "t" is accounted for in the statistics of insufficient capacity to meet demand.

Future developments

After completion of the project in early 2010, REN expects to use the new tool to study new patterns of security of electricity supply to be considered in future prospective analyses of security of supply of the national generation system.

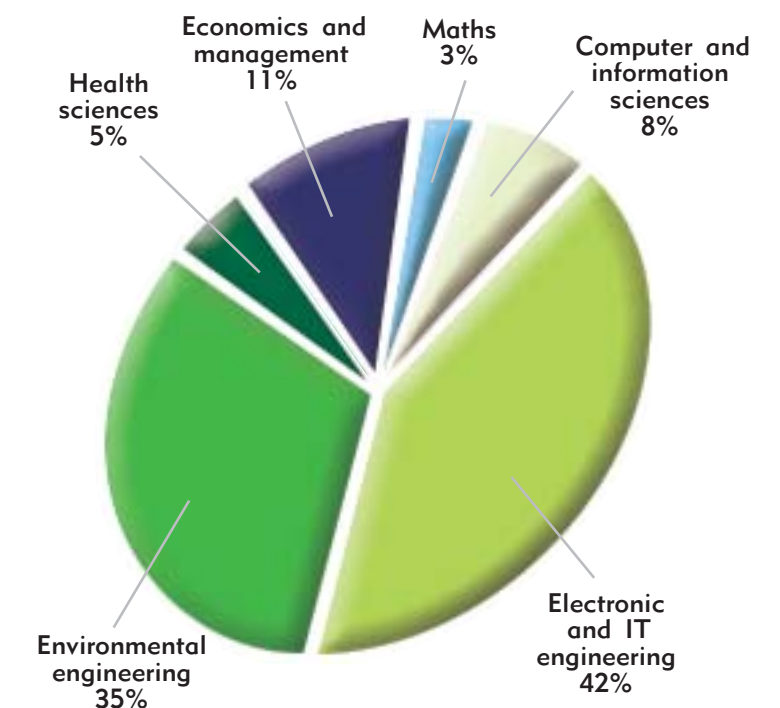
Implementation of a research, development and innovation system at REN

Pursuant to its strategy of promoting research, development and innovation (RD&I), in 2009 REN began a project for the implementation and subsequent certification of its research, development and innovation system. The aim of the project is to systematise its RD&I, foster the systematic management of knowledge and improve the company's innovative performance by developing ways of making the most of the know-how of employees and partners and setting goals and targets that will help control the resources associated with these activities.

In 2009, for the first time REN applied to the Sistema de Incentivos Fiscais à Investigação e Desenvolvimento Empresarial (SIFIDE). This is an incentive scheme for RD&I that offers companies tax benefits on the basis of expenditure on these activities.

Applications were based on 29 innovative projects in different scientific and technological areas:

Scientific and technological areas



These projects are aimed at increasing operating efficiency in electricity transmission grids and gas transport networks, taking account of challenges posed by society's needs in terms of satisfying demand and emerging new generation and transmission technologies, always in a context of sustainable development in which health and the environment play an important role.

Information on other REN projects is available on:

- www.ren.pt > REN Group > R&D
- www.ren.pt > Investor > 2009 Report and Accounts



3. Minimising impacts

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Foster environmental responsibility

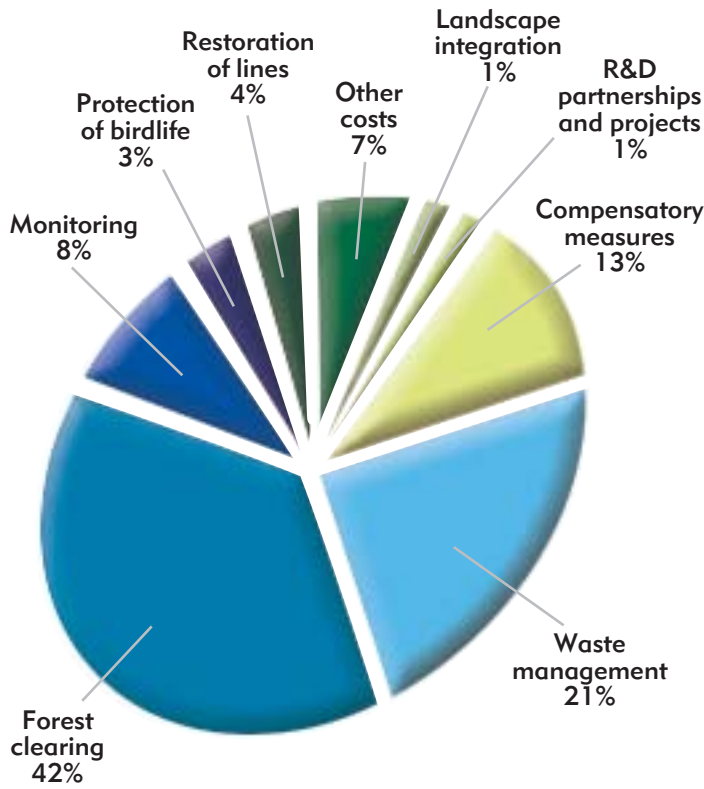
REN's main achievements in 2009 were:

- Issue of an environmental statement for its plan for the development of and investment in the transmission grid (PDIRT);
- Triple certification for REN Gasodutos and REN Atlântico;
- Signing of an agreement between REN Gasodutos and the ICNB (as part of its environmental performance promotion plan PPDA) in order to promote the dedicated protection of the Santo André and Sancha lagoons;
- Publication of new technical specifications with environmental guidelines and obligations applicable to all services provided to REN;
- Publication of a new quality, environment and safety policy including research, development and innovation and a policy for preventing serious accidents.



Costs of and investments in environmental protection totalled 6.7 million euros in 2009 and were divided as follows:

Environmental costs - 2009



3.1 Environmental management

In fulfilling its mission of providing a public service in the Portuguese energy sector, REN considers that the creation of value for shareholders and society cannot be dissociated from real environmental protection.

REN's environmental intervention takes the form of continuously checking compliance with the law, identifying and minimising environmental impacts and setting environmental improvement goals.

REN's work to protect the environment has been duly articulated with other areas of intervention relevant to its business, such as the occupational health, hygiene and safety components of quality and safety management and the prevention of serious accidents. As a corollary of work in these areas, the scope of triple quality, environment and safety certification of the REN SGPS management systems (which included REN - Rede Eléctrica Nacional, REN Serviços and REN Trading) was extended to REN Gasodutos and REN Atlântico in May 2009. At the end of 2009 audits were conducted for the extension and grant of this triple certification to REN Armazenagem e REN Telecom.

Policies on quality, environment and safety policy, prevention of serious accidents and research, development and innovation

www.ren.pt > REN Group > Quality, Environment and Health and Safety



The new version of REN's quality, environment and safety statement was approved and published in May 2009. It included research, development and innovations aspects.



	REN Eléctrica	REN Serviços	REN Trading	REN Gasodutos	REN Atlântico	REN Armazenagem	REN Telecom
2009				ISO 9001 OSHAS 18001 ISO 14001	ISO 9001 OSHAS 18001 ISO 14001	ISO 9001 OSHAS 18001 ISO 14001	ISO 9001 OSHAS 18001 ISO 14001
2008	ISO 9001 ² OSHAS 18001 ² ISO 14001 ²	ISO 9001 ² OSHAS 18001 ² ISO 14001 ²	ISO 9001 ² OSHAS 18001 ² ISO 14001 ²				
2005	ISO 9001 ¹ OSHAS 18001 ¹						
2003	ISO 14001 ¹						
2000	ISO 9001*						

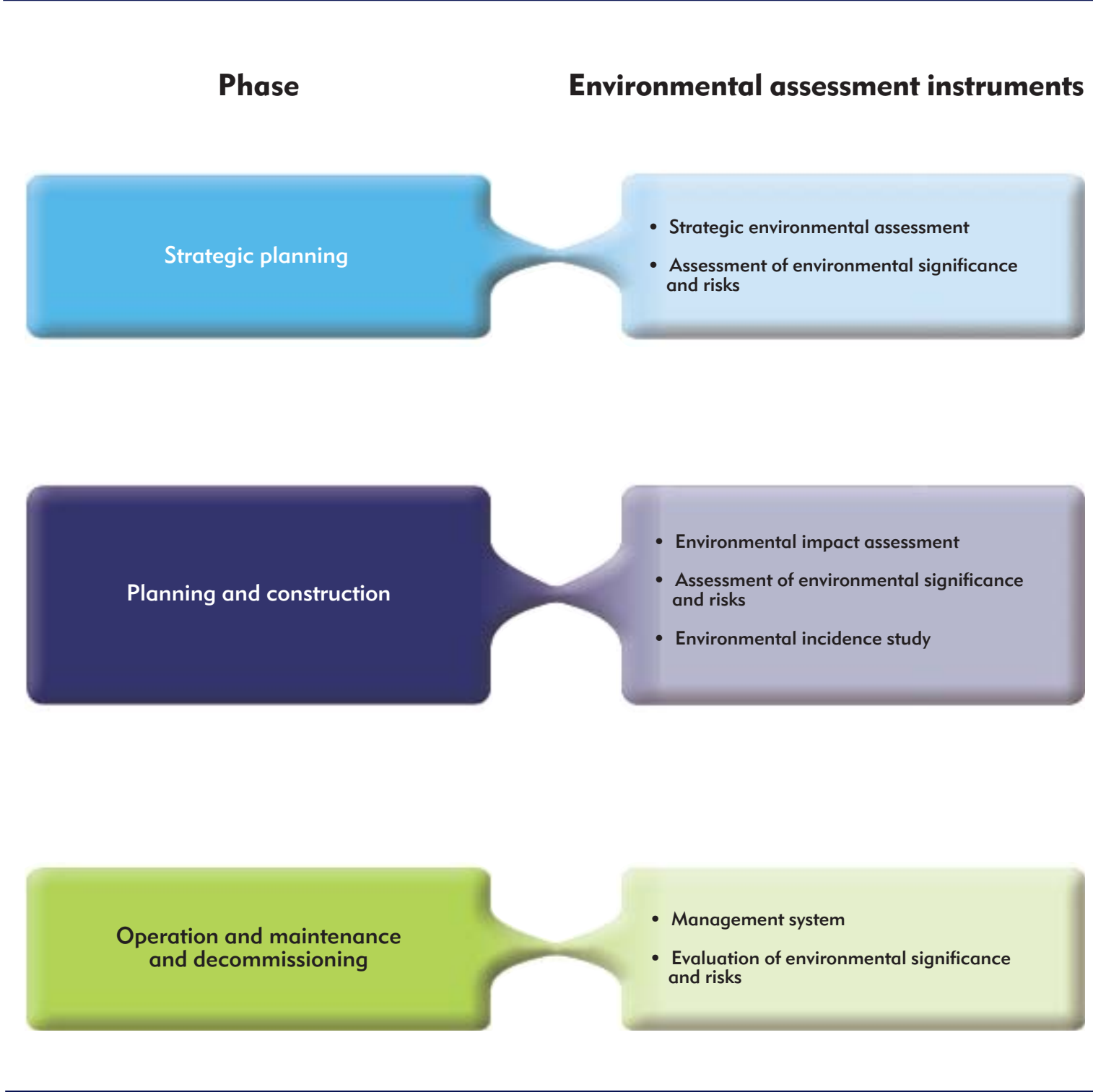
* Certification granted to construction of lines and substations by the national electricity grid Equipment Division

1) Certification granted to REN - Rede Eléctrica Nacional ;

2) Transfer of certifications to REN SGPS, extension of the three certifications to REN-Rede Eléctrica Nacional, REN Trading and REN Serviços.

Environmental assessment

REN uses different environmental assessment instruments and processes depending on the phases of its activity: planning, design and construction, operation and maintenance and decommissioning.



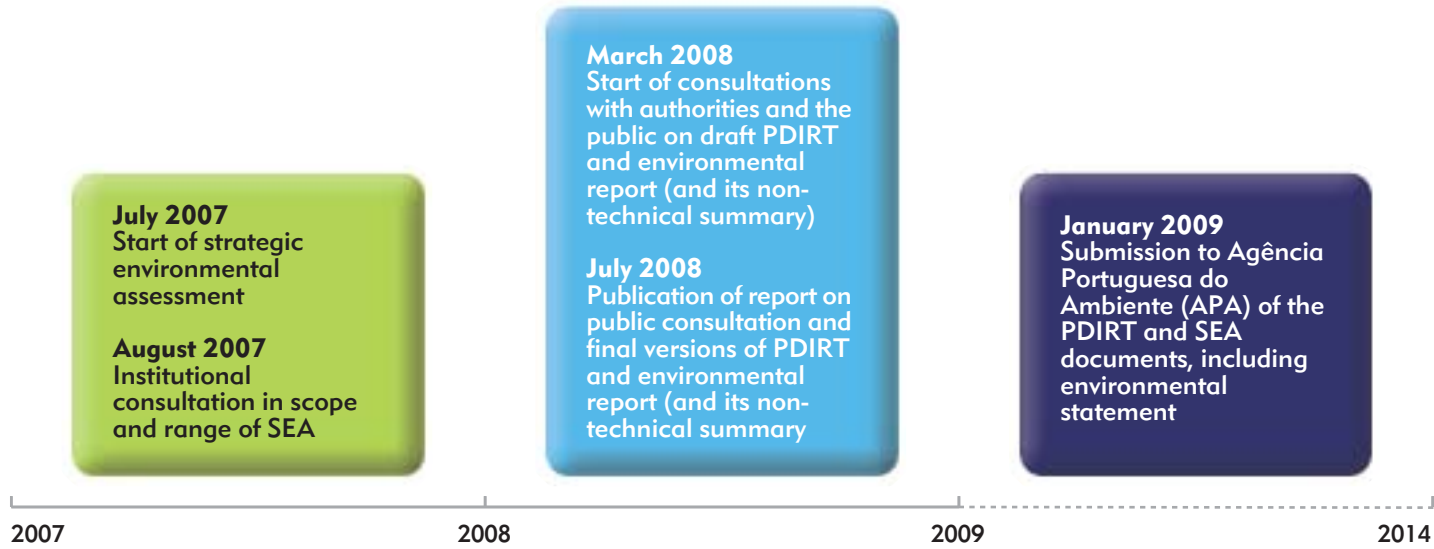


In early 2007, for the first time REN’s plan for the development of and investment in the transmission grid, “PDIRT 2009 – 2014 (2019)” underwent strategic environmental assessment (SEA), as required by Decree-Law 232/2007. The SEA took place at the same time as the technical preparation of the PDIRT and was intended to identify, describe and analyse the different strategic alternatives for expanding the national transmission grid, while taking into account sectoral, environmental and sustainability goals so that they could be included into planning process, i.e. prior to the decision phase.

Following this assessment, the PDIRT environmental statement was issued in 2009. Among other aspects, it covers the way in which environmental considerations are included in the plan, the results of consultations and the reasons behind approval of the PDIRT in accordance with the reasonable alternatives addressed when it was drafted. The statement also described environmental assessment and control measures associated with monitoring of the plan.

One of the important results of the SEA is the institutional framework of REN’s responsibility for actions to ensure the right condition for effective implementation of the PDIRT, which is also extended to stakeholders: the general public, environmental NGOs and official entities.

Plan for the development of and investment in the transmission grid (PDIRT 2009 – 2014)



At the end of 2009, REN began defining the PDIRT environmental assessment and control process. The results will be published in 2010. The aim of the process is to respond to REN’s legal obligation to assess and control the effects of the plan’s implementation on the environment and check that the measures set out in the environmental statement are implemented.

This document and the remaining information on the PDIRT is available on:

<http://www.ren.pt>Destaques>PDIRT>.

Most of REN’s new investment projects, particularly in the electricity grid, are subject to environmental impact assessments by law. For its other projects,

REN identifies impacts by conducting environmental incidence or framework studies or using internal methods for assessing the environmental significance and risk applicable to all its activities, as established for the entire organisation in 2008.

Following the expansion and improvement of the national electricity transmission grid, five environmental impact assessments and seven environmental incidence assessments were carried out in 2009. Eleven environmental impact statements and 10 environmental compliance reports of the execution projects were also issued.

PROCESS	Lines			Substations		
	2007	2008	2009	2007	2008	2009
Environmental impact assessment (under way)	8	9	7	6	6	5
Post-environmental impact assessment (under way)	0	2	9	1	1	1
Environmental impact statement (obtained)	4	5	6	3	2	5
Environmental incidence study	4	6	3	0	1	4
Environmental impact studies	5	6	4	5	2	1
Environmental compliance report for Execution projects (RECAPE)	0	2	9	1	1	1

Where gas activity was concerned, an environmental framework assessment was conducted for the Barreiro branch. The construction of the Carriço-Leirosa-Lares pipeline is still in its post-environmental assessment phase.

Membership of the Environmental Impact Assessment Advisory Board of Agência Portuguesa do Ambiente, importance for REN

When it comes to environmental impact assessment (EIA) of projects, REN has been one of the main proponents, not only due to the size but also the number of projects submitted for EIA. As a result, REN has developed in-house skills and partnerships in this field, which has made it eligible for a seat on the Environmental Impact Assessment Advisory Board, which was recently set up by Agência Portuguesa do Ambiente.

The purpose of the board is to:

- Give opinions in compliance with the law and measures to be taken in particular cases
- Discuss issues in this area, such as professional certification, public participation, methods for environmental assessment of plans and programmes and optimisation of the scope of environmental impact assessments, including the incorporation and weighting of climate change, as a cause or effect, among others.

REN’s membership of the board enables it to contribute its vast experience in the development of energy transmission infrastructures and share its know-how with some of the best Portuguese specialists in environmental impact assessment.






Encourage environmentally friendly technologies

Examples of main environmental impacts and minimisation measures taken by REN

Component	Impacts	Minimisation measures	Examples
Landscape 	• Visual impact of lines and substations	• Landscape integration projects for infrastructures • Dismantling and decommissioning of line corridors	• Lagoaça Substation • PPDA Rede Eléctrica 2009-2011
Fauna 	• Collision of birds with electricity grids	• Signalling of lines to reduce collisions • Installation of nesting platforms • Anti-nesting devices and transfer of nests	• PPDA Rede Eléctrica 2009-2011
	• Changes in habitats	• Compensatory measures for protected species (e.g. boosting feeding areas) • Promotion of species of prey • Restriction of area of intervention to right of way strips • Monitoring of fauna in area where brackish water is discharged resultant from the construction of natural gas underground storage salt cavities	• Alqueva Bovaes line • Tunes-Estói line • Sines-Portimão line • Branch from Mogadouro-Valeira line to Macedo de Cavaleiros Substation • REN – Armazenagem
Flora and land use 	• Changes in land use	• Restriction of area of intervention to boundaries of right of way strips • Implementation of a project to replace most appropriate plant species • Implementation of plans to clean corridors of electricity grid and natural gas network • Implementation of plan to dismantle electricity lines • Raising of lines • Monitoring of biological conservation status of depressions in dunes resulting from construction of natural gas storage	• Alqueva-Brovaes line • Palmela-Sines 2 line • Water intake at Osso da Baleia (REN Armazenagem)



Component	Impacts	Minimisation measures	Examples
Air quality and climate change 	<ul style="list-style-type: none">Emission of harmful gases	<ul style="list-style-type: none">Monitoring of gases from burning of gas in boilers and co-generationControl of natural gas purges in the gas networkInstallation of thermal solar panels at GRMSReplacement of older circuit breakers to minimise greenhouse gas emissions (SF₆)Training and certification of technicians handling SF₆	<ul style="list-style-type: none">Gas networkPPDA REN Gasodutos: 2008-2010 – Frielas GRMS 01209 and Seixal GRMS 1109Substations in electricity grid
Noise 	<ul style="list-style-type: none">Noise production	<ul style="list-style-type: none">Implementation of measures to minimise noise from substations (e.g. encapsulation of transformers, installation of acoustic panels)Replacement of traditional insulators by composite ones in circuit breakersRestriction of area of intervention to boundaries of right of way stripReplacement of marker spheres of traditional electricity lines by less noisy ones	<ul style="list-style-type: none">Batalha SubstationElectricity grid
Water resources 	<ul style="list-style-type: none">Potential changes to habitats	<ul style="list-style-type: none">Monitoring of marine biological and ecological factors in the discharge of water from the liquefied natural gas (LNG) heating circuitMonitoring of biological effects of discharge of brackish water	<ul style="list-style-type: none">REN Atlântico gas terminal

Case study

Compensatory measures in branch line from Mogadouro-Valeira line to Macedo de Cavaleiros Substation

The 220 kV branch line from the Mogadouro-Valeira line to the Macedo de Cavaleiros substation passes through a Rede Natura 2000 site classified in the Sabor and Maças Rivers, as there is no viable alternative. Its environmental impact statement provides for compensatory measures to protect Bonelli’s eagle and golden eagle couples, which are endangered species in Portugal.

The measures, which were first implemented in September 2007, are designed to manage these species’ habitats, improve their ecological conditions and increase the numbers of prey available to them.



Example of a feeding and watering point

Measure
Seeding and watering points will increase the numbers of prey by improving their survival conditions (wild rabbits and red-legged partridges). Agreements were signed with the managers of Castro Vicente, Valpereiro, Lagoa and Azinhoso

hunting areas for that purpose.

Six traditional dovecotes were also restored and restocked. A larger pigeon population directly increases the amount of prey for the eagles and indirectly helps develop other birds of prey.



Traditional dovecote building restored and restocked

Results so far
Golden eagle couples are using areas in which the measures have been introduced and evidence of red-legged partridges, wild rabbits and pigeons has been found in their diet. They have successfully reproduced and hatched three chicks. The routes of the Bonelli’s eagles are located near the restocked dovecotes. The restoration of the dovecotes has also helped enrich traditional architectural heritage and enhance the region’s culture.



Royal-eagle with a PTT (Platform Transmitter Terminals).

In harmony with the environment and the community

REN's activity can have considerable impact on natural heritage and the landscape. On-site assessment of these impacts, selection of locations of new infrastructures, restriction of REN's intervention to right of way areas and mitigation measures are REN's way of minimising the visual impact, noise and changes in land use.

Some REN substations are landscaped and the following aspects are taken into account:

- a) Safety of facilities
- b) Minimisation of maintenance
- c) Preferential use of native species
- d) Ecological balance and respect for the environment and community



Noise monitoring at REN Atlântico

Minimising the noise caused by some REN infrastructures, such as substations, is also one of the company's concerns. This can be done by taking measures at source (encapsulation), in the conducting medium (acoustic barriers) and, in exceptional circumstances at the receiving point (e.g. by installing double glazing). In 2009, REN voluntarily monitored the sound environment in the vicinity of the facilities of REN Gasodutos, REN Armazenagem and REN Atlântico, to a total of 71 gas transport facilities, in order to assess compliance with noise legislation. In line with the requirements established in the environmental impact assessment phase, the Carriço-Leirosa-Lares gas pipeline was also monitored.

The main conclusions of the field studies show that the particular noise monitored at gas regulation and metering stations (GRMS) cannot be heard at the sensitive receptors at hardly any of these facilities in any functioning mode or in any reference period. The Sines Liquefied Natural Gas Terminal, owned by REN Atlântico, and the REN Armazenagem facilities fully comply with regulatory provisions on noise pollution.



Noise monitoring at Torres Vedras GRMS

Study of noise from extra high voltage lines

Under certain conditions, extra high voltage (EHV) lines emit noise that may disrupt the sound environment in surrounding areas and be heard by the local inhabitants. Although the levels are relatively low, they may bother the local population. As there is little technical or scientific knowledge about noise from electricity lines at national and international level, REN decided to investigate the state of the art of science and technology on noise from extra high voltage lines. REN has therefore sought to obtain the technical instruments it needs for an appropriate assessment of the acoustic situation resulting from electricity lines. These instruments are needed for environmental impact assessments of new lines or monitoring of noise from existing ones to fully comply with legal requirements in Portugal.

REN therefore signed a technological consultancy contract with ACUSTICONTROL, Consultores em Engenharia Acústica e Controlo de Ruído, Lda under which it would conduct specialised studies of noise from extra high voltage lines, define experimental methods on noise from lines and their influence on the environment and develop predictive models for simulating noise based on the physical and electrical characteristics of lines and meteorological characteristics of the surrounding area.

The work done under this contract provided a better understanding of the noise from lines and correlations were established between noise emissions and weather conditions. A spectral pattern of emission was also determined, which was an innovative characteristic that had not been defined before in the literature. The experimental work also helped identify a measurement method for use in noise monitoring and experimental scripts were drafted for measuring residual noise and the particular noise from electricity lines. Theoretic and experimental studies also helped establishing and appraising an effective sound emission model for forecasting purposes. The

model is called REN/ACC and considers the specificity of the lines. It is used to calculate long-term sound levels, as required by Portuguese law. This new model was developed on the basis of published formulae, experimental results found in the pilot programme and an analytical study.

A probability analysis of noise from EHV lines in favourable conditions and on the basis of several climate areas was also carried out in the country. The REN/ACC model was optimised and implemented on spreadsheets, which can be used to calculate long-term equivalent continuous sound level for noise generated by EHV lines during planning or monitoring. The predictive calculation tools developed allow REN to provide better backup for the noise monitoring teams in obtaining long-term noise levels in each year of monitoring, thereby meeting legal requirements on ambient noise. The calculation procedure has been approved by Agência Portuguesa do Ambiente (APA) and so REN does not have to conduct different noise monitoring campaigns, because the calculations include sound emission situations for different weather conditions.

Professor Bento Coelho
ACUSTICONTROL, Consultores em Engenharia Acústica e Controlo de Ruído,Lda

Monitoring and supervision

It is essential to implement monitoring and supervision plans to ensure compliance by the environmental impact statement and an assessment of the effectiveness of measures.

No. of works subject to post-assessment monitoring per environmental aspect

Birdlife	11
Ambient noise	10
Electromagnetic fields	1
Water resources	1
Flora	1
Iberian wolf	1

In 2009, 20 works on the electricity grid and eight on natural gas stations and pipelines received environmental monitoring and supervision.

Good cooperation between REN and its service providers is essential for effective environmental management during works, maintenance, operation and decommissioning of infrastructures. In 2009, REN therefore published the fourth version of the technical specification Environmental Management in the Provision of Services, which ensures harmonisation of environmental management practices at its service providers. This specification raises their awareness of the environmental impacts of their activity and lays down minimisation measures for each type of service.



In 2009, awareness and training sessions on the guidelines were held for REN employees, supervision teams and service providers to ensure uniform application of the specification in all Group companies.

PPDA – environmental performance promotion plan at electricity and natural gas companies

In early 2009, ERSE approved REN’s environmental performance promotion plan (PPDA) for 2009-2011. It consists of seven measures involving a total of around 17 million euros in EMF research, protection of biodiversity, environmental restoration of line corridors and awareness raising for new audiences. For the first time, in compliance with the new PPDA regulations for regulated companies in the electricity sector, in December 2009 ERSE and the members of the assessment panel visited some of the work done by REN under this PPDA. This type of visit allows the regulator to better monitor the implementation of the different measures and achieve a clearer idea of the environmental benefits that they bring.

More information on: <http://www.erse.pt/pt/desempenhoambiental/ppda/sectorelectrico/Paginas/default.aspx>

Environmental performance plans (PPDA) are voluntary regulation instruments that foster improvement in the environmental performance of regulated companies in the electricity and natural gas sectors.



Most important measures of the national electricity grid PPDA 2009-2011

LIFE + Estepárias Project
(partnership with LPN)

This project aims to promote the conservation of birds on the grain-growing plains in Baixo Alentejo and three vulnerable species in particular: the bustard (endangered), little bustard (vulnerable) and lesser kestrel (vulnerable).

Effectiveness evaluation of birds anti collision devices (partnership with QUERCUS)

This project is intended to assess the new anti-collision devices, such as the Firefly Bird Flapper, effectiveness in reducing wild bird collisions.

Protection of protected species
(cork and holm oaks)

This project is intended to minimise the impact of RNT line corridors on cork and holm oak stands and the species that use these woods as a habitat, by raising lines.

Protection of birdlife

- Installation of nesting platforms
- Anti-perching devices
- Transfer of nests

“A vida no Condoninho” Project
(Renata series)

Case study

Preservation of protected species

The preservation of protected species (cork and holm oak) is designed to minimise the impact of electricity grid line corridors by raising the lines in cork and holm oak stands, which also protects the wildlife that uses these woods as a habitat.

In 2009, the Palmela-Sines 2 line was the project's target and in 2010 it will be implemented in the Palmela-Sines 3 line. The corridors of these lines are located mainly in areas of dense cork oak stands and every year trees need to be felled or pruned if they infringe on the safety distance from the lines imposed by the High Voltage Line Safety Regulations.

The resulting reduction in felling and pruning helps to protect the cork and holm oak, both of which are species of undeniable interest and have protection status in Portugal.

The project began with the selection of the most critical spans on the basis of their strip maintenance history, the distance of the trees from the conductors measured by laser from a helicopter and the type of vegetation in each span, in order to decide which pylons needed raising.

The work on the 400kV Palmela-Sines 2 line involved raising some 60 pylons by around 6 metres, which in turn lifted the cables in 90 spans.

Expected results

This measure is expected to avoid the need for future work on around 30% of the 7,355 cork and holm oaks counted under the spans in question.



The PPDA of REN Gasodutos, REN Atlântico and REN Armazenagem for 2008-2010, the gas tariff period, are currently in the execution phase.

At REN Gasodutos, the projects in this plan include an agreement with Instituto da Conservação da Natureza e Biodiversidade (ICNB) aimed at measures to protect the Santo André and Sancha's natural reserve lagoons and the start of the pilot phase of a plan to install solar panels at gas regulation and metering stations (see case study on installation of solar thermal panels at GRMS, page 82).



“Dedicated protection of the Santo André and Sancha's natural reserve lagoons”
is designed to improve conditions for wintering and migrating birds and minimise impacts on priority habitats on the banks and ensure that the transport of natural gas is compatible with the conservation of habitats in the reserve.



The main project in the REN Atlântico PPDA is an assessment of possible impacts of the discharge of cold water (from regasification of liquefied natural gas) and injection of sodium hypochlorite (to prevent the development of microorganisms in the pipes). The first results announced in 2009 indicated that there were no significant impacts (reduction in temperature and presence of sodium hypochlorite) from the discharge of water into the sea, particularly on the communities in subtidal and intertidal sand and rocky habitats.

The only measure in the REN Armazenagem PPDA is in its initial phase and entails the monitoring of vegetation at the water withdrawal point in Osso da Baleia.

For more details about the PPDA's, see:

- www.ren.pt>Electricidade>Centro de Informação>Publicações>Plano de Promoção do Desempenho Ambiental
- www.ren.pt>Gás Natural>PPDA
- www.erse.pt>Energia e Ambiente>Planos de Promoção do Desempenho Ambiental

3.2 Biodiversity

“The Biodiversity is one of the biggest wealths of the planet and nevertheless the less recognised as such...”

Edward O. Wilson (1992).
Biologist, founder of the E.O. Wilson Biodiversity Foundation

REN has made the following commitments to biodiversity:

- To ensure the inclusion of biodiversity issues in all of REN’s activity
- To identify the impacts of the company’s activity on biodiversity, assess the risks and take measures to minimise negative impacts and foster activities with positive impacts
- To involve all employees, suppliers and service providers in this field
- To form partnerships with organizations in order to make the best decisions on mitigating impacts
- To support nature conservation initiatives that help minimise and offset impacts of its activities

REN is aware of its impact on biodiversity and, in addition to action taken to fulfil its legal obligations (e.g. minimisation and compensation measures arising from environmental impact statements), it undertakes countless voluntary initiatives to preserve biodiversity.

REN has joined the Business and Biodiversity initiative, which it uses as a reference in its work in biodiversity. Since then, REN has participated actively in the public debate on sustainability and biodiversity issues. For example, it took part in the Biodiversity Forum at the Green Festival, the largest sustainability event in Portugal.

Sensitive areas occupied (area / length and % of total)

Stations/facilities	0.46 km²	5%
Extent of pipelines /lines	1,001.56 km	11%

The European Union Business & Biodiversity project fosters relations between companies and biodiversity and makes a significant contribution to its protection and the pursuit of the 2010 target of stopping the loss of biodiversity at local, national, regional and global level.

REN sponsored and participated in the publication of the Global Compact International Yearbook 2009, in which it published an article on its partnership with Centro de Estudos da Avifauna Ibérica (CEAI) to preserve Bonelli's eagle. The yearbook came out in July 2009.

REN was the only Portuguese company adherent to the Global Compact initiative to publish an article in the yearbook.

More information on:
http://www.unglobalcompact.org/NewsAndEvents/news_archives/2009_09_15.html



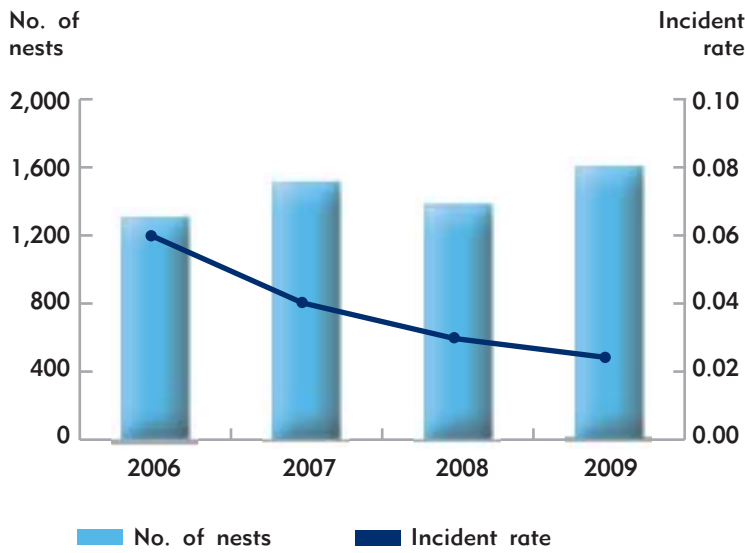
In all, there are 49 species with habitats in areas crossed by REN infrastructures. Their IUCN³ Red List classifications are as follows:

IUCN Classification	No. of endangered species
Endangered	2
Threatened	2
Vulnerable	17
Nearly threatened	28

Protection of birdlife

One of the main environmental impacts on birdlife comes from changes in their habitats.

Incidents involving white storks



³ IUCN - International Union for Conservation Nature



Protecting the white stork

REN has been taking action to control white stork nesting. In 2009, under the PPDA, it installed 279 anti-perching devices, set up 130 nesting platforms and transferred 68 white stork nests to platforms in lower-risk locations. There has been a constant decrease in the incident rate involving the species.

The environmental impact assessment of the Tunes-Estói and Sines-Portimão lines identified significant impacts on birdlife due to their proximity to Bonelli's eagle nests. The first period of compensatory measures and specific monitoring of the Bonelli's eagle ended in 2009 for both projects, which began in 2006. After three years of measures to increase the availability of food, improve their nesting habitat and study the interaction between eagles and lines, it is now possible to evaluate the effectiveness of the measures.



In 2009, REN also maintained the compensatory measures on the Alqueva – Brovales line (Portuguese section of the Alqueva – Balboa line) to mitigate its impact on the little bustard and crane by improving their feeding areas and roosting sites.

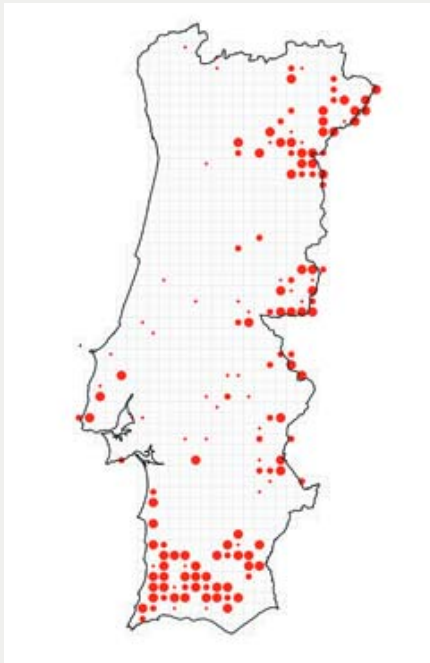


Name
Bonelli's eagle

Scientific name
Hieraetus fasciatus

Conservation status
Least concern (at global level – IUCN) but considered endangered in Portugal (ICNB)

Distribution:
Most of southern Portugal, while in northern and central Portugal it is mainly limited to the Douro and Tagus border region



Source (map): Equipa Atlas 2008. Atlas das Aves Nidificantes em Portugal (1999-2005)

Implemented measures

- 1. Increase of food resources for Bonelli's eagle couples** by restoring the population of wild rabbits and refurbishing and restocking dovecotes
- 2. Management of nesting habitat** – Artificial platforms were built for nesting. Agreements were also signed with owners of potential nesting sites to minimise disruption and guarantee more appropriate ecological conditions. Fire lanes were also cleared around the nesting sites to reduce their vulnerability.

Monitoring

Bonelli's eagles are monitored by direct observation and satellite telemetry.

Results and following steps

- Improvement in quality of available habitats (more food), increase of wild rabbit population along the Sines-Portimão line from 25% to 45% in the area of intervention
- Replacement in the period of breeding adults along the Tunes-Estói line but not the Sines Portimão line

Monitoring of the species also confirmed data on its habitat preferences and determined the highest risk conditions, on which decisions on future projects can be based. Compensatory measures in the second period will continue the work already done.





Common crane



Little bustard (female)

Names
Little bustard, common crane

Scientific name
Tetrax tetrax; Grus grus

Conservation status
Little bustard:
Nearly threatened (IUCN)
Crane:
Least concern (IUCN)
In Portugal: vulnerable (ICNB)



Implemented measures

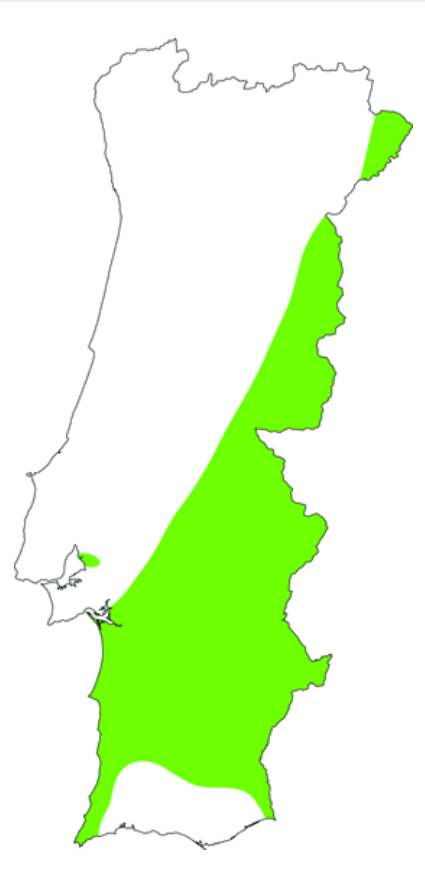
1. Promotion of feeding areas by maximising biological value of appropriate sites
2. Promotion of new roosting sites – in addition to managing around 500 ha of feeding habitat for the bustard and 190 ha for the crane, REN set up new roosting sites for the crane (2 dams) to reduce the need to cross lines when moving from roosting sites to feeding areas.



Monitoring

The crane is watched directly and the little bustard is watched directly and by satellite telemetry.

The seeded areas have been used by the target species and the dams have been used occasionally for roosting.



Source (map): SPEA

Distribution (little bustard):
Alentejo plains in unwooded areas

3.3 Consumption and emissions management

REN's main sources of greenhouse gas emissions are associated with its activity, i.e. electricity use at its facilities and, more significantly, electricity losses in the national transmission grid.

Greenhouse gas emissions

	2008	2009
REN's direct emissions(t CO₂eq)		
CH ₄ - Natural gas purges ¹	575	1,294
CO ₂ - Flare burning ²	-	948
CO ₂ - Own use in boilers	13,232	14,352
CO ₂ - Use in co-generation	1,228	1,440
SF ₆ - Sulphur hexafluoride	397	683
Natural gas	7	10
Total	15,439	18,727
Indirect (t CO₂eq)		
Fuel for fleet of vehicles	2,095	2,099
Electricity ³	31,142	23,730
Electricity losses from grid ³	268,415	201,598
Diesel in other equipment	24	17
Total	301,676	227,444

¹ The increase in purges was due to the re-routing of the Castanheira do Ribatejo GRMS in July. During the operation it was necessary to purge a significant amount of NG as a resulting of the sectioning and cut of a stretch of the main pipeline

² In 2009 programmed work was carried out at the LNG terminal resulting in the release of natural gas in flare burning.

³ The reduction in indirect emissions associated with losses from the grid is due to a change in the emission factor used. For the first time, the information provided by the electricity distributor on its labelling was used. The figure for losses from the electricity grid in 2009 was 569 GWh.

REN seeks to minimise its indirect emissions by means of preventive maintenance of its facilities, which it has been developing and reinforcing, with positive results in reducing losses and associated emissions. Another source of indirect emissions is travel by Group employees. REN has increased the use of videoconferences between company premises and in international meetings, whenever possible, to reduce these emissions. A total of 209 videoconferences were held in 2009.

The main source of REN's direct emissions is use of natural gas in its boilers in the regasification of natural gas and controlled purges of methane (from the national natural gas transport network). There was a scheduled stoppage in 2009, for maintenance work at the REN Atlântico natural gas terminal. This resulted in the safe release of natural gas from vaporisation in the tanks by flare burning. Together with the re-routing operation at Castanheira do Ribatejo, this explains the increase in emissions compared to 2008.



Case study

Installation of thermal solar panels at GRMS (measure within REN Gasodutos PPDA)

The national natural gas transport network (RNTGN) incorporates a number of gas regulating and metering stations (GRMS). These stations are equipped with systems that reduce pressure from the appropriate scale for transport to the scale of the distribution networks or the industrial processes that they supply.

The reduction in pressure needed to transport natural gas brings its temperature down. In order to meet legal requirements for the delivery of NG at a temperature of $\geq 0^{\circ}\text{C}$, these GRMS have heating systems using hot water from natural gas burning boilers. Demand for natural gas for these processes in the RNTGN totalled 54,228,725 KWh, in 2009, which corresponded to CO_2 emissions of 10,952 t (approximately 77% of the emissions from gas transport).

This PPDA project is designed to complement the existing heating system with a thermal solar system, which will operate as an alternative during the day.

Expected benefits

- Reduction in greenhouse gas emissions from burning fuel, natural gas, hot water production and, in particular, from heating fluid for natural gas pre-heating at GRMS
- Preliminary studies conducted by REN Gasodutos at two typical GRMS estimate that the thermal solar energy system will be able to produce 350 MWh a year, which may result in a reduction of around 14% in annual CO_2 emissions and a saving of some 23% in the company's own natural gas consumption.

Partnerships

Partnerships and cooperation have been instituted with different entities as stakeholders in the field of alternative energies in general and solar energy in particular, which have skills and know-how in the sector, such as:

- Agência para a Energia (ADENE): energy audits of pilot facilities
- Laboratório Nacional de Energia e Geologia (LNEG) – preparation of technical specifications for the engineering project, acquisition, supply and assistance in the analysis of bids, supervision of the work and monitoring of the system.

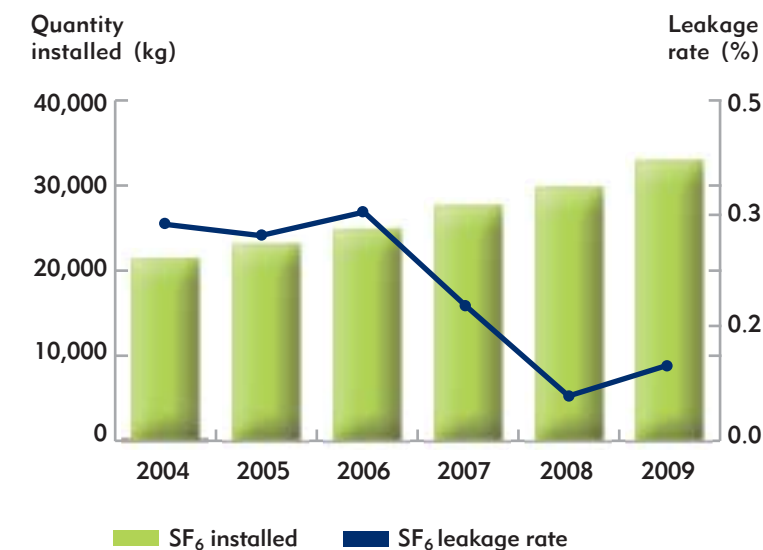
Next steps

After the new system has been implemented, another two energy audits will be conducted to appraise the real energy gains achieved by the new system. Its applicability to the other stations will be assessed from the recommendations in the reports.

Emissions from leaks of sulphur hexafluoride (SF_6), a gas in a number of types of equipment in the electricity grid, can be significant due to this gas's global warming potential. They have therefore been controlled by maintenance plans, real-time monitoring of gas pressure and renewal of the oldest equipment. The SF_6 leakage rate in 2009 was 0.09%.

The increase in the SF_6 leakage rate in 2009 against 2008 was essentially due to two fortuitous events: a serious technical problem in a circuit breaker at the Batalha substation, which led to the loss of all the gas, and the other during maintenance of the shielded substation in Carriche (where there is a large amount of this gas) to solve persistent leakage problems that have been occurring since the substation went into operation. The other emissions of this gas in 2009 occurred in old equipment, which is being replaced.

SF_6 leakage rate evolution



Training and certification of SF_6 technicians

In view of recent regulatory requirements, REN began a training and certification process for employees. In November and December 2009, training courses were held for technicians to consolidate their knowledge of the physical and chemical characteristics and greenhouse potential of SF_6 . They also learned more about identifying the gas's quality parameters and methods for controlling the risks of filling, recovery and regeneration operations.

Four awareness-raising sessions on the subject were also held for all technicians in substation assistance teams, which involved 62 employees.





Buildings’ energy performance

Regarding the energy performance of its buildings, as required by the regulations on the matter, REN continued the certification of its buildings in Lisbon (head office and Sacavém B), Pombal (1 and 2) and Bucelas and their audits were completed in 2009. REN also began energy and indoor air quality audits of its Vermoim and Sacavém E buildings and issued a call for tenders for these services at the Ermesinde and Sacavém A buildings. In compliance with the law on facilities covered by the intensive energy consumption management system, energy audits were performed at REN Atlântico and REN Armazenagem. An energy consumption reduction plan is already being implemented as a result of the audit of the liquefied natural gas terminal.

Protecting the ozone layer

Although this is not the most environmentally significant aspect of its activity, REN is also making its contribution to implementation of the Montreal Protocol (which provides for restriction of the use of ozone-depleting substances). In previous years, REN disposed of or replaced its fire-fighting equipment containing some of the substances regulated by the protocol. It currently has a plan to replace older cooling equipment at its facilities.

International Day for the Preservation of the Ozone Layer - 16 September

This date, which has been celebrated since 1995, was chosen by the United Nations General Assembly to commemorate the signing of the Montreal Protocol on ozone-depleting substances, which was opened for ratification on 16 September 1987.

Consumption management ¹

REN - Redes Energéticas Nacionais	2008	2009
Materials		
Nitrogen (m³)	893	758
Ethylene glycol (t)	10	0
Lubricating oils(l)	7.275	1.044
Lubricating grease (t)	0.2	0
Oil for transformers (t)	12	11
pH reducing agent: H ₂ SO ₄ a 38% (l)	3,325	5,075
Caustic soda (t)	0.35	0.23
Sodium hypochlorite (t)	140	146
Gas odouriser (THT) (t)	39	48
Oil reused (t)	51	19
Supplies		
Ink cartridges and toners (no.)	5,714	1,639
Office paper (t)	32	28
Recycled paper for in-house use (t)	5	6
Energy consumption		
Electricity consumption (infrastructure and buildings) (GJ)	234,684	241,040
Natural gas consumption (co-generation, boilers, pilots and controlled flare burning) (GJ)	257,757	295,205
Diesel in other equipment (GJ)	335	228
Propane gas (GJ)	2,418	0
Natural gas consumption (GJ)	132	182
Fuel for vehicle fleet (GJ)	28,812	28,837
Losses from the electricity transmission grid (GJ)	2,055,942	2,048,062
Losses from the gas transport network – purges (GJ)	1,475	3,658
Energy generated / sold		
Primary energy generated (co-generation) (GJ)	10,984	10,290
Direct primary energy sold (co-generation) (GJ)	7,703	7,091
Consumption and discharge of water		
Consumption of water from the mains (m³)	77,063	82,284
Withdrawal of water from underground sources (m³)	2,053,026	1,846,617
Use of seawater (m³) ²	69,855,000	72,835,000
Discharge of brackish water into the sea (m³) ³	1,568,011	1,764,157
Discharge of brackish water for treatment (m³) ³	371,159	611,604
Free chlorine – annual average (mg/l)	0.68	0.56

(1) Consumption of materials is estimated on the basis of quantity purchased for restocking.
(2) Withdrawal and discharge of seawater used in regasification of liquefied natural gas.
(3) Discharge of water resulting from the construction of natural gas underground storage salt cavities for storing natural gas



Waste management

The expansion of the electricity transmission grid and the dismantling of decommissioned infrastructures continue to be responsible for the Group’s growing waste production. Total waste produced by the activities of REN - Rede Eléctrica Nacional increased against 2008, particularly due to the installation of an underground cable in an urban setting.

The table below shows waste sent for appropriate disposal. Recovery and recycling of waste account for 75% of all waste sent.

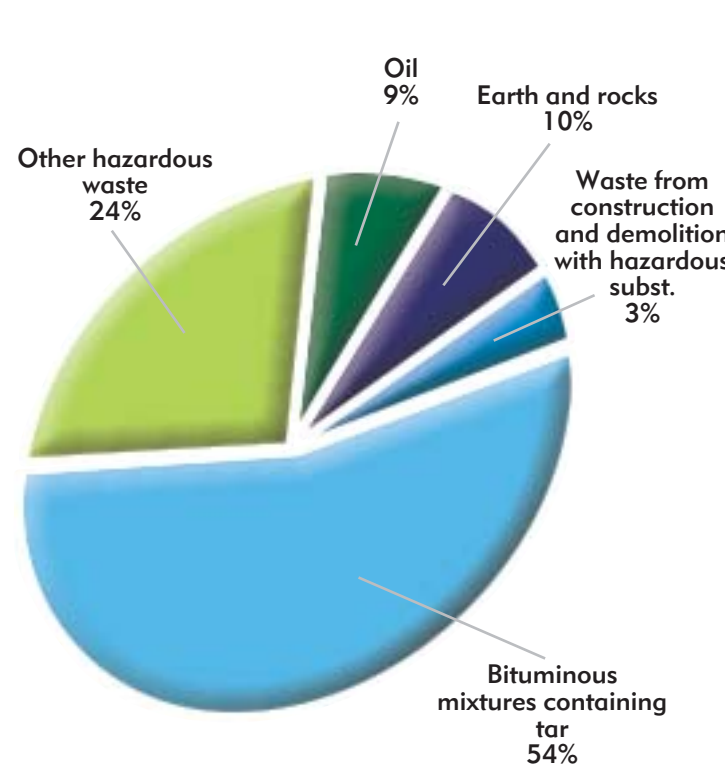
Waste destination

Final destination	Waste sent (t)	
	2008*	2009
Landfill	2,581	3,469
Treatment	48	1,170
Elimination	1,574	8,119
Recycling	3,222	4,855
Reuse	4	126
Recovery	43,761	33,278

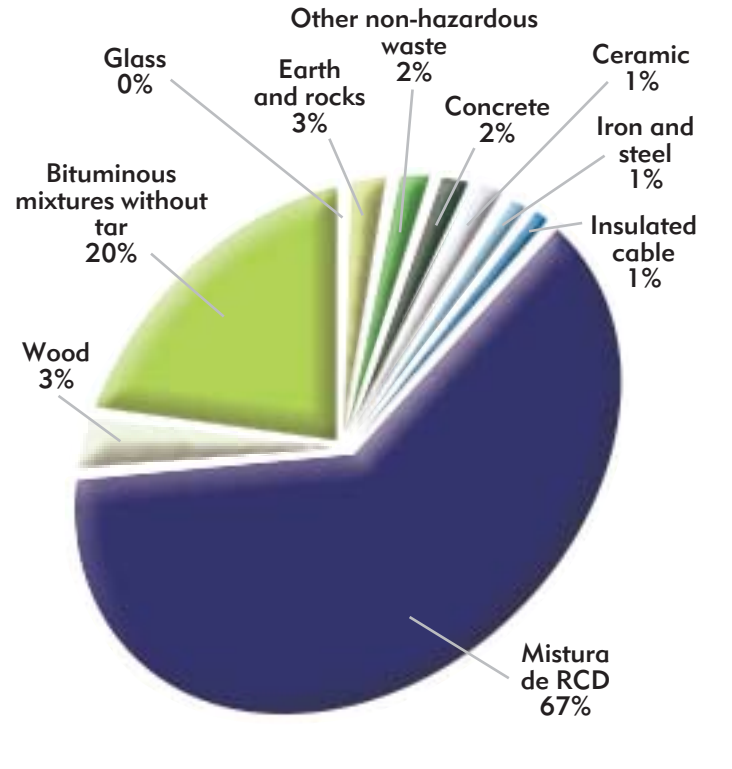
(*) Figures only for REN - Rede Eléctrica.

In 2009, the Group produced 1,439 tonnes of hazardous waste and 49,578 tonnes of non-hazardous waste, of the following types:

Percentage of hazardous waste - 2009



Percentage of non-hazardous - 2009



4. Creating value

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Respect and protect human rights

4.1 REN’s team

“(…) is a company made up of honest people, highly competent, extremely loyal people who work hard […] and act in accordance with high ethical standards.”

Rui Cartaxo
Interim Chairman of the Board of Directors and Chairman of the Executive Committee,
December 2009

At REN, the guarantee of sustainable human capital management requires investment in people with increasingly higher skills and in attractive work conditions that offer balanced compensation for efforts made in a climate of social stability and personal satisfaction. Attracting, keeping and motivating employees and adapting their skills to the company’s goals are REN’s priorities in its human resources’ management.

The challenges in 2009 in an unfavourable socioeconomic setting were successfully overcome by the REN’s team. This success is owed to employees’ sense of responsibility and belonging in relation to the Group.

In 2009, the Group focused on harmonising human resources’ management policies and practices and rejuvenating the employees on its payroll. This strategic orientation comes from REN’s youth as a business group and the need to integrate the cultures of the different companies in it by creating new procedures and an integrated human resources’ management model common to the entire Group. This entails:

- Harmonisation of a number of procedures associated with rights and obligations in remunerations management
- Implementation of a single computer application for the whole group and resulting harmonisation of some administrative procedures
- Development of a new internal recruitment procedure for great in-house mobility, development of skills and career management

- Redefinition of training management procedures in order to stimulate it.

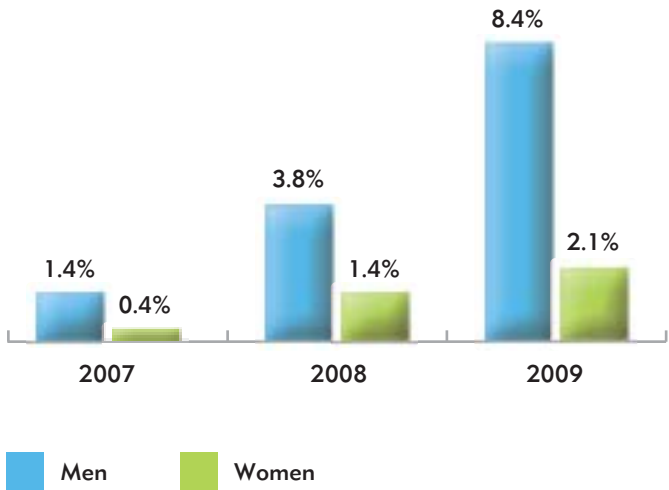
“Add your energy to ours”

In addition, the restructuring of several administrative management processes provided an opportunity to rejuvenate the personnel, which still had a high average age in 2009.

REN employees

No. of employees	746
Age	
< 30	80
30-50	365
> 50	301
Turnover	11%

Turnover by sex



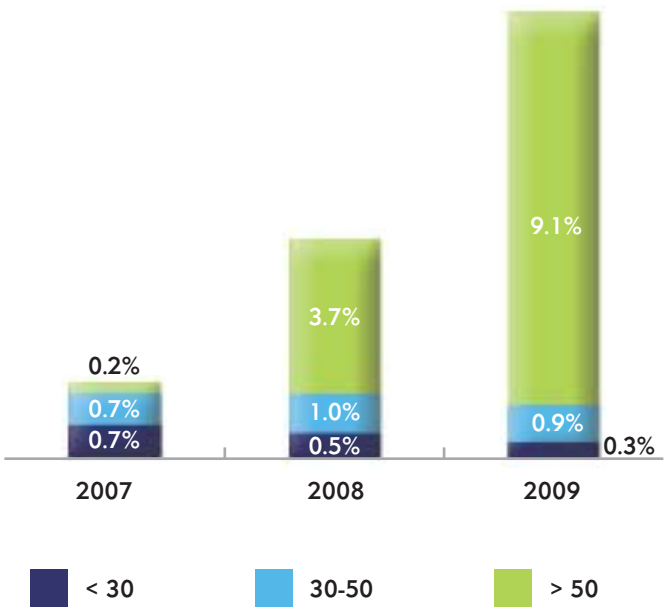
In order to come closer to potential candidates and ensure more effective communication on external recruitment processes, in 2009 REN renewed its job application website under the slogan “Add your energy to ours”.

JOBS

Add your energy to ours.



Turnover by age group

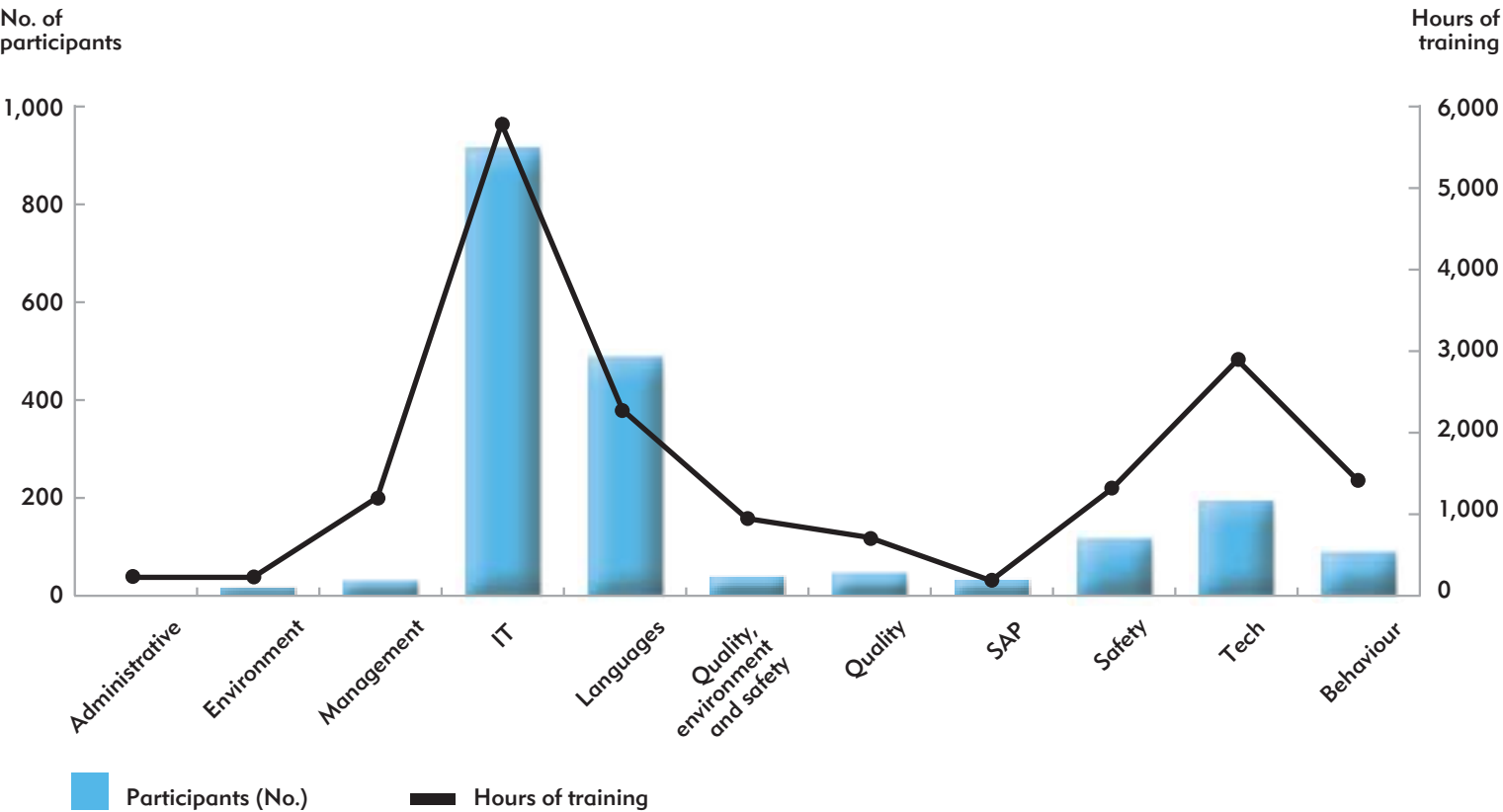


Training and development

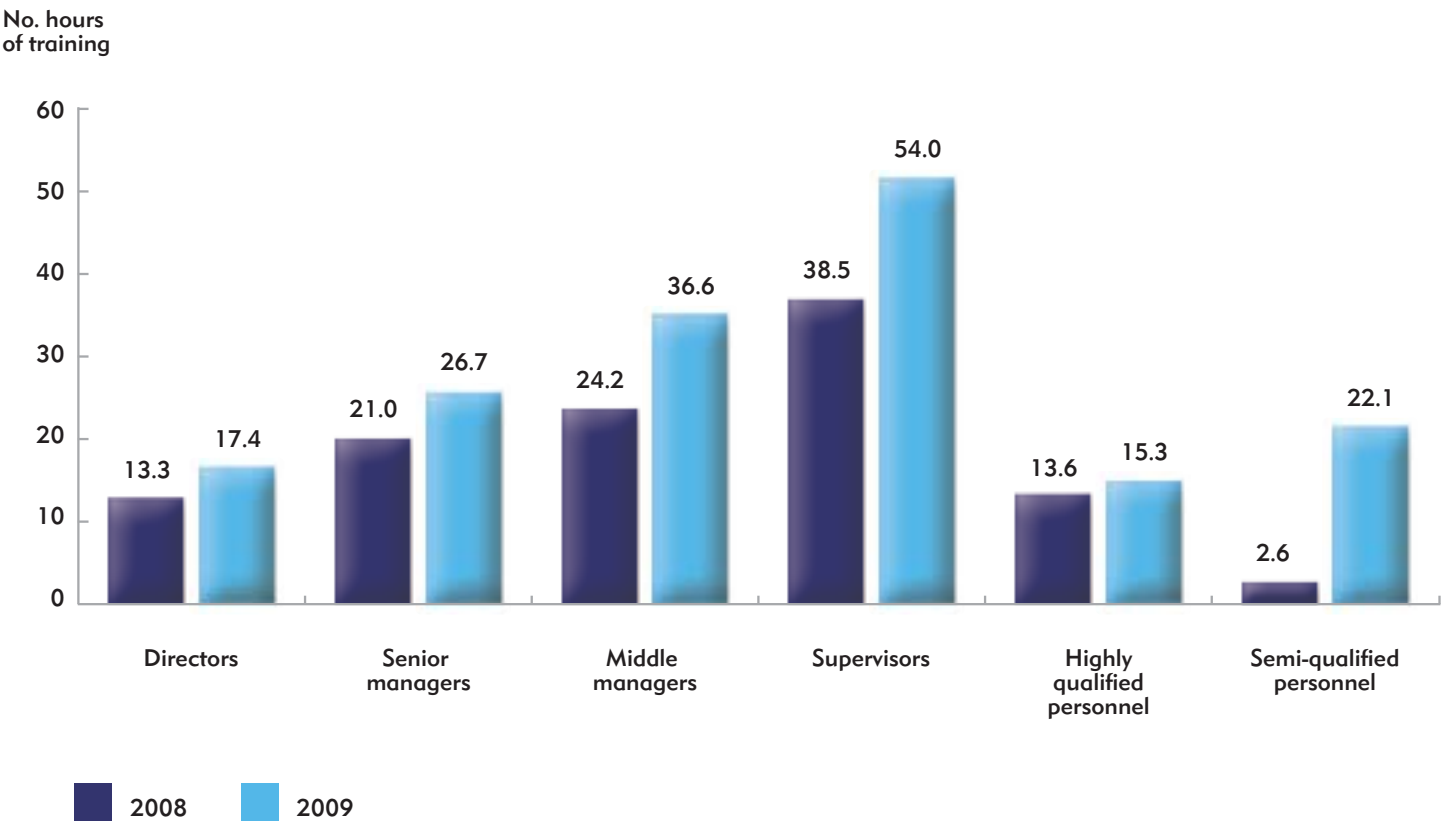
Ongoing employee training has always been considered a fundamental support for the excellence of REN’s performance and has contributed to personal and professional enhancement. REN’s stake in skills development resulted in an increase of around 28% in hours of training and 63% in the number of employees receiving training, against 2008. As a technology-based group, there is a constant concern for updating skills and alignment with international best practices. Close contacts with counterpart companies, participation in congresses, working groups and sector associations are a constant aspect. Employees are encouraged to take Post-graduate, Master and PhD programmes.

	2008	2009
No. of hours of training	13,568	17,248
No. of participants	874	2,012
No. of hours per employee	16.8	23.1

Training Areas

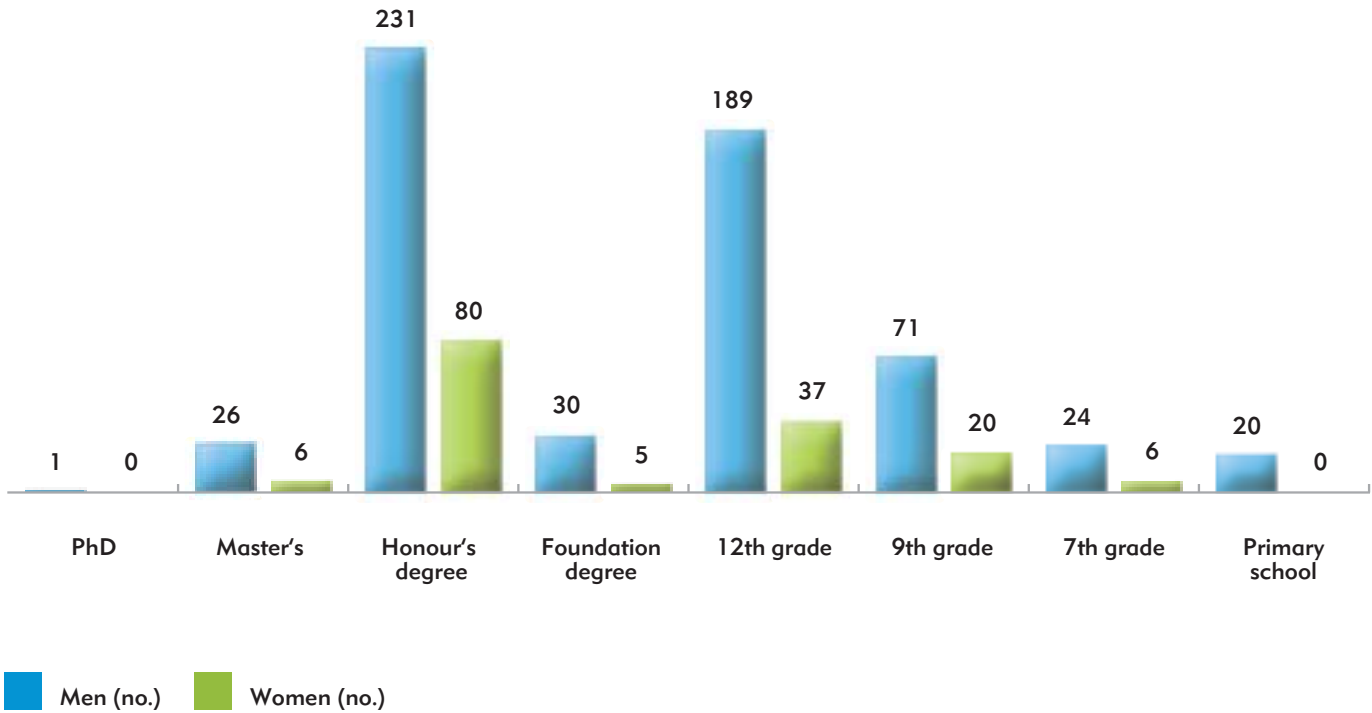


Training by occupational category



Also as part of its policy of supporting training and education, in 2008 REN introduced the new opportunities programme "Learning is Worth It", promoted by the Ministry of Education and the Ministry of Labour and Social Solidarity. It is aimed at making the 12th grade a minimum qualification. The second upper secondary group with 13 students was formed in 2009 along with an eight-student class to complete compulsory education. Classes were taught at REN's premises.

Academic qualifications by gender



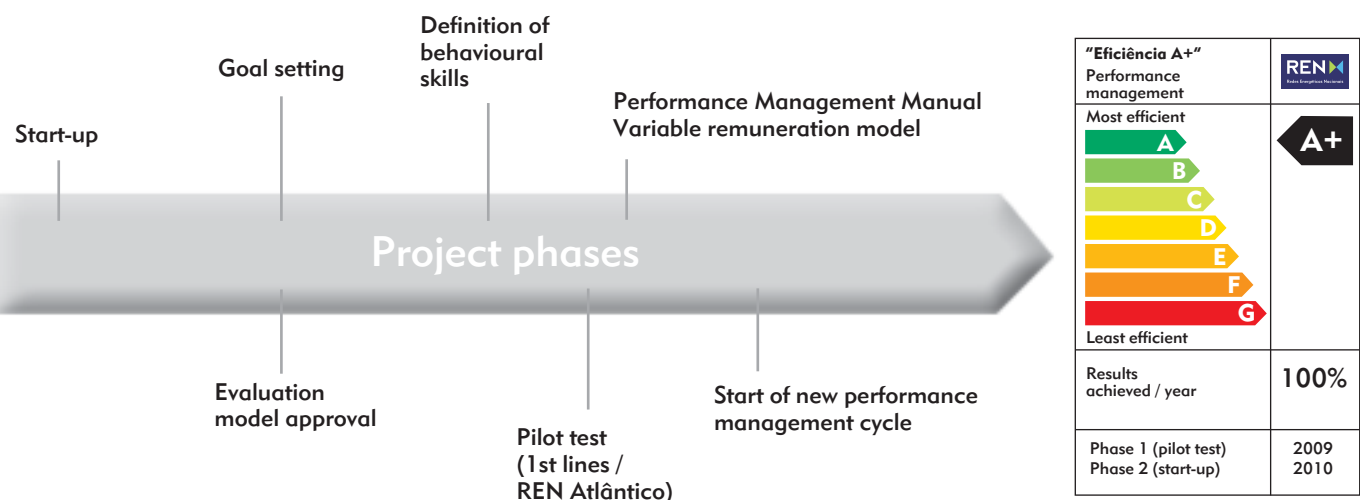
A significant point in human resources' management is that more than 50% of REN's employees have university-level qualifications.

Performance and progression

In line with REN's harmonisation of human resources' management policies and practices, in 2009 a single performance management model for the entire Group, the "Eficiência A+" Project was developed. It is based on a policy of evaluating and enhancing performance and is designed to strengthen a culture of commitment to results, to foster a sense of responsibility, to recognise individual and team merit and to improve operating performance and quality of service. The aim of the Eficiência A+ Project is to promote positive differentiation of employees' performance: differentiation through positive results and efficiency. The project is a pillar of the Group's human resources' management and will be complemented by a job and career management model and compensation and benefit management model.

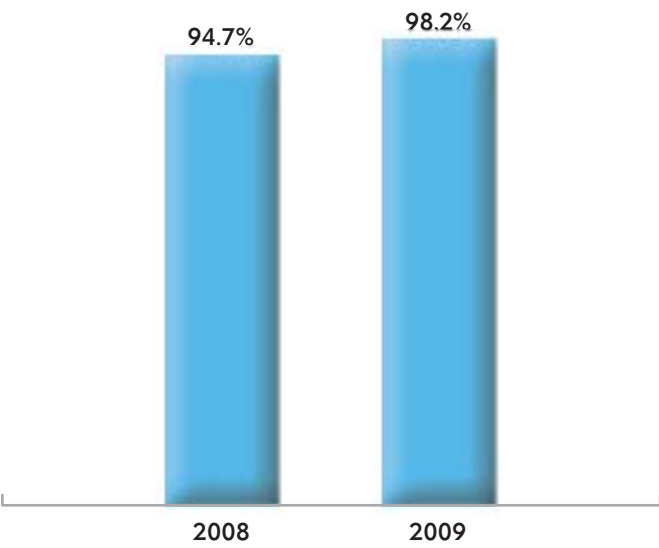


Performance management model – “Eficiência A+” Project



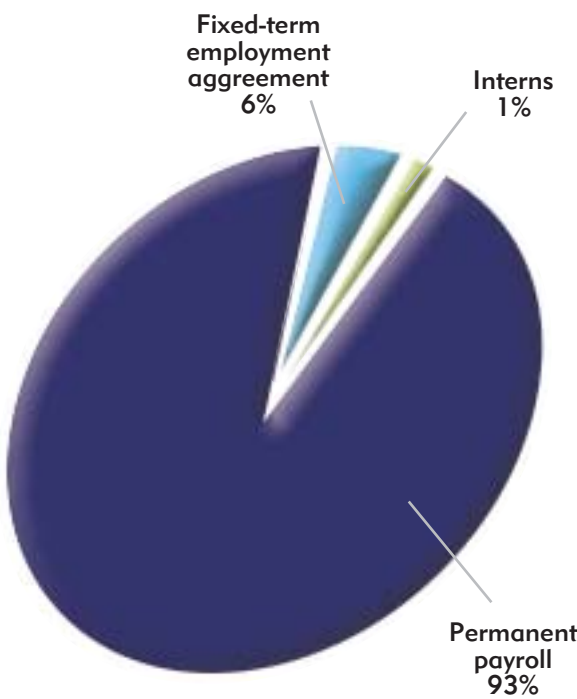
Performance evaluation is carried out annually for the Group, with constant monitoring of achievement of goals. The evaluation of employees' performance in 2008, which was performed in the first quarter of 2009, contributed to the definition of employees' variable remuneration and of priorities in career progression and the identification of training needs. The introduction of the new performance evaluation model for the whole group will afford a unique opportunity for investing in efficient training of all evaluators and evaluatees and stepping up the communication component of the process.

REN employees undergoing performance evaluation and career development



The criterion for calculating these figures is different from that used in 2008 (and so the figure for this year was also altered). It now considers the following: the number of REN employees used is that on 1 July of each year; employees who have had contracts for more than six months are subject to performance evaluation; and interns are not evaluated.

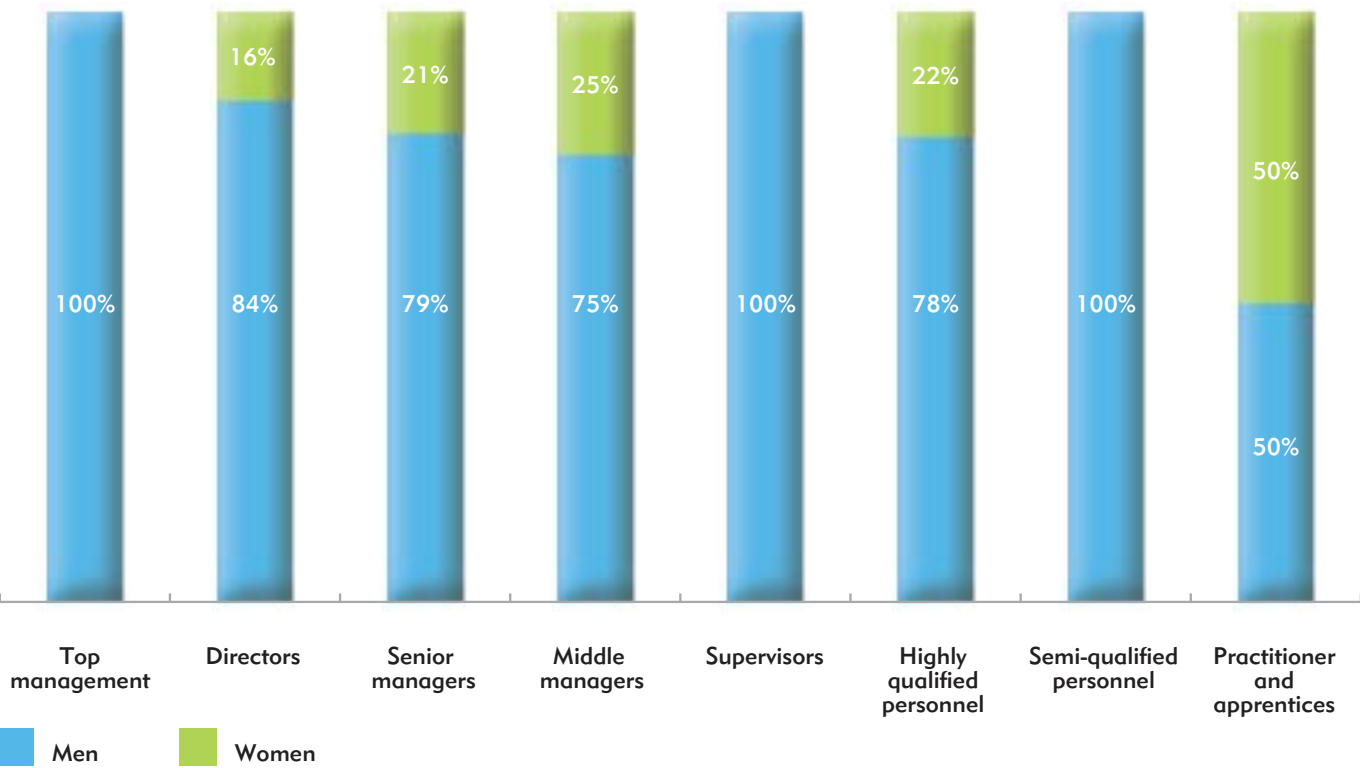
Employees by type of labour contract 2009





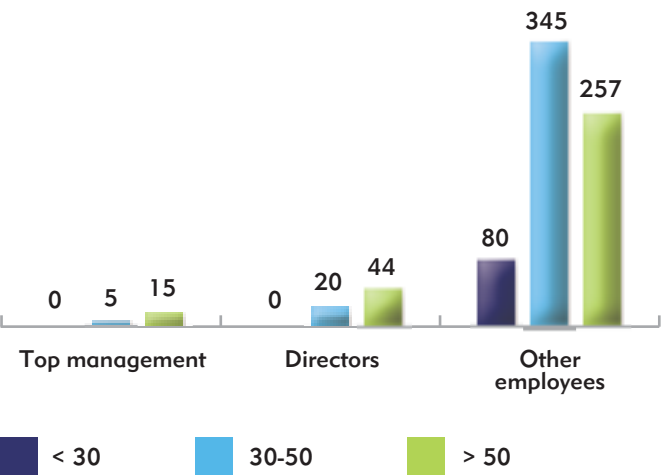
Put an end to discrimination in the workplace

Employees by gender and occupational category



As mentioned above, the reorganisation of processes helped develop a downsizing programme under which 68 employees entered pre-retirement in 2009. This programme, which began in 2008 and will continue in 2010, though with fewer people going into pre-retirement, has progressed calmly. The company informed the workers’ representative committee of the plan and conditions in a climate of mutual trust. By the end of 2009, REN had achieved a nominal reduction of 0.3 years in average age, from 44.9 to 44.6. This corresponds to an actual reduction of 1.3 years, if we take account of the fact that the average would have increased naturally one year at the end of 2009 if there had been no turnover.

Age group by category in 2009



Acknowledging dedication

As in previous years, in 2009 REN held a medal ceremony for employees completing 25 years in the energy sector. This tribute is a company tradition and acknowledges its employees’ quality and dedication.



Compensation and remuneration system

REN’s compensation policy is founded on principles of equality and competitiveness. Employees’ labour relations with REN are based in most cases on a collective employment agreement (CLA) or an

individual employment agreement (IEA). In either situation, the Group gives benefits to its employees that go far beyond their monthly salary in order to afford them better quality of life.

Benefits	REN - Rede Eléctrica Nacional status CLA		REN Gasodutos / REN Atlântico / REN Armazenagem status IEA		REN-Serviços/Trading/SGPS - IEA status	
	PP ²	FTC ³	PP ²	FTC ³	PP ²	FTC ³
1. Occupational accident insurance	X	X	X	X	X	X
2. Personal accident insurance	X	-	X	X	-	-
3. Health plan	X	X	X	X	X	X
4. Life insurance	-	-	X	-	X ¹	-
5. Pension fund	X	-	-	-	-	-
6. Electricity at reduced cost	X	-	-	-	-	-
7. Holiday camps	X	-	-	-	-	-

¹ Does not cover all employees | ² Permanent payroll | ³ Fixed Term Contract



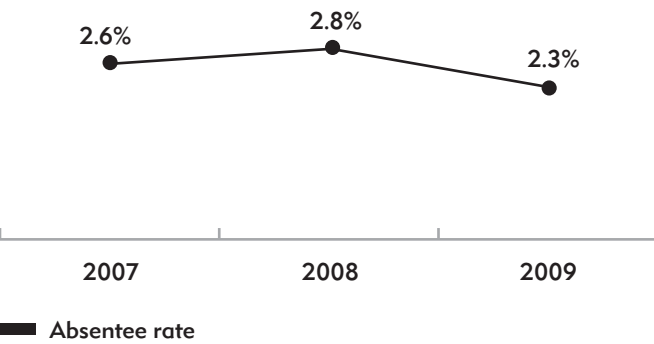
Prevent human rights' violations

Heath and safety

Health care is an essential value for REN, and all Group employees, their spouses and offspring up to the age of 25 are covered by one of two heath plans. The current plans originated in the companies that are now part of the group. The complementary plan to the National Health System covers 503 employees and the health insurance plan covers the rest. All new employees were included in the health insurance plan in 2009.

REN also has an occupational medicine service that provides not only the care required by law but also exams and lab tests aimed at preventive action for its employees' health. A new phase in the provision of this care began in 2009 with the decision to open and equip five healthcare units in their own facilities, thereby affording closer contact between employees and occupational medicine services and minimising travel times and costs. Today, REN has healthcare units at its buildings in Vermoim, Bucelas, Sines and, as of 2009, at the head office. There are also plans to open healthcare units at Sacavém and Pombal.

Absentee rate



REN has contingency plans for emergencies and disasters, including flu pandemics. In 2009, the world was affected by the outbreak of swine flu. REN took prevention measures such as the preparation of the contingency plan and the appointment of a monitoring committee to deal with this potential pandemic.

REN provided employees with information through in-house communication channels, such as REN's weekly internal newsletter and the intranet. It followed the general guidelines of the World Health Organisation and the Portuguese Health Department, according to which vaccination priorities were defined on the basis of exposure to risk (of infection and operating risk).

REN's contingency plan covers the following aspects:

- Preparation and distribution of general information to employees about flu symptoms and measures for preventing infection
- Definition and provision of individual protection equipment and procedures for employees carrying out technical work in high-risk locations
- Definition and implementation of a vaccination policy (when available)
- Monitoring of flu cases
- Definition and implementation of assistance for employees in serious situations due to the flu pandemic

Disinfectant hand gel dispensers were set up at appropriate places at REN's facilities and masks were distributed for protection against swine flue to security staff. The flu outbreak had no effect on REN's activity. Awareness of the fact that working in a safe and healthy environment is a decisive factor for employees' satisfaction and a contribution to successful results meant that REN stepped up its commitment to safety in the workplace.

It therefore redefined policies and procedures, gave training and conducted drills to reduce accidents. These resulted in a considerable drop in the occupational accident rate.

Company	Average no. of employees	No. hours worked	No. accidents		Days lost
			Fatal	Non-fatal	
REN - Rede Eléctrica	400	689,601	0	1	0
REN Serviços	195	320,799	0	1	0
REN Gasodutos	125	222,314	0	0	0
REN Atlântico	42	73,303	0	0	0
REN Armazenagem	11	19,666	0	0	0
REN Trading	8	13,637	0	0	0
REN Telecom	0	0	0	0	0
REN SGPS	18	27,393	0	1	0
Total REN companies	798	1,366,713	0	3	0

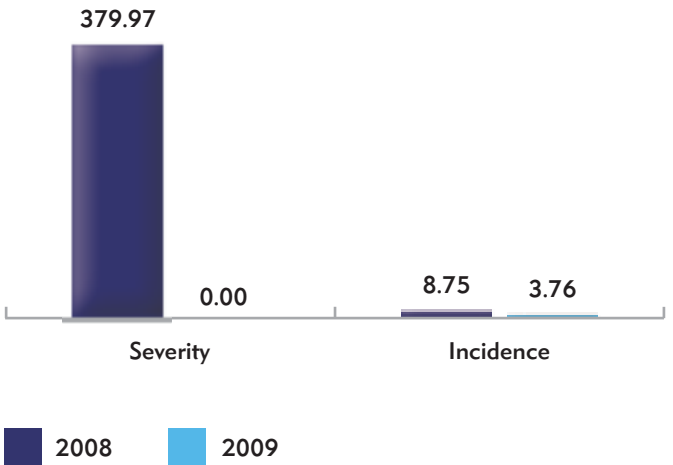


Abolish forced labour



Abolish child labour

Accident rate - severity v incidence - Total companies REN

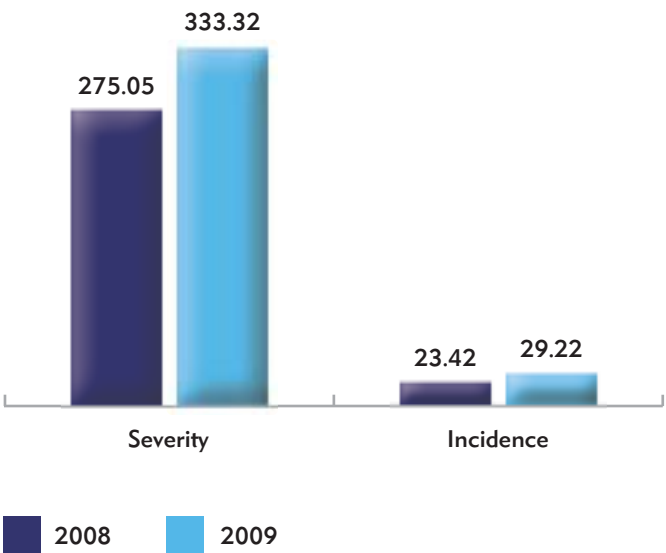


Service providers

REN's technical activities involve particular risks, especially risk of electrocution and falls from height. REN therefore follows all safety procedures, with supervision and coordination by specialised teams. Another REN initiative in this context was 118 safety awareness-raising sessions for service providers under contract. In 2009, 14 contractors received safety training.

	Average no. of employees	No. hours worked	No. accidents		Days lost
			Fatal	Non-fatal	
Service providers	1,711	3,087,166	0	50	1,029

Accident rate - severity v incidence - service providers 2009



Also under REN's occupational health and safety policy, it continued cyclical action aimed at development and ongoing improvement in this area. A number of relevant practices and procedures were revised and updated with a view to ensuring employees' safety when doing their work. This included:

- Reviewing and updating the list of dangers and assessing specific risks
- Preparing guidelines on drafting health and safety plans and safety procedure leaflets for special-risk work in order to harmonise and facilitate documentation required by law
- Reviewing safety and prevention and technical leaflets and specifications for individual protection equipment for REN employees

In 2009, in addition to awareness and training sessions at all group companies on safety issues, a far-reaching plan for monitoring and evaluating lighting and exposure to noise and vibrations in the workplace was implemented. Self-protection measures and emergency plans for buildings are designed to guarantee wellbeing and safety conditions for employees while working. Main prevention measures were taken in 2009:

- Realization of 36 theoretic and practical training exercises and two drills were organised at REN Atlântico as part of the internal emergency plan and protection plan.



- A drill was held at REN Armazenagem, the first at the location, to test the operability of the internal emergency plan, ensure the prevention of serious accidents involving hazardous substances and limit their consequences by preventive action.
- Six drills were held at REN - Rede Eléctrica, at the new Carvoeira, Pedralva and Portimão substations and the Fanhões, Mourisca and Vermoim substations. 70 drills have been held at the company's facilities since the programme began in 2003.

employees access to up-to-date information on the company's activity and dialogue within the company and with stakeholders. The following projects started up in 2009:

- **Intr@REN**, the new REN intranet, providing all employees with up-to-date information on economic, social and environmental aspects at REN
- **REN TV**, a channel for circulating information on the REN Group

Focus group meetings were held as part of the "+ Sustentabilidade" Project to establish direct dialogue and involve employees in REN's activity. These meetings discussed the issue of sustainability. The idea was to hear employees' opinions on the company's sustainability practices and performance and identify their needs and expectations so that future commitments can be defined more accurately.

Communication and dialogue

In-house communication plays a fundamental role in REN's activity in view of the geographical dispersal of its employees. Our communication is intended to minimise the impact of the distance and give all

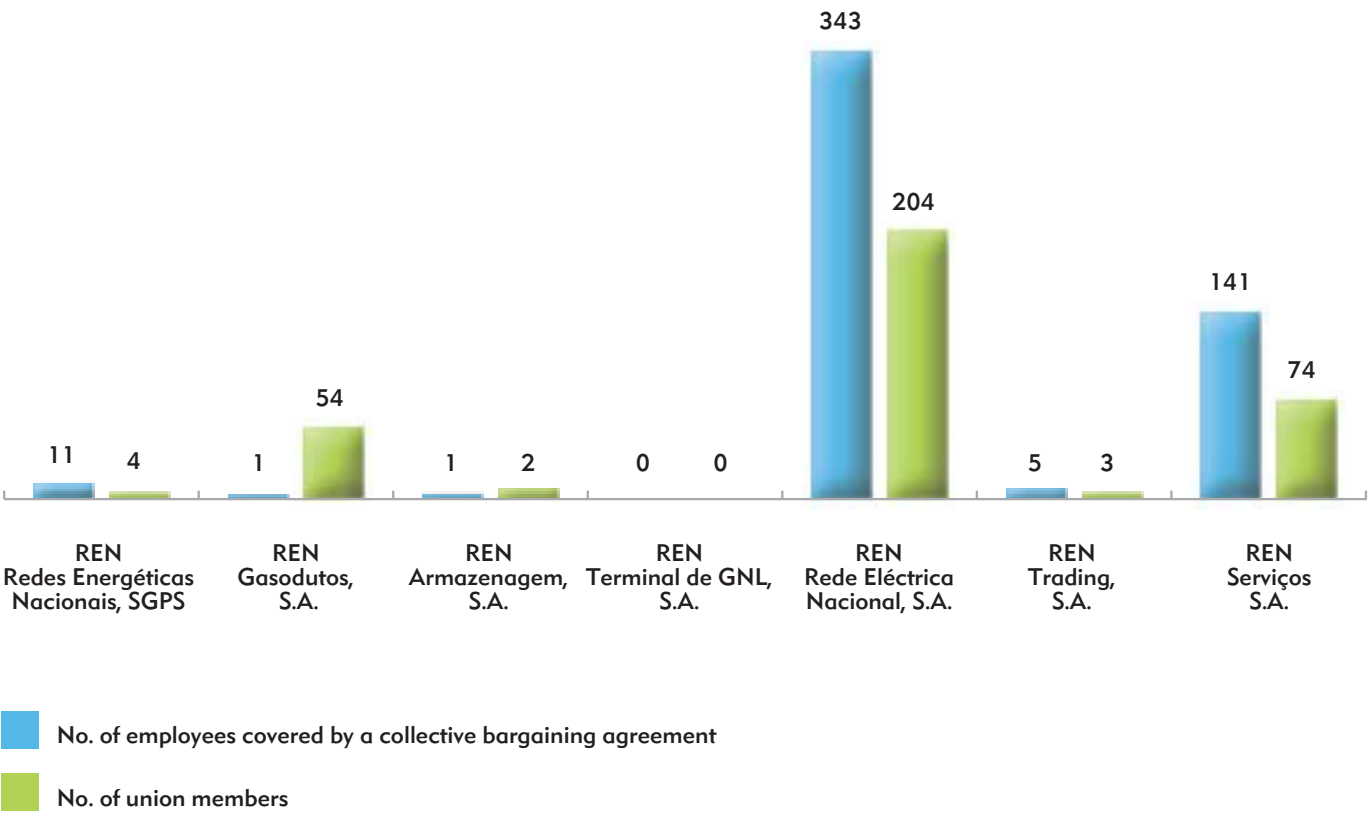


Foster freedom of association at the workplace

Also regarding dialogue, REN maintains a good relationship with the workers' representatives. The Board meets regularly with the Workers' Committee in order to hear their concerns and answer their questions. Whenever necessary, meetings are held with trade union associations at their request or on the company's initiative. Several meetings were held in 2009 to give information on the pre-retirement programme, so that all employees were made aware of it. There were also meetings concerning the

annual pay review and the revision of shift work regulations at REN Gasodutos. The good relationship with workers' representatives was also demonstrated with the Occupational Safety, Hygiene and Health Committee. Its activity resulted in the redefinition of safety training priorities. The Pension Fund Monitoring Committee, on which all employees and beneficiaries are represented, went into operation in 2009.

Trade union membership

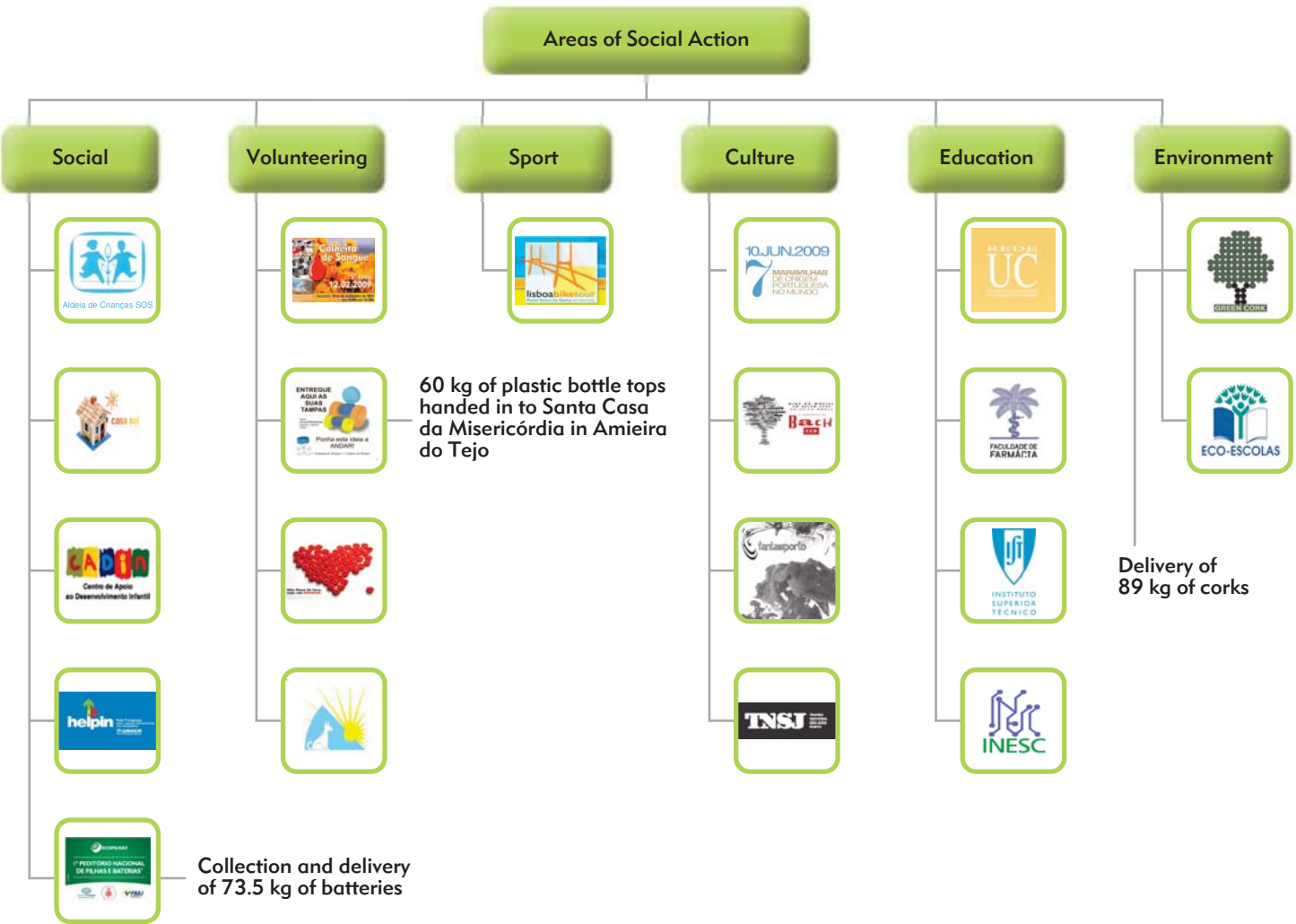


4.2 Community engagement

REN's social activity

As a regulated company and listed in the stock market, REN has special obligations regarding transparency, engagement and listening to its relevant stakeholders and communication of its actions in the three dimensions of sustainability. It therefore works towards finding appropriate solutions to social and environmental issues and acts in line with its sustainability and social responsibility commitments. As in previous years, a number of initiatives were undertaken in a wide variety of work areas in 2009: social, volunteering, sport, culture, education and environment.

Areas of social action



Main social responsibility action in 2009

- Fund-raising campaign for União Zoófila at REN
- National Eco-Código competition, in which students are invited to send in papers on the subject of water, waste and energy
- National Battery Collection Campaign for the cancer hospital (IPO), promoted by ECOPIHAS at REN buildings.



REN receives the “CEEP/CSR-Label” for social responsibility



REN supports the Global Compact Foundation



REN has been a member of the United Nations Global Compact (UNGC) since 2005, and has provided funding for the Foundation for the Global Compact, which contributes to the construction of a more sustainable global economy based on universal principles of human rights, labour practices, preservation of the environment and the fight against corruption.

The current global financial crisis has placed ethics, transparency and risk management at the top of corporate social responsibility and has made the foundation's work even more important.

REN in the community

Communication with the community on the Group's activities is of fundamental importance and takes place continuously via a number of channels. The REN website and sustainability report are the main vehicles for communication with the public. At the same time, REN organises information and awareness campaigns through partnerships with competent bodies and publications that enlighten society on subjects of interest, such as the influence of electromagnetic fields on human health.

REN for large and small audiences

Among the initiatives in 2009, REN appeared on two TV channels (Porto Canal and RTP1) with programmes for different age groups.

Porto Canal

For six months, REN participated in a television programme on Porto Canal, Porto Alive, devoted entirely to the company's activity. This ten-minute weekly programme raised viewers' awareness of environmental issues and answered questions on energy transmission. Every week a different representative of the company or a body working with REN was a guest on the show. The subjects addressed included compensatory measures, the white stork relocation and protection programme and environmental performance plans, among others.



Condoninho da Renata

In 2008, REN joined *Público* newspaper, Fundação para a Computação Científica Nacional (FCCN) and Bio3 in a project that was named Webcegonhas. The initiative consisted of placing a video camera on the top of pylon near a stork's nest. The camera was on 24 hours a day all year and offered live monitoring of life in the nest. People were able to view and comment on the footage on the *Público on-line* website.

The idea was to publicise, to raise environmental awareness and to show society the action that REN has been taking to preserve the white stork. The initiative resulted in another project, “Condoninho da Renata”, a 24-episode, 3D cartoon series in which the leading character is a white stork called Renata. Together with other characters, she raises young people's awareness of environmental issues and energy management and informs them about what REN does in order to demystify some ideas about high-voltage lines.

The series was produced with QUERCUS and sponsored by ERSE.

For more information on “O Condoninho da Renata” go to:

<http://static.publico.clx.pt/cegonhasnaweb/>

webcegonhas powered by



From television to other channels

In addition to TV broadcasting of “Condoninho da Renata” on TV, the episodes were broadcasted by other means, such as Sapó Kids and Meo Kids. This allowed to reach more children, while maintaining the goal of being a show that is directed towards the whole family. The Sapó Kids platform, which is often used not only by children but also parents with them, adapts education to new technologies and encourages viewers to search for information. A Renata webpage was later hosted on the Sapó Kids website and Meo Box (kids’ zone). The episodes are supplied and can be viewed free of charge. In 2009, some 1.5 million people in Portugal had contact with Renata episodes online.

http://videos.sapo.pt/condoninho_ren



RENATA associated with the Seven Portuguese Wonders of Portugal

The association between the 3D cartoon series and the Seven Wonders of Portugal came when “Condoninho da Renata” was already in an advanced stage, but tallied with the project’s initial goals. Social cultural and environmental responsibility were maintained in the sponsorship of the Seven Portuguese Wonders of the World and were associated with Renata, a white stork, which is a bird that travels the world and is not only REN’s ambassador but is also a symbol of Portuguese culture.

The association was possible thanks to the inclusion of Renata episodes during Seven Wonders airtime, with project broadcasts or footage of the cultural monuments in question. The cartoon series was broadcast on RTP on Saturdays and Sundays before the afternoon news, when one of the wonders was highlighted. REN decorated one of the lifts in the Av. EUA building with “Condoninho da Renata” pictures to get employees involved in the Renata project.

The Blackout Game

A platform was set up on the REN website, where users can access the game, in order to publicise REN’s activity in the transmission of energy and challenge players to play the role of management of the national electricity grid. The game is designed to make users aware of the balance between energy supply and demand. They are faced with constant changes in weather and industrial demand. This helped players to understand REN’s activity a little better.

<http://apagao.ren.pt>



Projects in the community

The importance of REN’s contribution to the development of the community is unquestionable, thanks to the direct benefit it brings and its responsibility in the field of corporate social responsibility. REN plays a strategic role in the Portuguese economic scenario in general and the energy sector in particular. This position brings with it an added sense of responsibility for obeying and defending the principles of sustainable development and the commitment to keep and improve an ethical, socially responsible management model. REN seeks to help and develop the community.

REN Award

As in previous years, REN gave the REN Award in order to foster cooperation between universities and industry and to acknowledge works on engineering associated with the electricity and natural gas sectors. In 2009, the 2008 awards went to the following master’s theses:

- 1st prize:** *Solutions for upgrading extra high voltage overhead lines*
- 2nd prize:** *Wind Power Prediction using autoregressive moving average models (ARMA) associated with wavelets*
- 3rd prize:** *Evolutionary parameterisation of grid equivalents for representing non-linear loads in stationary mode*

The 2009 REN Award will be given in the first half of 2010.

For more information on the REN Award, please go to:

www.ren.pt > Grupo REN > PremioREN



REN's role in the connection between universities and the job market

THE REN AWARD

The REN Award was introduced in 1995 for students in Portuguese universities writing final-year papers or master's dissertations on electricity systems.

REN has a long tradition in promoting the connections between universities and the business world. Staffed by engineers of high scientific and technical merit, REN, heir of the brand of excellence of Companhia Nacional de Electricidade founded by Professor José Ferreira Dias in 1947, has, since it was set up in 1994 as part of the EDP Group, from which it became independent in 2000, systematically sought out a fruitful relationship with universities. This relationship has helped to keep up the technical competence that allows it to achieve an exemplary performance in the context of the interconnected European electricity grid.

Real-time management of the electricity system is a challenge that REN's engineers take on with great courage and do not flinch from the responsibility of constantly maintaining a flow of energy that moves society. The electricity grid is the most complex system ever devised by scientists and engineers and we all depend on it for everything.

The REN Award contributes to the prestige of the company that instituted it. REN has asserted itself as a nurturer of technical excellence in Portugal in an unquestionable area of knowledge. The award motivates electrical engineering students to strive for quality in their final assignments, as winning one of the three annual prizes or receiving an honourable mention is an excellent stepping stone to a successful career.

Professor José Pedro Sucena Paiva
Instituto Superior Técnico

Schools

In 2009, REN sponsored the ninth national "Poster Eco-código" competition, which is designed to encourage the participation and creativity of young people involved in the "Eco-Escolas" Programme. The students at the more than 1,000 compulsory education schools involved are invited to send in works on water, waste and energy. The "Eco-Código" is one of the features of the "Eco-Escolas" programme as part of a project for environmental education at schools. The idea is to identify attitudes and behaviour that help to improve the environment at school, at home and in the region, and that all members of the community should follow and implement. The prizes awarded to the schools will be handed out on "Green Flag Day 2009 – Eco-Escolas Award".



Also as part of projects with schools, REN gave a presentation on "Noise... who's that?" at EB 1/JI Vitorino dos Piães school to around 160 students aged from 3 to 9. The aim is to raise children's awareness of issues like noise and the protection of birdlife.



In the "MEDEA" project, students were encouraged to do a work on metering of domestic appliances and electricity lines. REN sponsored Sociedade Portuguesa de Física in the "MEDEA" Programme competition for upper secondary students. The aim was to improve their understanding of the official upper secondary syllabus.

REN and Câmara Municipal de Lisboa¹ complete green corridor in Monsanto

In 2009, REN and Câmara Municipal de Lisboa signed an agreement to build the Zambujal substation in Monsanto Park, among the compensatory measures in its landscaping project is the completion of the Green Corridor.

The project includes the construction, by REN, of a cycle and pedestrian path of approximately 840 m long and 4.4 m wide. Additionally the project includes the restoration and reforestation of the area around the substation with native plant species from the Monsanto Hills.

Cooperation agreement between REN Armazenagem, Câmara Municipal de Pombal² and Junta de Freguesia do Carriço³

In August 2009, a cooperation agreement was signed by REN Armazenagem, Junta de Freguesia do Carriço³ and Câmara Municipal de Pombal². Its aim is to step up collaboration with society, i.e. the local population that has been under way for several years. Under this agreement, in 2009, Carriço Parish Council received funding from REN Armazenagem to buy a 60-seat school bus and will also receive assistance in the enlargement of the elderly care home at Carriço Social Centre.

Also under the agreement, REN Armazenagem will inform the council of the characteristics of the natural gas storage project and it will collaborate with REN Armazenagem in its relations with the local inhabitants, with a view to sustainable, balanced socioeconomic and environmental development.

REN wins prize at XIII ERIAC – recognition of REN employees

REN employees were recognized at the 13th Regional Latin American Meeting of Cigré (ERiac) in Puerto Iguazu, Argentina in May 2009. Three of REN employees (two of them in cooperation with REE colleagues) were awarded the first prize for best paper in the market research committees and another one was awarded with the prize for the second best paper in the environmental assessment committees. On the whole, REN submitted 12 entries at the meeting, two of them with the Spanish National Cigré Committee do (joint authorship with REE employees).



¹ Lisbon City Council | ² Pombal City Council | ³ Carriço Parish Council

5. Challenges

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- 5.2 Climate change 116
- 5.3 Competences in the future 117
- 5.4 Smart grids 118

The work of the energy transmission system operators is entering a phase of profound change in their business model. The main challenges are pressures resulting from:

- Climate change
- Renewable energies
- Transfer of knowledge
- Smart grids

REN is currently going through a transformation in order to keep up with changes in the energy sector. Where physical infrastructures are concerned, REN will keep up its high investment in order to face up to the country's energy challenges. As in 2009, a substantial part of the investment will be directed to connecting new renewable generation power stations. Investments in densifying the transmission grid, the growing "intelligence" of infrastructures and the development of Iberian interconnections are associated with the incorporation of new generation power stations and the challenges of safety of the system and a balance between energy supply and demand. In the natural gas area, investments will continue to go essentially to the expansion of the REN Atlântico terminal and reinforcement of the system's safety in response to the challenges posed by added demand from new gas power stations. The amount invested in 2010 is expected to exceed the 2009 amount, as the Sines project will be entering a very intense phase. There will be substantial investments in transmission grids and system planning and management, in order to ensure continuity of service and guarantee supply, totalling 355.3 million euros in the electricity sector and 110.7 million euros in the gas sector.

Main challenges

- Reinforcing interconnection capacities between Portugal and Spain
- Connection to the national electricity transmission grid (RNT) of new special status generators
- and to the Natural Gas National System (SNGN) (regarding the CCGT power stations) of new large ordinary status power stations
- Supply of consumption points and support distribution grids;
- Supply of major electric and natural gas

One of REN's challenges has been improving the efficiency of all its activity, which is why in-house projects have been set up to reduce operating costs (OPEX) and unit investment costs (CAPEX) of the development and operation of the REN's transmission grid. In this context, REN is conducting benchmarking to identify opportunities for improving the performance of its electricity business by evaluating its internal processes and practices in terms of investment and operating costs. This includes procurement procedures for goods, equipment and services, with a view to sustained creation of value, taking account of best international practices in the benchmarking. The main challenges in optimising investment costs, CAPEX, are obtaining lower costs without reducing quality, the requirements in REN's technical specifications and the impact of high growth in investment on REN's ability to manage projects properly (mechanisms for early detection of deviations in costs and execution times). Regarding OPEX, the greatest challenges are increasing efficiency in reducing unit internal costs and those of suppliers and service providers while maintaining current levels of performance in terms of quality of service.

5.1 Renewable energies

In 2008, wind generation increased by 42% against the previous year, totalling 5.7 TWh, which accounted for 11% of total energy from the public grid "Wind Power in Portugal"

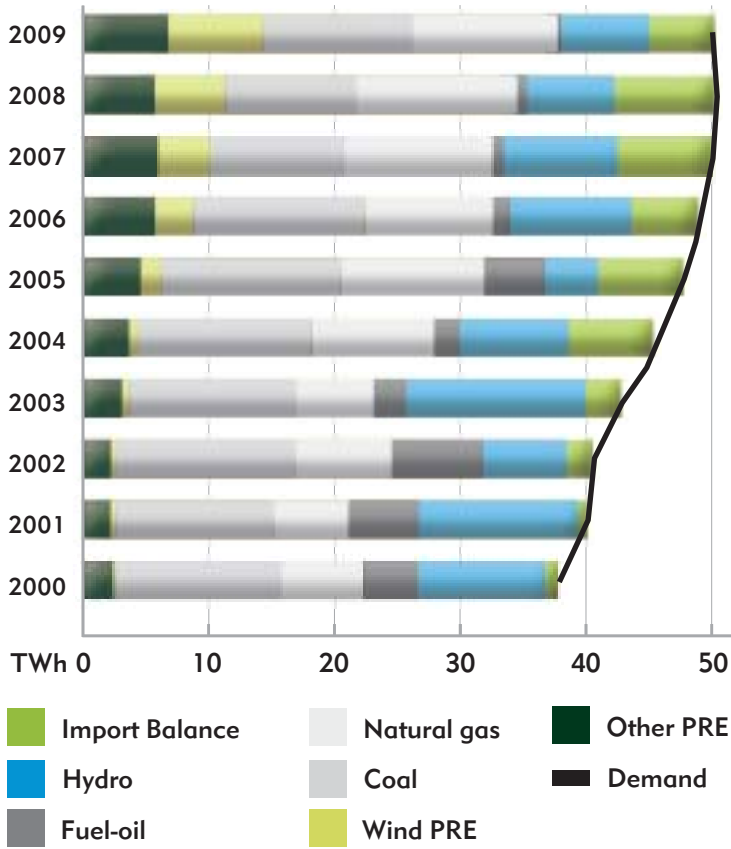
REN

The energy market is undergoing a deep restructuring. Ambitious targets for energy efficiency and renewable energy generation shares resulting from the national strategy for climate change and the national policy for energy resource management have changed the dynamics not only of generation but also, necessarily, of energy transmission. The primary energy mix for electricity generation will continue to undergo significant changes. Renewable energies, associated with rapid technological development, will play an increasingly important role in electricity generation, as shown in the graph on installed capacity evolution. As the concession holder for the national energy transmission grid, REN's role is to provide access and renewable energy transmission. This requires REN to play an active part in increasing penetration of renewable energies and co-generation, which especially means guaranteeing the reliability of the national electricity system and conducting the R&D necessary for the successful incorporation of sources that are highly unpredictable and intermittent. The incorporation of these energy sources continues to pose REN with countless challenges. In view of the considerable uncertainty as to the successful introduction of each of the renewable energy technologies and their location and distribution throughout the country, REN endeavours to keep up with trends in the development of technologies so that, as soon as possible, it can find solutions that best serve the national goals of facilitating the connection of renewable energies to the system at controlled costs.

The significant growth in installed renewable energy capacity in the last four years will be crucial in enabling Portugal to fulfil its obligations in terms of greenhouse gas emissions. The government has set new, more demanding goals, such as the supply of 45% of electricity generated from renewable sources and wind power to 5,100 MW and from hydroelectric plants to 5,575 MW by the end of 2010 and also the development of new policies on biofuels and microgeneration.

In Energy Policies of IEA Countries - Portugal - Executive summary and key recommendations, 2009, International Energy Agency

Installed Capacity Evolution



REN believes that it is making its best contribution to the actual incorporation of renewable energy sources and the consequent reduction in CO₂ emissions, to the promotion and facilitation of the free exchange of energy between agents with the resulting stimulation of the market and to ensuring that the energy prices, where the grid and networks are concerned, is economically sustained and competitive at medium and long term.

Considering the needs identified to meet the challenges facing REN and in order to disseminate its experience and know-how, REN has participated in many conferences, including:

- Transmission and Distribution Summit EMEA 2009 - which addressed the incorporation in the grid of high amounts of renewables, particularly wind power, and the necessary developments in the grid
- Wind Energy - The Facts - description and analysis of aspects of wind generation as a way of achieving energy policy goals
- Integrating Wind Power in Bulgaria - presentation

on Portuguese experience of incorporating large amounts of wind energy in the grids www.ewea.org;

- Workshop on Energy Storage - Challenges for the Future - The purpose of the event was to identify challenges facing electricity systems and the available technologies to meet them, with particular focus on energy storage systems
- Conference of the Greek CIGRE Committee - addressing the incorporation of large volumes of renewables in the national electricity system, with special focus on wind power and large hydroelectric power stations and the expansion of the grid needed that is required for this.



Bornes Wind Farm



Vila Nova II Wind Farm



Ferreira do Alentejo Photovoltaic Power Station

Special status generation (PRE) includes small hydroelectric power stations, wind farms, photovoltaic power stations, co-generation power stations, biomass power stations, waste power stations and other technologies that use renewable energy sources (e.g. wave energy). In 2009, 11 new special status generation facilities were connected to the grid with a total installed power of 750 MW. One was a photovoltaic power station and the others were wind farms and mini-hydroelectric power stations.

The RECS

The RECS, Renewable Energy Certificate System, encourages generation of electricity from renewable sources and guarantees to the customer or supplier that, in acquiring a RECS certificate, they are fostering the generation of renewable energies and thereby reducing consumption of fossil fuels and the emission of harmful gases into the atmosphere. For each MWh of electricity generated by facilities registered in the system, RECS certificate is issued and the producer can trade it on the market. The resulting remuneration complements that from the sale of energy on the electricity market and is an additional reward to energy producers that use renewable sources. In turn, the customer or supplier purchasing the certificate has a guarantee of its origin.

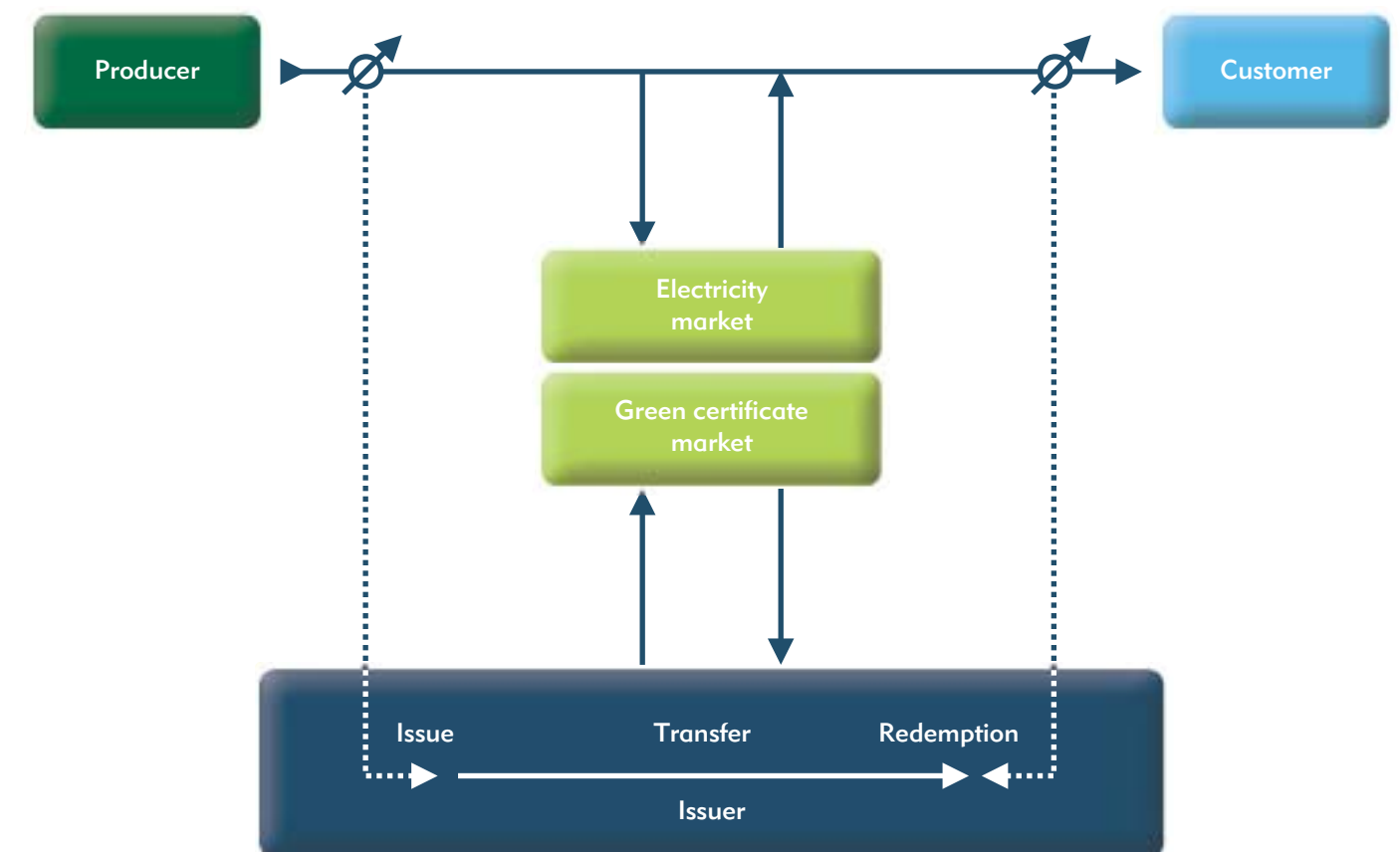
In this sphere, REN is currently responsible for:

- Managing the registration and certification of electricity power stations in the RECS
- Issuing, transferring and redeeming certificates
- Conducting audits at generation facilities registered or awaiting registration in the RECS.

In 2009, more than 150,000 green certificates were issued, 27% more than in 2008.

www.ren.pt > Centro De Informação > Informação Certificados

The RECS





Support a preventive approach
to environmental challenges

5.2 Climate change

REN's main role in contributing to a cleaner energy model that combats the effects of climate change is to be a sufficiently flexible energy transmission system operator for easy incorporation of renewable energies.

However, in respect to climate change, REN has other responsibilities and challenges to address.

Only a flexible, optimised electricity transmission grid can receive and ensure the flow of renewable energies throughout the system with a minimum of restrictions and help to achieve the national goals for penetration by renewable energy sources and the consequent reduction in CO₂ emissions.

REN Trading is directly responsible for managing power purchase agreements with Tejo Energia and Turbogás, with which it controls all relevant information for the formation of expenses and validation of billing and also monitors the CO₂ emission allowance market. Where agreement management is concerned, the volume of activity of the European ETS-Emissions Trading Scheme grew considerably. REN Trading manages CO₂ emission allowances and establishes a carbon management strategy for the two power stations. New agreements were established with entities involved in the CO₂ allowance market in order to buy and sell allowances and perform EUA (European unit allowance) swap operations for CER (certified emissions reductions). REN also devotes special attention to the risks of climate change to its activity, such as those associated with damage to its infrastructures caused by forest fires or extreme weather conditions such as gales and floods. The main costs of minimising the risks of climate change, such as fire prevention, are the result of protecting and cleaning strips and corridors.



5.3 Competences in the future

Over the years, REN has built up an excellent technical reputation based on quality of service indicators that place it among the best companies in the European Union. Changes at REN can be seen in its human resources, who are the company's main asset. In the next five years, approximately 6% of REN's employees are expected to retire, which is a less significant figure than the 20% expected in the next 10 years. REN has taken care to develop policies and programmes to minimise the medium- and long-term impact. This need is even more important in the energy sector, which attracts small numbers of young people to degrees in energy areas. In order to deal with these figures, REN has a policy of rejuvenating its personnel, as part of its human resources' management policy. It is based on a concern for the transfer of knowledge from more senior employees with vast experience on the energy sector to the youngest ones.

This is even more important when considering the change in professional profile of young staff, which is now characterised by a high inter-company mobility, contrary to the specific needs of the energy sector, which requires personnel with a high degree of know-how specific to the sector, which can only be acquired over the years.

The main challenges in attracting and keeping these young people are:

- Demonstrating the crucial role of engineers in society and the opportunities that the career has to offer
- Emphasising the role of engineering in association with technology, creativity and innovation
- Demonstrating the attractiveness of a career in engineering by showing the vital role played by engineers in the future
- Focusing on the benefits of the career in terms of security and stability

It is essential to create opportunities that show society in general and young students in particular the advantages of the sector by greater involvement with schools and universities, such as field trips to REN facilities, open days and internships.

5.4 Smart grids

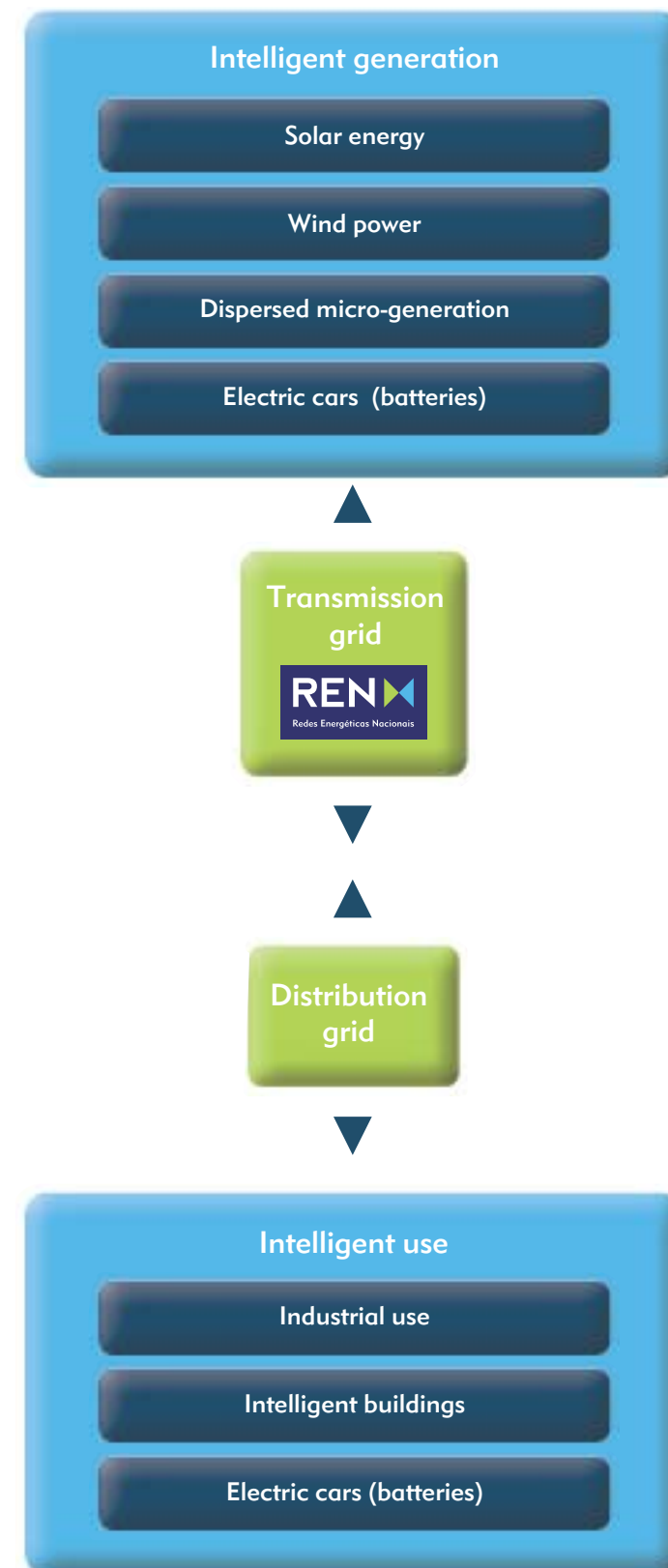
Bidirectional electricity traffic between different market agents, producers, customers and transmission and distribution grids at different voltages makes managing the balance between supply and demand increasingly complex and requires intelligent grids. The challenges of intelligent grids require the growth and adaptation of systems in terms of:

- Interconnection of major generation power stations/areas to demand centres/areas
- Continuous monitoring of dynamic stability of the grid
- Optimisation of existing corridors use
- Provision of transparent information and supply options to customers
- Electricity consumers involvement, enabling them to play a role in an efficient system's operation.
- Appropriate and real time management of the volatility of supply and demand

Intelligent grids require innovative products and services complemented by efficient monitoring, control and communication systems to guarantee security of supply and significant reduction of the environmental impact of the whole chain of supply. REN's stake in RD&I projects and monitoring of technological development is also important in this context.

Intelligent grids will have to include not only large quantities of wind, solar and hydroelectric energy (with high intermittency), but also a growing number of dispersed micro-generation sources. The current infrastructures are not prepared for this. The solution entails developing an intelligent grid that ensures a balance between generation and demand.

Intelligent networks



The high penetration of wind, solar and hydroelectric energy is one of the greatest challenges in intelligent transmission and distribution grid systems. It is therefore essential:

- To ensure cooperation between operators of national and international transmission and distribution systems
- To create new technological solutions
- To develop efficient control and monitoring mechanisms
- To ensure the flexibility and safety of the transmission system
- To revise the codes and rules governing the system

Within this new paradigm of the energy sector, electric cars with a capacity for storing energy are an interesting technological advance. Renewable energy that may be produced in excess in low-demand periods, e.g. at night, can be stored and reinserted in the grid at peak periods using these cars' batteries.

Smart grids are therefore technologies that will enable REN to achieve efficiency in electricity transmission on a medium-term and will help to reduce carbon emissions

www.smartgrids.eu



Annexes

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- Calculation criteria 136
- Verification report 137

Energy glossary

CER Certified emissions reductions	OMIP Operador do Mercado Ibérico de Energia (Pólo Português), S.A.
CIGRÉ International Council on Large Electric Systems	OSG Ordinary status generators
EHV Extra high voltage	PPA Power purchase agreement
EMF Electromagnetic Fields	PPDA Environmental performance plan
ENTSO European Network of Transmission System Operators for Gas	PRE Special status generators
ERGEG European Regulators’ Group for Electricity and Gas	RECS Renewable Energy Certificate System
ERSE Energy Service Regulator	REE Spanish Transmission System Operator
ETS Emissions Trading Scheme	RES Renewable energy sources
ETSO European Transmission System Operators	RNT National electricity transmission grid
GRMS Gas regulating and metering station	RNTGN National natural gas transmission network
HV High voltage	RNTIAT National LNG transport, storage terminal network
IEPs In-house emergency plans	SEN National electricity system
LNG Liquefied natural gas	SEP Public service electricity system
MIBEL Iberian Electricity Market	SNGN National natural gas system
NG Natural gas	TIE Equivalent interruption time
OMEL Operador del Mercado Ibérico de Energía – Polo Español, S.A.	TSO Transmission system operators
OMI Iberian Energy Market Operator	For more electricity industry terms, please go to the Edison Electric Institute website on www.eei.org

GRI Correspondence

Reference	Description	Type (E/A)	GC	Page
1.	Strategy and analysis			
1.1	Chairman’s statement			Page 6
1.2	Impacts, risks and opportunities			Pages 6, 29-33, 63, 64
2.	Organisational profile			
2.1	Name of the organisation			Pages 4, 140 www.ren.pt > ren group > shareholder structure
2.2	Primary brands, products and/or services			Pages 21-22 R&A Page 45 www.ren.pt > grupo ren > áreas de negócio
2.3	Operational structure			Page 22 CGR Page 18
2.4	Location of headquarters			Page 140 www.ren.pt > ren group > contacts
2.5	Countries in which the organisation operates			Page 21 R&A Page 3 Page www.ren.pt
2.6	Nature of ownership and legal form			Pages 4, 140 CGR Page 15 www.ren.pt
2.7	Markets served			Pages 21-22 www.ren.pt > ren group
2.8	Scale of organisation			Page 20
2.9	Significant changes			Page 24
2.10	Awards received			Pages 5, 9
EU1	Installed capacity (MW), broken down by energy source and by country or regulatory regime			Page 20 www.ren.pt > Electricidade > Centro de informação>Informação Técnica > Dados Técnicos; www.ren.pt > Gás natural > Sistema nacional do gás natural
EU2	Net energy output broken down by primary energy source and by regulatory regime			REN’s activity does not include energy generation and it is therefore not considered relevant to the Group.
EU3	Number of residential, industrial and commercial customer accounts			Page 20
EU4	Length of transmission and distribution lines			Page 20
EU5	Allocation of CO ₂ emissions permits by country or regulatory regime			REN’s activity does not include energy generation and so it is not subject to emissions permits. This is therefore not relevant to the Group.



Reference	Description	Type (E/A)	GC	Page
3.	Report parameters			
	Report profile			
3.1	Reporting period			Page 4
3.2	Date of most recent report			Page 4
3.3	Reporting cycle			Page 4
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	Report scope and boundary			
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3.6	Boundary of the report			Page 4
3.7	Specific limitations			Page 4
3.8	Basis for reporting			Page 4
3.9	Data measurement techniques and bases for calculation for calculation			Page 136
3.10	Re-statement of information			None
3.11	Significant changes from previous report			There are no changes from the previous report.
3.12	GRI content index			Pages 123-135
	Assurance			
3.13	Assurance			Pages 137-139
4.	Governance, commitment and engagement			
	Governance			
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4.2	Role of the Chairman			CGR page 20
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4.4	Communication mechanisms with shareholders and employees			Pages 40-41
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4.6	Conflicts of interest			Page 28 www.ren.pt > ren group > sustainability
4.7	Qualifications and expertise of directors			CGR page 17
4.8	Mission and value statements, codes of conduct and principles			Pages 12-13, 28 www.ren.pt > ren group
4.9	Procedures for overseeing economic, environmental and social performance			Pages 28-30, 57, 95, 96 CGR pages 41-46
4.10	Processes for evaluating the highest governance body's own performance			CGR page 51
	Commitment to external initiatives			
4.11	Implementation of the principle of precaution		7	Pages 28-30
4.12	Charters, principles or other initiatives to which the organisation subscribes or endorses		7	Pages 5, 50 www.ren.pt > ren group > sustainability



Reference	Description	Type (E/A)	GC	Page
4.13	Membership in associations and/or national/international bodies		7	Pages 5, 50 www.ren.pt > ren group > R&D
	Stakeholders' engagement			
4.14	List of stakeholders			Pages 34, 40-41
4.15	Basis for identification and selection of stakeholders			Page 34
4.16	Approaches to stakeholder engagement			Pages 33
4.17	Key topics and concerns raised through stakeholder engagement and organisation's response			Pages 35, 39-41
	Economic performance			
	Availability and reliability			
	Management approach			Pages 6, 42-47
EU6	Availability and reliability of electricity supply	E		Pages 20, 42-47 www.ren.pt > Destaques > Plano de Desenvolvimento e Investimento da Rede de Transporte 2009
	Demand management			
EU7	Demand-side management programmes including residential, commercial and industrial programmes	E		Pages 44-45 www.ren.pt> electricidade > centro de informação > > publicações > monitorização da procura
	Research and development			
EU8	Approach to research and development	E		Pages 50-53 www.ren.pt > ren group > R&D
	Decommissioning of power stations			
EU9	Provisions for decommissioning of nuclear power stations	E		There are no nuclear power stations in Portugal. This aspect is being assessed in national energy policies.
	Economic performance			
EC1	Direct economic value generated and distributed	E		Page 20 R&A pages 11,12
EC2	Financial implications and other risks and opportunities for the organisation's activities due to climate change	E	7	REN identifies risks and opportunities arising from climate change, though it has not yet assessed the financial implications. Partial answer to indicator Pages 112-119 www.ren.pt > centro de informação > publicações
EC3	Coverage of the organisation's defined benefit plan obligations	E		Pages 97, 98 R&A page 119





Reference	Description	Type (E/A)	GC	Page
EC4	Financial assistance received from government	E		In 2009, the electricity grid received €23,921,537.63 in incentives under the “PRIME” Program, “ <i>Programa de Incentivos à Modernização da Economia</i> ”.
Market presence				
EC5	Ratio of standard entry level / national minimum wage	A	6	The minimum wage at REN is 1.01 times higher than the national minimum wage.
EC6	Policy, practices and proportion of spending on locally based suppliers	E		Contracts for goods, services and works are based on public contracting rules, especially the new Public Contracts Code. The process entails restricted calls for tenders issued to companies on a list of qualified suppliers for different types of supplies. The electricity grid’s average payment time in 2009 was 50 to 80 days. At REN Gasodutos it was 60 days.
EC7	Procedures for local hiring and percentage of senior management hired from the local community	E	6	REN has no policy limiting hiring of senior management from a particular region of Portugal, the only country in which it operates.
Indirect economic impact				
EC8	Development and impact of infrastructure investments and services provided primarily of public benefit through commercial, in-kind, or pro bono engagement	E		Pages 103
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts	A		Pages 113-115
Availability and reliability				
EU10	Long-term coverage of demand (including reserve)	E		Pages 44-45 www.ren.pt > Destaques > Plano de Desenvolvimento e Investimento da Rede de Transporte 2009
Demand management				
EU11	Average generation efficiency by energy source and by country or regulatory regime	E		REN does not generate energy and so this type of analysis is not made.
System efficiency				
EU12	Transmission and distribution efficiency	E		Pages 20, 46-47 www.ren.pt
Environmental Performance – electricity grid				
Materials				
	Management approach			Pages 6, 7, 24, 25, 56, 57 CGR page 57
EN1	Materials used	E	8	Page 85



Reference	Description	Type (E/A)	GC	Page
EN2	Percentage of recycled materials used	E	8, 9	Partial indicator Pages 85-87
Energy				
EN3	Direct energy consumption	E		Page 85
EN4	Indirect energy consumption	E		www.edp.pt > serviço universal > origem da energia Page 85
EN5	Energy conservation and efficiency improvements	A	8, 9	Pages 80-83
EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives	A	8, 9	Page 80 Pages 112-114
EN7	Initiatives to reduce indirect energy consumption and reductions achieved	A	8, 9	Pages 80-84
Water				
EN8	Total water consumption	E	8	Page 85
EN9	Water sources significantly affected by withdrawal of water	A	8	Pages 63, 64, 72, 85
EN10	Recycled and reused water	A	8, 9	Page 85
Biodiversity				
EN11	Land in protected areas or in areas of high biodiversity value	E	8	Pages 73-74
EU13	Biodiversity of offset habitats compared to biodiversity of the affected areas	E		REN monitors high-impact environmental aspects at the sites of work on lines and substations. www.ren.pt > Electricidade > Centro de Informação > Publicações > Plano de Promoção do Desempenho Ambiental www.ren.pt > Gás Natural > PPDA Partial indicator Pages 72, 76, 77
EN12	Significant impacts on protected areas or areas of high biodiversity value	E		Pages 63, 64, 74
EN13	Protected and restored habitats	A	8	Pages 63-65, 70, 71, 74-79
EN14	Managing impact on biodiversity	A	8	Pages 70, 74-79
EN15	Number of species on IUCN red list	A	8	Page 74
Emissions, effluent and waste				
EN16	Direct and indirect greenhouse gas emissions	E		Pages 20, 80
EN17	Other indirect greenhouse gas emissions	E	8	Page 80 REN does not yet account for its suppliers’ greenhouse gas emissions. Partial indicator.
EN18	Initiatives to reduce greenhouse gas emissions	A	8, 9	Pages 80-87





Reference	Description	Type (E/A)	GC	Page
EN19	Emissions of ozone-depleting substances	E	8	REN does not produce products or services that use ozone-depleting substances. REN has been replacing air-conditioning equipment containing ozone-depleting gases as part of its equipment replacement plan.
EN20	NO _x , SO _x and other significant air emissions	E	8	In REN's activity NO _x and SO _x emissions are not considered significant. This indicator was also not considered relevant by the Group's stakeholders.
EN21	Total water discharge	E	8	Page 85
EN22	Total weight of waste by type and disposal method	E	8	Pages 86, 87
EN23	Significant spills	E	8	There were four oil spills in 2009 in wich 4,609 litres of oil were spilled.
EN24	Waste generated according to the Basel Convention	A	8	Pages 86, 87
EN25	Water resources and habitats affected by discharges of waste water	A	8	Pages 63, 64, 72
Products and services				
EN26	Initiatives to assess and mitigate environmental impacts	E	8, 9	Pages 56-72
EN27	Products sold and packaging recovered	E	8, 9	This indicator does not apply to REN.
Compliance				
EN28	Sanctions and fines for non-compliance with environmental laws and regulations	E	8	There are currently 23 charges of environmental administrative offences pending against REN.
Transport				
EN29	Environmental impact from transport	A	8	Page 80
Overall				
EN30	Total environmental protection expenditure and investment	A	8, 9	Page 56
Labour practices and decent work				
Management approach				Pages 6, 90-97
Employment				
EU 14	Retention and renewal of skilled workforces	E		Pages 90-92
LA 1	Workforce by employment type	E		REN has no part-time employees. All its employees have full-time employment agreements. Page 95
LA 2	Total number and rate of employee turnover by age group, gender, and region			Page 91 The turnover rate by region does not apply to REN, as it only operates in Portugal



Reference	Description	Type (E/A)	GC	Page
EU15	Percentage of employees eligible to retire in the next 5 and 10 years, broken down by job category and by region			Page 111
EU 16	Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors			Pages 98-101
EU 17	Total subcontracted workforces	E		Page 100
EU 18	Training of subcontracted workforces	E		Page 100
LA 3	Benefits provided to full-time employees	A	6	Page 87 R&A page 119
Labour/management relations				
LA 4	Employees covered by collective bargaining agreements	E	3	Page 102
LA 5	Minimum notice period(s) regarding operational change	E	3	The notice periods defined by REN are those in the General Labour Law.
Occupational health and safety				
LA 6	Number of workers represented in occupational health and safety committees	A		Existing committees represent more than 75% of REN's employees.
LA 7	Rates of injury, occupational diseases, lost days, absenteeism and number of work-related fatalities by region	E		Pages 99-100
LA 8	Programmes concerning serious diseases	E		In 2009, 149 medical examinations were performed, including periodic and occasional exams. There was also a Swine Flu Contingency Plan. Pages 98-101
LA 9	Health and safety topics covered in formal agreements with trade unions	A		The topics covered are described in Title XV and Annex IV of the REN Collective Bargaining Agreement.
Training and education				
LA 10	Annual training per employee	E		Pages 91-92
LA 11	Skills management programmes	A		Pages 90-92
LA 12	Employees receiving performance and career-development reviews	A		Pages 95
Diversity and equal opportunitieess				
LA 13	Employees by diversity indicators	E	1, 6	Page 96
LA 14	Ratio of basic salary of men to women, by employee category	E	1, 6	Salaries at REN depend on occupational category and the skills demonstrated rather than on gender.





Reference	Description	Type (E/A)	GC	Page
Human rights				
Investment and procurements practices				
	Management approach			Pages 6, 28, 29, 90
HR 1	Investment agreements including human rights clauses	E	1, 2, 4, 5, 6	According to the REN Gasodutos specifications and general work site regulations, contractors are obliged to submit an authenticated statement in which they pledge not to employ illegal or child labour at any time directly or through subcontractors. In electricity grid construction and maintenance contracts, the documents on the general contract terms and technical specifications contain requirements to guarantee no illegal labour. At REN Armazenagem and REN Atlântico, contractors' technical personnel are identified in advance and must have work permits. Both companies are certified under the SEVESO Directive and subject to annual audits. However, in Portugal these aspects are set forth in the Constitution and general labour law and so the other specifications used by REN do not contain specific human rights requirements.
HR 2	Suppliers screened on human rights	E	1, 2, 4, 5, 6	Compliance with legislation is checked during supervision subcontracting and during audits. REN abides by Portuguese law on human rights. (See answer to HR1).
HR 3	Employee training on human rights	A	1, 4, 5	REN's code of conduct includes respect for human rights. (See answer to HR2).
Non-discrimination				
HR 4	Incidents of discrimination and actions taken	E	1, 6	REN obeys Portuguese laws on human rights and is a signatory of the Global Compact Principles. No incidents of discrimination were recorded in 2009.
Freedom of association and collective bargaining				
HR 5	Right to freedom of association and collective bargaining	E	1, 3	Page 102
Child labour				
HR 6	Child labour risk	E	1, 5	REN abides by Portuguese law, which forbids child labour. REN also subscribes to the Global Compact principles. Compliance with legislation is validated during supervision and audits.



Reference	Description	Type (E/A)	GC	Page
Forced and compulsory labour				
HR 7	Forced and compulsory labour risk	E	1, 4	REN abides by Portuguese law, which forbids forced labour. REN also subscribes to the Global Compact principles. Compliance with legislation is validated during supervision and audits.
Security practices				
HR 8	Security personnel trained in human rights	A	1, 2	REN abides by Portuguese law on human rights. REN also subscribes to the Global Compact principles.
Indigenous rights				
HR 9	Cases of violation of indigenous peoples' rights	A	1	REN operates in Portugal and so this indicator is not applicable.
Society				
	Management approach			Pages 6, 103-109
Community				
EU 19	Participatory decision making processes with stakeholders and outcomes of engagements	E		Page 61
EU 20	Approach to managing the impacts of involuntary displacement	E		The notice periods defined by REN are those in the General Labour Law and it complies with the measures set out in Chapter II, Section I of the REN collective bargaining agreement.
EU 21	Contingency planning measures and disaster/emergency management	E		Pages 29-33, 100, 101
SO 1	Management of impact on communities	E	1	Pages 38, 66, 103 www.ren.pt
EU 22	Number of people displaced by new or expansion projectsrelated to generation facilities and transmission lines broken down by physical and economic displacement	E		The construction of REN infrastructure nationwide involves a considerable amount of subcontracting, most of which is local.
Corruption				
SO 2	Assessment of corruption risks	E	10	The Group's accounts are subject to external audits and legal certification as required by law and therefore the company does not analyse the risk of corruption in its business units or areas. At present, there are no corruption charges in the inquiry phase against any of the Group companies. REN subscribed the anti-corruption letter (September 2009) and the official signing ceremony took place on 22 October 2009





Reference	Description	Type (E/A)	GC	Page
SO 3	Training of employees in anti-corruption practices	E	10	Although the company has not given any specific training on anti-corruption policies and procedures, its whistleblowing policy lays down, “Employees must report to any of the management or supervisory bodies, especially the Audit Committee, any irregular acts coming to their knowledge or that they have reason to suspect in order to prevent irregularities that may cause financial losses or damage REN’s image”. REN subscribes to the Global Compact.
SO 4	Actions taken in response to incidents of corruption	E	10	On 25 November 2009 the Aveiro Criminal Court ordered the suspension from office of the Chairman of REN’s Board of Directors. Meanwhile, as notified to the CMVM (Securities Market Commission) on 2 November 2009, REN’s Audit Committee ordered an independent external audit, the conclusions of which did not identify any act that could be considered a public crime. This audit made it possible to identify areas in need of improvement in terms of internal hiring procedures, decision-making procedures and internal control mechanisms. Further information on the matter can be found in the Corporate Governance Report and on the REN website.
Public policy				
SO 5	Stance on public policy and the practice of lobbying	E	10	REN helps in government studies and forums for the sector. It also participates in projects and working groups of international organizations in the electricity sector, such as EURELECTRIC, CIGRE and ETSO, which actively influence European policies and foster good practice in the sector. Page 51 www.ren.pt > ren group > R&D
SO 6	Financial contributions to political parties	A		REN does not fund political parties. It is forbidden by law for companies in Portugal.
Anti-competitive behaviour				
SO 7	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes	A		REN is the only concession holder for energy transmission in Portugal and its activity is regulated. It therefore plays no part in defining prices. www.ren.pt > ren group> regulatory framework



Reference	Description	Type (E/A)	GC	Page
Compliance				
SO 8	Fines and sanctions for legal non-compliance	E		There were no fines or sanctions in 2009.
Product responsibility				
	Management approach			Pages 6, 25, 115-119
Accessibility				
EU 23	Programmes, including those in partnership with government, to improve or maintain access to electricity services	E		See answer to SO5.
Provision of information				
EU 24	Practices to address language, cultural, low literacy and disability related barriers to accessing and safely using electricity services	E		REN does not distribute energy for retail. Nonetheless, whenever necessary, it publishes information for the general public on the impact of energy transmission, such as the published study and information sessions on the electromagnetic fields and human health.
Customer health and safety				
PR 1	Health and safety related to products and services	E		Pages 30, 98,100
PR 2	Incidents of non-compliance with regulations concerning the health and safety impacts of products and services	A		There were no non-conformities related to customer health and safety.
EU 25	Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases	E		There were no occurrences in 2009.
Product and service labelling				
PR 3	Information on products and services	E	8	Pages 46, 47 www.ren.pt > centro de informação> publicações
PR 4	Incidents of non-compliance with regulations concerning products and services and labelling	A	8	There were no cases of non-compliance regarding information provided by REN in 2009.
PR 5	Customer satisfaction	A		REN conducted a second perceived quality survey as part of its project to improve relations with stakeholders. Page 30 www.ren.pt > destaques > estudo de avaliação do cliente REN - gás natural There was also a satisfaction poll of the official bodies with which REN relates to assess the quality of the relationship, information provided to them by REN and their degree of satisfaction.





Reference	Description	Type (E/A)	GC	Page
Marketing communications				
PR 6	Programmes for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship	E		The principles to which REN abides in terms of communication are set forth in the Code of Conduct (article 14). www.ren.pt > ren group > sustainability
PR 7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communication, including advertising, promotion, and sponsorship by type of outcomes	A		In 2009 there were no incidents related to marketing, advertising, promotion or sponsorship communications
Customer privacy				
PR 8	Complaints regarding breach of customer privacy	A		REN complies with Portuguese law on confidentiality of information and this principle is included in its code of conduct. There were no complaints of breach of customer privacy.
Compliance				
PR 9	Fines for legal non-compliance concerning the provision and use of products and services	E		Total sanctions: 2 – reprimands, against which REN appealed (from 2008) Total fines: 1 – fine of € 200,80 (felling of holm oaks)
Accessibility				
EU 26	Percentage of population unserved in licensed distribution areas, broken down by, population in rural areas and urban areas	E		REN’s activity does not include distribution and so this indicator does not apply.
EU 27	Number of residential disconnections for non-payment, broken down by duration of disconnection	E		REN’s activity does not include distribution and so this indicator does not apply.
EU 28	Power outage frequency	E		The number of interruptions lasting more than three minutes by delivery point was 0.03 Pages 20, 46-47 www.ren.pt
EU 29	Average power outage duration	E		Pages 20, 46, 47
EU 30	Average plant availability factor by energy source and by country or regulatory regime	E		REN’s activity does not include generation and so this indicator does not apply.

Key:
GC - Global Compact principles
E - essential indicator
A - additional indicator
R&A - Annual Report and Accounts
RGS - Corporate Governance Report



Calculation criteria

GRI reference	Description	Definition
EN 3	Direct energy consumption	The higher heating value (HHV) was used for natural gas in 2009, as opposed to the lower heating value (LHV) in 2008.
EN16	Direct and indirect greenhouse gas emissions	Total quantity of direct greenhouse gas emissions (SF ₆ used a dielectric insulator, CH ₄ from pipeline purging and CO ₂ from burning in boilers) and indirect greenhouse gas emissions (from electricity consumption and losses from the grid). In 2009 the emission factor used was 0.354 kg/CO ₂ eq, which is the figure provided by REN's energy supplier, EDP Serviço Universal (source: ERSE).
N21	Total water discharge	Wastewater discharge from LNG regasification and leaching of underground storage caverns
LA7	Rates of injury, occupational diseases, lost days, absenteeism and number of work-related fatalities by region	Ratio between the sum of paid absences due to illness, accident, maternity and other reasons and other, unpaid absences in relation to total theoretic hours
EU27	Average power outage frequency	Quotient of total outages at delivery points during a certain period by total number of delivery points in the same period Electricity: The average power outage frequency is accidental outages lasting more than three minutes at delivery points in a certain period of time (usually one year). Gas: Average accidental power outage frequency at delivery points in a certain period of time (usually one year).
EU28	Average power outage duration	Quotient of the sum of outage times at delivery points during a certain period by total number of delivery points in the same period Electricity: Average power outage duration for certain period of time (usually one year) is the average time of accidental outages lasting more than three minutes at delivery points Gas: Average accidental power outage duration for a certain period of time (usually one year) at delivery points

Verification report



To the board of Directors of
REN - Redes Energéticas Nacionais, SGPS, S.A.

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Independent verification report
Of the “Sustainability Report 2009”
(Free translation from the original in Portuguese)

Introduction

In accordance with the request of REN - Redes Energéticas Nacionais, SGPS, S.A., (REN), we performed an independent verification of the “Sustainability Report 2009” (Report). Independent verification was performed according to instructions and criteria established by REN, as referred in the Report, and according to the principles and extent described in the Scope below.

Responsibility

REN's Board of Directors is responsible for all the information presented in the Report, as well as for the assessment criteria and for the systems and processes supporting information collection, consolidation, validation and reporting. Our responsibility is to conclude on the adequacy of the information, based upon our independent verification standards and agreed reference terms. We do not assume any responsibility over any purpose, people or organization.

Scope

Our procedures were planned and executed using the International Standard on Assurance Engagements 3000 (ISAE 3000) and having the Global Reporting Initiative, version 3 (GRI3) and AA1000APS *Accountability Principles Standard* 2008 as reference, in order to obtain a moderate level of assurance on both the performance information reported and the underlying processes and systems. The extent of our procedures, consisting of inquiries, analytical tests and some substantive work, was less significant than in a full audit. Therefore, the level of assurance provided is also lower.



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For the GRI3 and AA1000APS standard, our work consisted on the verification of the management's self declaration on the application level of the GRI3 and the level of adherence to the AA1000APS principles.

The following procedures were performed:

- (i) Inquiries to management and senior officials responsible for areas under analysis, with the purpose of understanding how the information system is structured and their awareness of issues included in the Report;
- (ii) Identify the existence of internal management procedures leading to the implementation of economical, environmental and social policies;
- (iii) Testing the efficiency of process and systems in place for collection, consolidation, validation and reporting of the performance information previously mentioned;
- (iv) Confirming, through visits to sites, that operational units follow the instructions on collection, consolidation, validation and reporting of performance indicators;
- (v) Executing substantive procedures, on a sampling basis, in order to collect sufficient evidence to validate reported information;
- (vi) Compare the economic and financial data in the "2009 Report and Accounts" audited by an external financial auditor, to assess the external validation of the reported information;
- (vii) Assess the adherence level to the principles of inclusion, relevance and responsiveness as defined in standard AA1000APS 2008, by analyzing the contents of the report and the diagnosis provided by REN on this issue (called "Results of Adherence Standards AA1000AAPS 2008 Diagnostic"); and
- (viii) Confirming the existence of data and information required to reach level A of compliance with GRI3, self declared by REN on the Report, taking into consideration the pilot version of the electric utility sector supplement.

Data and information analyzed include, beside the contents of the Report, information referred on the Report and available at 2009 Corporate Governance Report and 2009 Report and Accounts.

Conclusions

Based on our work described in this report, nothing has come to our attention that causes us to believe that internal control related to the collection, consolidation, validation and reporting of the performance information referred above is not effective, in all material respects.

Based on the assumptions described on the scope, we conclude that the Report includes the data and information required for level A, according to GRI3.

The conclusions are:

- Inclusion: There are defined methodologies and processes for involvement and participation of *Stakeholders* in a comprehensive manner. Regarding the definition of its sustainability strategy REN sought to integrate the relevant issues and expectations of



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Stakeholders. REN should undertake an analysis of existing engagement processes, to ensure their adequacy, completeness and continuity.

- Relevance: The materiality analysis and the results of this evaluation were considered on the sustainability report elaboration.
- Responsiveness: REN responds individually to the expectations and concerns raised specifically by each Stakeholder. Overall, the main form of communication used is the Sustainability Report. In the next reporting exercise REN must demonstrate in greater detail the connection between the contents of the report and the materiality of issues and indicators reported, to ensure the response to Stakeholders. It must also ensure that there are appropriate ways to involve and respond to the material issues for each Stakeholder.

Lisbon, July 23, 2010

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Conselho gráfico

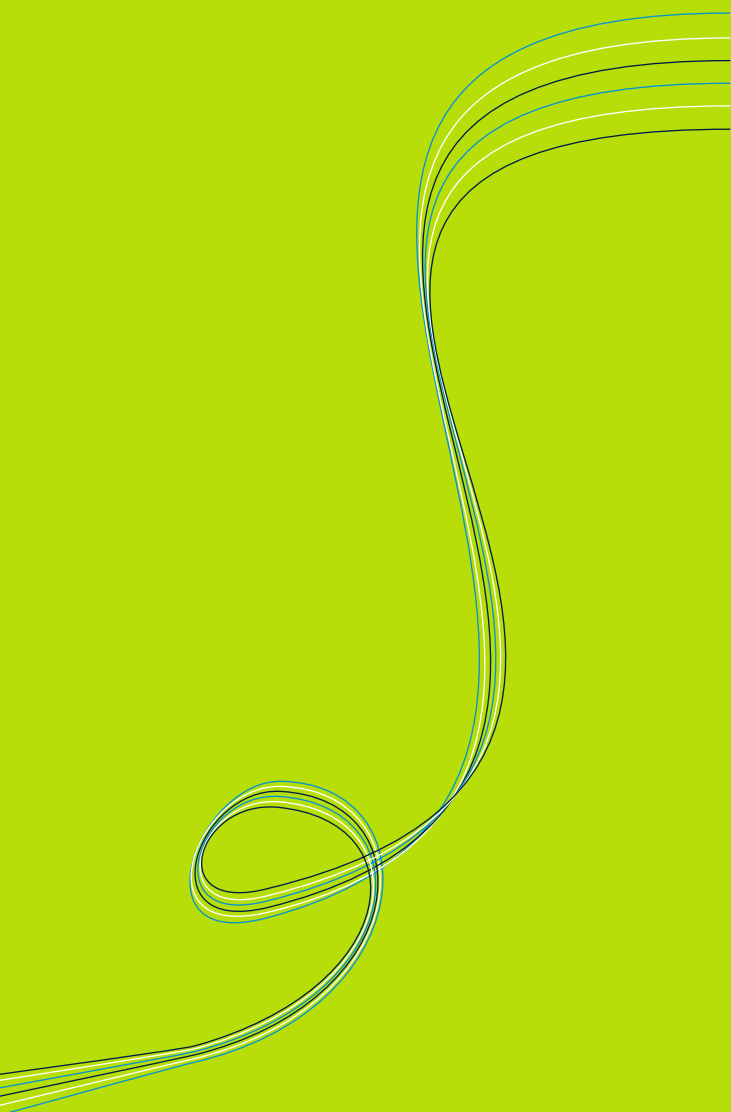


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