Réseau de transport d'électricité

SUSTAINABLE DEVELOPMENT REPORT 2009

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RTE'S ACTIVITIES AND THE CHALLENGES OF SUSTAINABLE DEVELOPMENT

RTE, a limited company, is responsible for operating, maintaining and developing the largest high and extra high voltage (between 63,000 and 400,000 volts) electricity transmission network in Europe. As a public service company, it is RTE's job to make sure that the French power system works efficiently and safely. Electricity is managed on a permanent just-in-time basis, with no intermediate storage. Accordingly, as the transmission network operator, RTE needs to ensure a perfect balance between production and consumption at all times. RTE transports electricity – independently and without discrimination – between all electricity suppliers and consumers, be they electricity distributors (ERDF and local distribution companies) or industrial players directly connected to the transmission network.

RTE'S SUSTAINABLE DEVELOPMENT CHALLENGES

Social challenges

* To ensure personal health and safety (of employees and service providers alike).
* To promote diversity.
* To develop individual employability and increase the Company's appeal.
* To support employees in line with our evolving businesses.

Economic challenges

* To guarantee network security and ensure a balance between energy supply and demand.
* To meet customers' needs and reinforce service quality.
* To anticipate and accompany changes in the electricity market.
* To contribute to a balanced European power system.

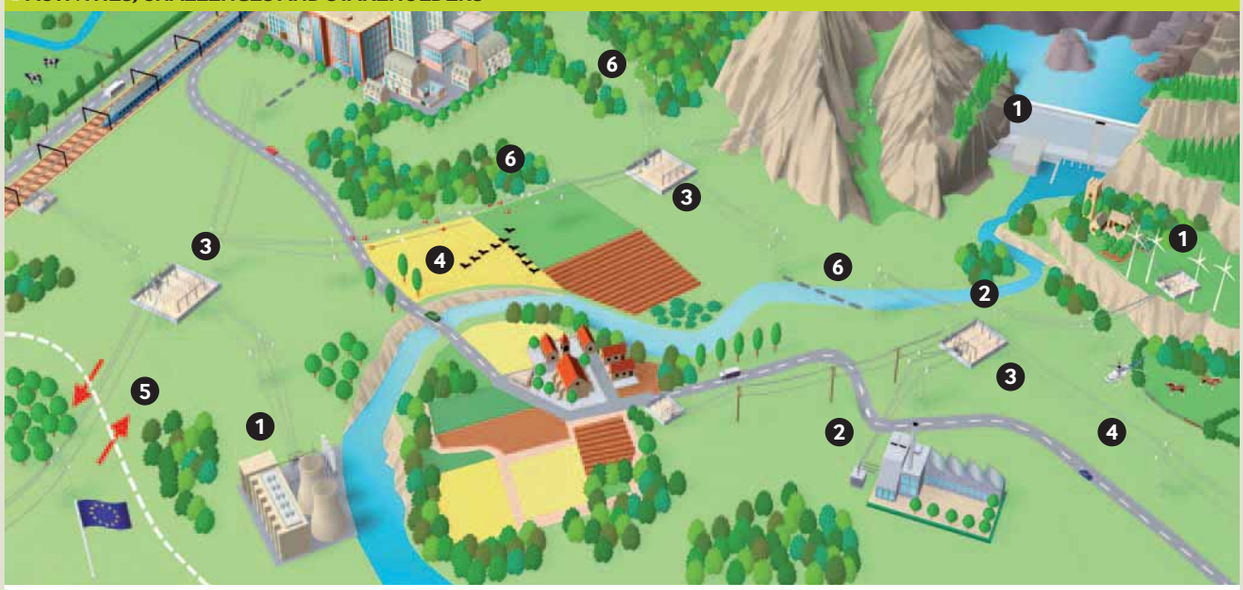
Social challenges

* To identify society's expectations and act accordingly.
* To reinforce third party safety.
* To be attentive to the needs of local stakeholders.
* To support the national economy.

Environmental challenges

* To combat climate change through the integration of renewable energies, as well as in our day-to-day activities (buildings, employee awareness, procurement policy).
* To reduce our local ecological footprint: preserving biodiversity, reducing pollutant emissions, processing waste, ensuring the effective integration of infrastructures into the landscape.

ACTIVITIES, CHALLENGES AND STAKEHOLDERS



1 Routing electricity produced from all sources
- 628 production units connected (nuclear, fossil fuel power station, hydraulic, wind and other sources of renewable energy)
- 487 billion kWh transported

2 Delivering electricity
- 2,370 delivery points to distribution networks (26 local distribution companies and ERDF)
- 525 industrial sites directly connected to HV or EHV circuits

3 Ensuring balance of supply and demand anywhere and at any time
- 1 national dispatching centre and 7 regional centres
- 2,518 substations

4 Developing and maintaining the network in 2009
- 951 km of new or renewed lines
- 800 km of lines removed
- 14 new transformers

5 Integrating Europe
- 45 cross-border lines
- 112 billion kW traded in Europe

6 Monitoring environmental impacts
- 15% of the network is located in urban or suburban zones
- 20% of the network is located in forest zones
- 65% of the network is located on farmland

RTE AND ITS STAKEHOLDERS

Category	Example
Internal stakeholders	Employees and trade unions; divisions, management and governance bodies; staff representative bodies.
Customers	Electricity distributors, industrial customers, end customers and electricity producers, energy traders.
Public authorities	Government and supervisory ministries; prefectures and state services; local authorities; French Energy Regulation Committee (CRE); European Commission.
Society	Citizens and residents, national, regional and department-level elected representatives, etc.
Partners	European electricity transmission network operators; equipment manufacturers and suppliers; building, network maintenance and service companies; learned societies (CIGRE, SEE, etc.), research centres and scientific partners: engineering schools, universities laboratories.

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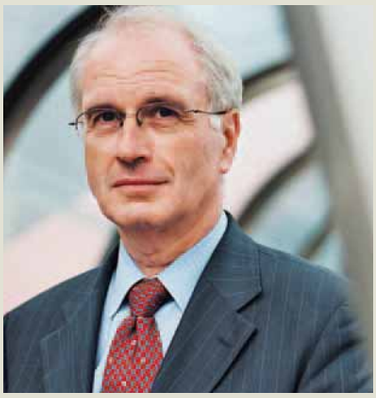
SUSTAINABLE DEVELOPMENT: A STRATEGIC APPROACH FOR RTE



Dominique Maillard
Chairman of the RTE Executive Board

When I became Chairman of the Executive Board in 2007, I wanted to officially establish our company's credentials as a sustainable development player. We spent the first year building and setting up our approach. And in 2009, we saw the first concrete results.

RTE came through in extremely difficult circumstances. Following the winter storm Klaus, the efforts of our employees, partners and suppliers combined with the implementation of our network consolidation programme designed to secure its mechanical strength, meant that all our substations were up and running in less than five days. Despite the economic crisis, and in line with our commitments, we increased our investments by 22%, through the agreement of the regulator and the support of our shareholder. By sticking to our economic trajectory, we were able to implement the projects required by our customers and continue to work hand-in-hand with our suppliers and service providers.

In 2009, we also produced our Carbone Balance Report and we now have a much clearer picture of where improvements need to be made. In addition, we developed our partnerships, taking part, for example, in the survey of plant species present along power line routes conducted by the French National Natural History Museum and setting up our Stakeholders' Committee. The purpose of this committee, made up of outside experts, is to provide a broader pool of complementary viewpoints and provide us with a better awareness of the sustainable development issues concerning us.

Finally, for the first time, 2009 saw more than 4,000 megawatts of wind power flowing through the grid. In order to ensure real-time monitoring of the amount of wind energy – and soon photovoltaic energy – available and in service, we introduced the IPES tool, enabling better control of the balance between production and consumption.

2010 will be an opportunity for us to develop a new business plan based on our long-standing public service mission as well as our human potential to build the European network of the future and accompany the evolving needs of society.

From left to right: Alain Fiquet, Michel Derdevet, Philippe Dupuis, Dominique Maillard, Pierre Bornard, Hervé Laffaye, Pascal Magnien, Luc Desmoulins.

The development of renewable energies, technological advances, new consumption methods: transmission network operators have a major role to play in the energy transition currently underway. The coming together of European partners combined with ongoing R&D work will make this transition possible.

PIERRE BORNARD, VICE-CHAIRMAN OF THE EXECUTIVE BOARD, EXECUTIVE VICE-PRESIDENT IN CHARGE OF THE POWER SYSTEM DIVISION.

Explaining our role and what we do to the widest possible audience: our communication needs to be modern, dynamic and in tune with society's current concerns. If we want to ensure our infrastructure is more widely accepted, we have to be more transparent and keep the public better informed.

MICHEL DERDEVET, DIRECTOR OF THE COMMUNICATIONS AND PUBLIC AFFAIRS DIVISION.

For RTE, risk analysis represents a powerful sustainable development tool since it is a means of taking into account all external considerations with an open mind, the aim for the company being to measure how it should take them on board to better reflect economic, environmental and social risks.

LUC DESMOULINS, SECRETARY GENERAL.

Whilst network modernisation is an asset for regional development and a response to global environmental concerns, it does nevertheless give rise to a degree of opposition in terms of the acceptability of the infrastructure and its impact on the immediately surrounding environment. We have to build out mission around all these issues: it is up to RTE to anticipate the concerns of the parties involved and meet them head on.

HERVÉ LAFFAYE, MEMBER OF THE EXECUTIVE BOARD, EXECUTIVE VICE-PRESIDENT IN CHARGE OF THE ELECTRICITY TRANSMISSION DIVISION.

Sustainable development is becoming an increasingly important factor in the company's day-to-day activities and fundamental changes are taking place as a result, such as, for example, the definition of a legal framework specific to the development of offshore wind energy.

ALAIN FIQUET, LEGAL DIRECTOR, SECRETARY TO THE EXECUTIVE BOARD AND THE SUPERVISORY BOARD.

Convinced that the diversity of profiles and professional backgrounds of our employees is an asset, we signed up to the Diversity Charter in 2009.

PASCAL MAGNIEN, HUMAN RESOURCES DIRECTOR.

Each year, RTE spends €1.5 billion on supplies and services. In 2009, we consolidated our responsible procurement policy through the introduction of environmental and social criteria. In what was a difficult year for the global economy, we were able to put to the test our strategy of proximity and support vis-à-vis our suppliers.

PHILIPPE DUPUIS, MEMBER OF THE EXECUTIVE BOARD, EXECUTIVE VICE-PRESIDENT IN CHARGE OF THE FINANCE DIVISION.

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The integration of the sustainable development approach throughout the Company

The quest for sustainable development is inextricably linked to the effective fulfilment of our public service missions. At the beginning of 2008, we decided to clearly set out the approach, making it one of the driving forces behind our performance for the common good.

Today, our actions in this field – for example the Carbone Balance Report covering all our activities – have been formalised, fitting seamlessly into Company governance.

In 2009, the Sustainable Development Division focused on ensuring the consistency and transparency of the Company's actions in the field. The initiative was shared with our stakeholders on the Supervisory Board as well as internally with employees and trade union organisations. A network of around forty Sustainable Development Officers is now in place to convey and drive the initiative.

Hence sustainable development is now a core consideration in much of what we do. It has been integrated into the Environment Committee and the Risk Committee and sustainable development criteria now govern some of our policy changes (for example, tertiary property, procurement policy and SF6 policy).

Sustainable development has always been a feature of our approach but it is now more explicit and concrete: at RTE, it is a philosophy that runs through the entire company, serving the best interests of everyone, citizens, local communities and our customers alike."

CHRISTELLE PERRINE, SUSTAINABLE DEVELOPMENT DIRECTOR

The Stakeholders Committee, a new body for transparency and dialogue

RTE's Stakeholders Committee (CPP) was created in 2009. Today, the committee has eleven members from civil society, chosen on the basis of their expertise and representative credentials. The committee met twice in 2009, on 30 June and 25 November, at the initiative of RTE.
This consultative committee is responsible for identifying critical opinions regarding a project or strategy and anticipating potential controversy within civil society with respect to sustainable development. All its members have agreed to work towards a common goal, as set out in the Committee's operating charter: "... to advance thinking on the issues facing the electricity sector and influence the practices implemented by its players – and primarily RTE – in support of sustainable development. In particular, the Committee will offer a considered and critical opinion on RTE's strategic decisions in the light of sustainable development criteria. The Committee will adopt a transparent approach to the consideration of the dilemmas associated with sustainable development opportunities and constraints – combining economic development and profitability with the requirements of environmental protection and social equity – and discuss important and contentious issues in order to build, through dialogue, consensus or accept differences of opinion between parties..."

WHAT MEMBERS HAVE TO SAY ABOUT THE FIRST MEETINGS OF THE STAKEHOLDERS' COMMITTEE

"It is common practice in English-speaking countries to bring in external partners to examine sustainable development issues. Unfortunately the same cannot be said of France. We have to congratulate RTE for this initiative, therefore, and I very much hope that in-depth debates can take place as a result. Despite a lack of time, it has been a promising start."

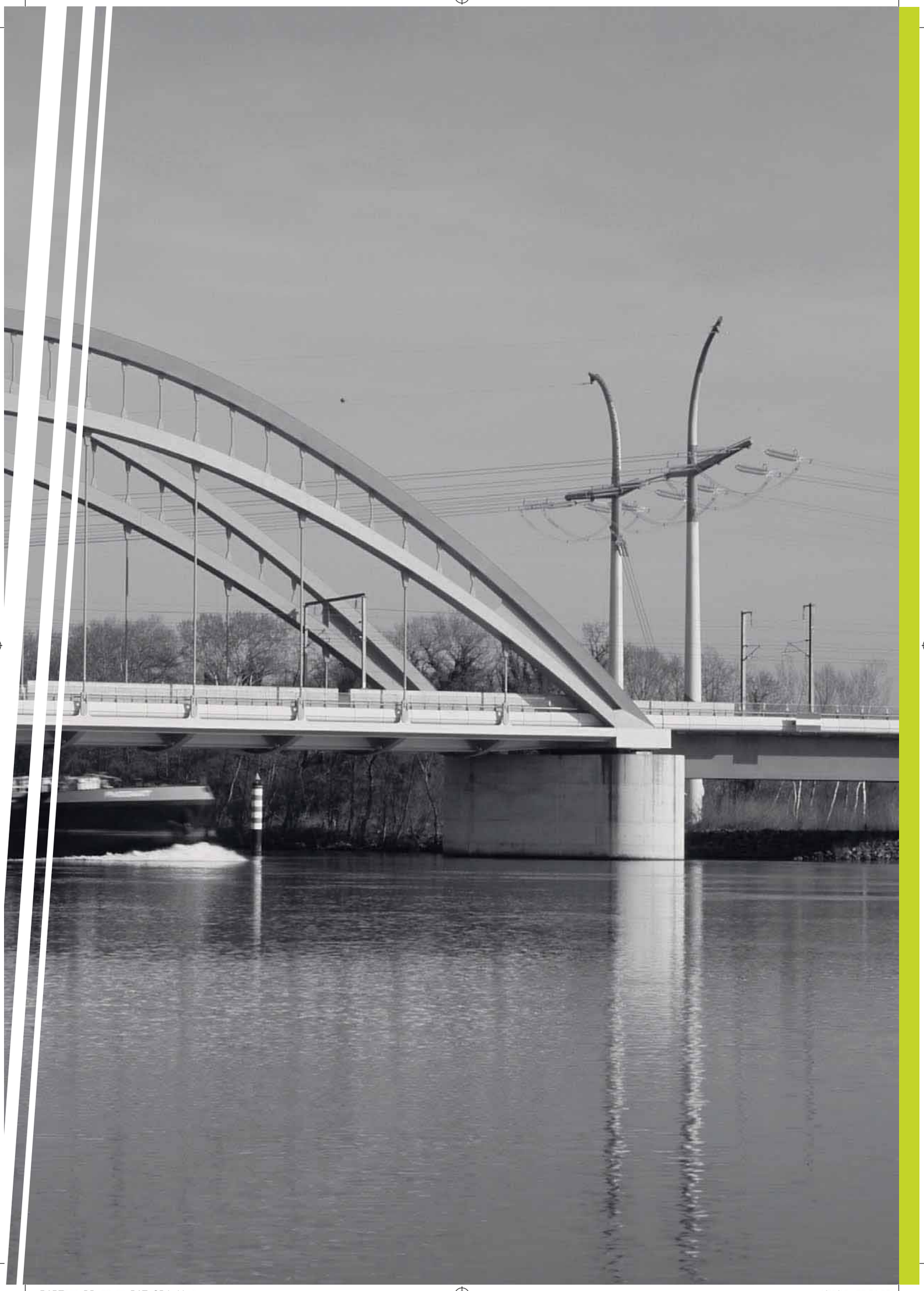
CLAUDE MANDIL, FORMER EXECUTIVE DIRECTOR OF THE INTERNATIONAL ENERGY AGENCY.

"RTE has long been committed to environmental issues; the setting up of the Committee reflects a determination to establish external dialogue in line with the changes vis-à-vis ecological governance initiated by the *Grenelle de l'environnement* (French round-table on the environment). The initiative raises the prospects of some stimulating reciprocal expectations."

CLAIRE TUTENUIT, CEO, ENTREPRISE POUR L'ENVIRONNEMENT.

"From the second meeting, it was clear to us that freedom of expression was very much the order of the day; the heterogeneous nature of the group can be a rich source of exchange and much should come from it; as members get to know each other better, the atmosphere will probably become less formal and in the future we're likely to see much more spontaneity, with a constant flow of constructive ideas."

LUC GATIN, SECRETARY GENERAL OF THE FRENCH NATIONAL FEDERATION OF COOPERATIVE ELECTRICITY COMPANIES FOR AGRICULTURE (FNSICAE).



ACTING TO SUPPORT ECONOMIC DEVELOPMENT

Since electricity is an essential commodity and the demand for it in France continues to rise, RTE is adapting and reinforcing its network.
In so doing, RTE is helping to secure supplies and ensure the competitiveness of the European market. It is also playing its role in combating climate change.

The electricity network serving the community

The network needs to adapt to reflect increasingly complex economic and environmental challenges. RTE is fully aware of its responsibilities with respect to its industrial infrastructure and strives at all times to ensure its equipment is well integrated and accepted.

RTE IS CONTRIBUTING TO THE NATIONAL RECOVERY PLAN

Through the implementation of a reinforced investment programme, RTE is committed to supporting the government recovery plan launched in 2009.

In 2009, despite the prevailing economic crisis, RTE increased its investments to €1,021 million, an increase of 22% compared with 2008: for the first time in its ten-year history, total investments thus exceeded €1 billion. Investment on this scale generates economic activity for around 4,000 people.

A significant proportion of new projects – line construction, reinforcement and renovation – fall within the scope of the recovery plan initiated by the Government. In fact, of the €1 billion mentioned above, €200 million is being spent as part of the recovery plan. It corresponds to 500 people employed by service providers and suppliers and the recruitment of 130 people by engineering and project development services.

€1,021

million invested.

In addition, the programme launched in 2002 following the winter storm of 1999 to secure and strengthen the network has been stepped up. An additional investment of €50 million per year means that the annual budget for this work is now €150 million per year, which will enable the programme to be completed by 2017 (this budget is on top of previous investments).

ADAPTING THE NETWORK TO NEW CHALLENGES

In order to limit the development of additional networks, RTE is focusing on extending the working life of the existing infrastructure, replacing components with more efficient equipment. To the same end, 69.4% of 63 and 90 kV lines were placed underground in 2009, well above the 30% commitment set out in the current public service contract.

At the same time, in order to enable the connection of new production units (EPR, combined gas cycles) and adapt the system to the rapid development of renewable energies (wind, solar), the creation of new production host zones was undertaken: for example on the Fos zone for combined cycles and at Fruges for wind projects.

Finally, the reinforcement of major transport routes in the North-East and the South, the development of new electrical interconnections in Europe and the reinforcement of supply in exposed regions – particularly PACA (Provence-Alpes-Côte d'Azur) and Brittany – remain priorities.

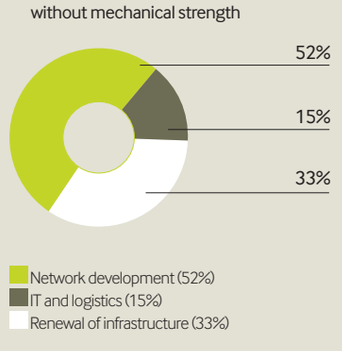
Consultation with the players involved

RTE conducts open consultation in a bid to identify solutions that reconcile local acceptability and cost control for the local authorities, insofar as investments are covered by French public electricity system usage tariffs (TURPE).

To deal with the Provence-Alpes-Côte d'Azur region's status as an "electric peninsula", the various stakeholders (State, RTE, local authorities, Ademe) drew up an objectives contract for the region, broken down into three areas of focus: network reinforcement, demand side management and the development of local production.

RTE carried out an energy assessment for the Haute-Durance area on the basis of dialogue with 300 representatives: local elected officials, economic players, associations, energy operators, State services, etc.

BREAKDOWN OF INVESTMENTS
in millions of euros



Not to be confused

Magnetic field and parasitic electrical current

Parasitic electrical currents are currents that circulate in metal structures not designed for this purpose. Their existence is not necessarily linked to the proximity of an electricity line. They can occur in agricultural areas where metal roofs, gates and troughs provide the ideal conditions for their circulation. Compliance with electrical construction standards and the grounding of metal structures make it possible to eliminate these currents.

The energy assessment, electricity consumption scenarios and hypotheses relating to the development of the network were then presented at two information meetings open to all residents.

The future 400 kV Cotentin-Maine line is required in order to secure the network given the impending arrival of the third unit at the Flamanville nuclear power station. Consultations covered the optimisation of the line's trajectory and the implementation of supporting measures. For example, existing medium-voltage overhead lines will be transferred underground (163 km of lines will thus disappear from the landscape), the visual impact will be reduced (by the planting of bushes, for example) and an independent commission will be set up to evaluate the aesthetic impact in the vicinity of the overhead line. Finally, towns and villages located along the line's route will benefit from Project Support Programmes (PAP), set up with a view to supporting or encouraging local or regional initiatives in the field of the environment and sustainable development. For the Cotentin-Maine line alone, the PAP is estimated to represent €20 million (10% of the cost of the line).

Magnetic fields: transparency and education

The issue of the danger posed by magnetic fields to human health has been the subject of fervent debate and the focus of numerous international research programmes. None of the scientific studies conducted over the course of more than three decades have demonstrated a cause-effect relationship between exposure to ultra-low frequency magnetic fields (50 Hz) and human health. Despite this, doubts remain in the minds of many people for whom the very concept of magnetic fields remains a mystery. It is for this reason that, in 2009, RTE decided to step up its efforts in terms of information and education.

- **RTE teams now have a simple measuring device** which they use to take readings and respond to residents' concerns.
- **In some specific circumstances, RTE will use its own simulation tools** in order to calculate and visualise the various magnetic field values reached in the vicinity of a line.
- **Finally, RTE is committed to providing Mayors who require it with** a practical and independent system for measuring low frequency magnetic fields.

Whilst ensuring the independence of researchers and the publication of results obtained, RTE supports biomedical research, particularly the three-year epidemiological research programme launched by Inserm in 2007.

To find our more go to
> www.cotentin-maine.com

Interconnection between France and Spain
The first large-scale underground direct-current EHV line project

In 2009, the trajectory of the new EHV line route between France and Spain was approved. The direct-current link will run underground for its entire length between Perpignan and Figueras in Spain. It will be around 60 km long, with 35 km in France in the Pyrénées-Orientales region. It will run from north to south alongside existing infrastructures, particularly the Perpignan-Figueras high-speed line. The landscape of the *massif des Albères* will remain unaffected thanks to a dedicated tunnel. This link is the first of its type. The budget for the project is €700 million, shared equally between RTE and its Spanish counterpart REE, via Inelfe, their jointly-owned subsidiary. A decision is pending regarding European funding which could be worth a little over €200 million. The planned completion date for the project is 2013.

> www.liaison-france-espagne.org

RTE, an energy transition player

The electricity system is undergoing some fundamental changes. European targets relating to reducing greenhouse gas emissions, developing renewable energies and improving energy efficiency are forcing players in the electricity sector to innovate and experiment, both in terms of production and consumption. The emerging innovations have a significant impact on all of RTE's activities.

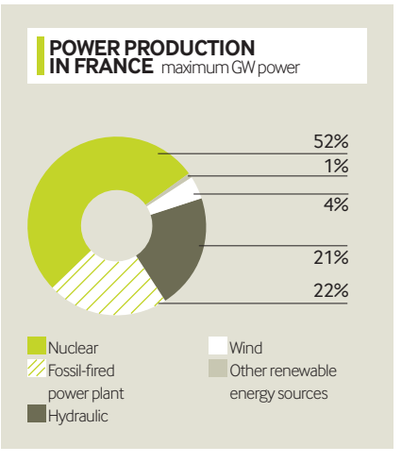
THE RAPID DEVELOPMENT OF RENEWABLE ENERGIES AND THE ARRIVAL OF NEW POWER PLANTS

The diversification of energy sources – in particular renewable ones – is bringing fundamental change to production.

Wind power production continues to grow rapidly, with 4,400 MW installed in France at the end of 2009, whilst five years ago the total available power from the source was just a few dozen megawatts.
The photovoltaic sector, which itself was negligible a few years ago, is also expanding rapidly: installed power reached 185 MW this year.
At the same time, new power plants are being connected to the network: for example, two gas-fired combined cycle power plants with a capacity of more than 400 MW came into service in 2009 and several others are in the pipeline.
This development of production is set to last.

For renewable energies alone, under the terms of the multi-year investment programme associated with the *Grenelle de l'environnement* (French round-table on the environment), the target set for 2020 is 19,000 MW of onshore wind power, 6,000 MW of offshore wind power and 5,400 MW of photovoltaic power. Hence the network is going to have to adapt and RTE will have to invest accordingly in anticipation. The investment required to incorporate an onshore wind power capacity of 19,000 MW by 2020 has been estimated at around €1 billion. At the *Grenelle de l'environnement* round-table, RTE outlined these issues to the renewable energies operational committee. It has now been acknowledged that the development of renewable energies needs to be correctly coupled with the development of the transmission network, something that is being relayed by stakeholders.

For new production project managers, the time required to connect their new facility to the network is of crucial importance. Yet, generally speaking, it takes several years to adapt transmission network infrastructures, mainly for procedural reasons and because gaining the necessary authorisations takes time. It is important, therefore, to anticipate the requirements associated with these new resources as far as possible. To do this, RTE takes part in numerous consultation exercises regarding the creation of onshore wind farm development zones and the definition of future offshore wind farm zones.



Deployment of a new observation platform: IPES

Integrating wind and photovoltaic production into the power system

Deployed by RTE in 2008, IPES is an intermittent electricity production observation platform. The platform ensures data is permanently available relating to the amount of wind power being produced so that it can be incorporated into the management of the supply/demand balance. In 2009 and in anticipation of the continuous development of solar power, the facility was extended to monitor photovoltaic production.
In order to function effectively, an exhaustive stream of data needs to be available. RTE works closely with renewable energy producers and distribution networks to ensure the data is complete, meaning that almost all of the wind and solar power being generated can be monitored constantly.

Opposite,
Chapelle-sur-Erdre dispatching room.

Pending the operational implementation of these proactive and strategic schemes, RTE supports renewable energy producers upstream of their project, adapting connection procedures to their specific requirements and providing the technical information required for their project in as transparent a manner as possible, including the display of "potentially available capacity".

Finally, RTE develops tools that can be used to manage the specific characteristics of renewable energies, for example, the intermittent nature of wind power generation. Being able to measure, forecast and – in an emergency – order the production of renewable energies is a pre-requisite for the effective integration of these energies into the management and operation of the power system (cf. box).

NEW CONSUMPTION MANAGEMENT SOLUTIONS

The continuing development of information technologies is favouring the emergence of consumption management solutions. Primarily, this is an area that concerns the relationship between electricity providers and their customers. RTE is playing its role, contributing to the development of solutions to better manage electricity consumption at peak times, particularly curtailment initiatives. Load shedding (also known as load curtailment) refers to the voluntary suspension of consumption by a customer. It is a means of reducing the total electrical power at a given time, or of smoothing out the load curve by transferring demand to times when the load is reduced. The development of these solutions requires dialogue with consumers in order to raise awareness.

Opposite,
EcoWatt: an initiative to reduce electricity consumption.

As such, in 2009, RTE focused its efforts on several fronts, working closely with industrial customers as well as private customers.
For example, given the fragile nature of electricity provision in some regions and the resulting potential for power outages, RTE implemented measures designed to reduce electricity consumption: EcoWatt in Brittany, *Sécurité Électrique* in PACA. Through these initiatives, RTE is able to send out warning messages asking private customers, professional customers and local authorities to reduce their electricity consumption when there is a real risk of outages facing a particular region. People who wish to do so can sign up to receive a warning message, either by SMS or via the dedicated website. Some 18,500 people signed up during the new winter EcoWatt campaign launched in November 2009, twice as many as in the previous year. An initial impact assessment showed that when these messages were sent out in December, the resulting fall in electricity consumption in Brittany reached 1.5% at certain peak times, depending on the day of the week.
This represents the equivalent consumption of a town of around 60,000 inhabitants.
RTE has also conducted experiments with industrial customers connected to the grid with a view to the implementation of consumption curtailment solutions. The principle is the following: in return for a fixed level of compensation, the customer undertakes to reduce its consumption by a pre-determined amount when requested to do so by RTE. Six customers were chosen to take part, representing a total volume of 101 MW in 2009. Following the success of the experiment, RTE will issue another call for bids in 2010.
And lastly, a third option is under consideration for reducing the demand for electricity: distributed load shedding programmes. The principle of distributed load shedding consists in combining the shedding capacities of a large number of small consumers in order to obtain a significant load shedding volume across the system as a whole. These load curtailments are managed via a box installed at the consumer's premises, controlled remotely by a load shedding operator. This system is still at the experimental stage technically and economically-speaking, in accordance with the provisions laid down by the Energy Regulation Commission. The groundwork for the experimental phase was carried out in 2009. The first distributed load shedding trials took place at the start of 2010.

THE DEVELOPMENT OF EUROPEAN TRADE

The trading of electricity between neighbouring countries is an effective way of ensuring the reliability of supply and makes it possible to optimise the use of different energy sources as a function of their availability, cost and impact on the environment. France is an established nuclear energy exporter. Conversely, when the volume of wind power generated in Germany and Spain exceeds these countries' requirements, the surplus can be exported to the whole of Europe. Hence the reinforcement of interconnection lines and operational cooperation between European network managers are of crucial importance.
At the end of 2008, the creation of ENTSO-E (European Network of Transmission System Operators for Electricity), an association of network operators from all 27 European Union member countries, marked a decisive step in this cooperation.
The EU's 3rd climate and energy package sets out the role of ENTSO-E: the association

RTE's regulatory framework
Perfectly compatible with support for DSM policies

The French public electricity system usage tariff (TURPE) means that RTE is able to cover its investment and operating costs. Thanks to a mechanism of "immunisation" against variations in the volume of electricity drawn from the network, RTE's long-term income is independent of the volume transmitted. Through TURPE, therefore, RTE is unhindered by the commercial constraints associated with transmitting more electricity and is able to freely support initiatives designed to reduce consumption and improve energy efficiency.

Guarantees of origin

RTE certifies the renewable origin of electricity generated

In 2006, RTE started issuing guarantees of origin concerning electricity production from renewable or combined sources connected to the grid. By the end of 2009, RTE had issued 3,328 certificates representing a total of 114.6 TWh. In 2009 alone, RTE agreed to 1,218 requests, thereby guaranteeing the renewable origin of almost 25.3 TWh of electricity.

lays the groundwork for a set of common rules governing the operation of the electricity market and must adopt, on the basis of national plans, a roadmap for the development of the European network for the next ten years.
The operational launch of Coreso in February 2009 (cf. box) illustrates this European cooperation.

R&D ON SMART GRIDS, ONE OF THE KEYS FOR THE NETWORK'S FUTURE

Smart grids – intelligent networks that will make full use of new information and communication technologies to improve energy efficiency and integrate renewable energies – are set to radically alter the ways electricity is produced, transmitted, distributed and consumed. The network will play an increasingly important role in guaranteeing a constant supply and ensuring the pooling of production resources. The arrival of wind power on a massive scale (particularly offshore), direct-current links, the difficulties associated with building new lines and the interoperability of the European network are some of the many challenges that need to be addressed by R&D in the field of smart grids.

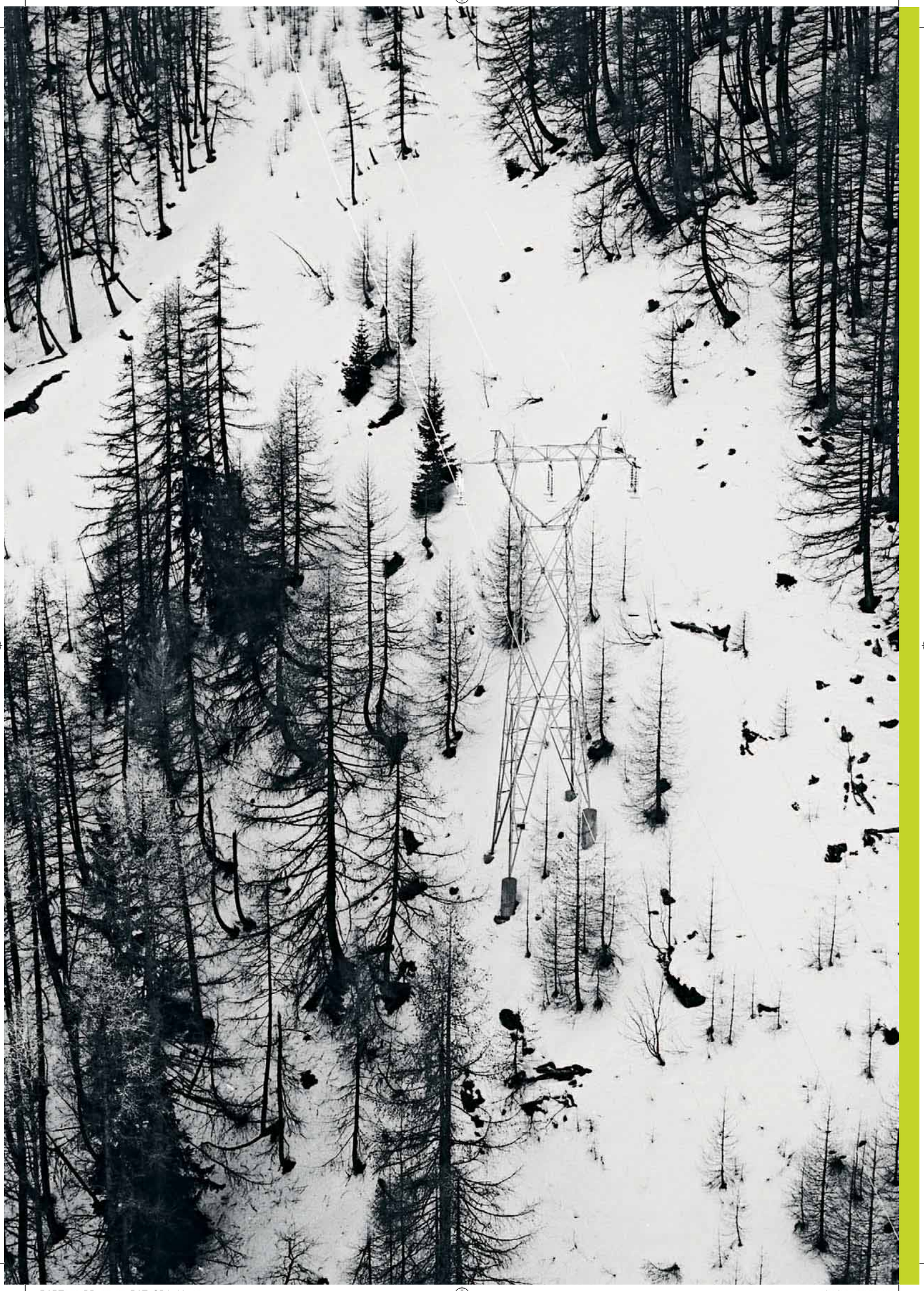
To pave the way, Europe set up a dedicated platform in 2005: the SmartGrids European Technology Platform for Electricity Networks of the Future. **RTE joined forces with numerous European partners to take part in four calls for bids launched by this platform, and has already been selected for three of them:**

- **the Pegasus project** (€14 million) is focusing on future network calculation models. RTE will be contributing its modelling expertise, already used with the creation of Coreso;
- **the SafeWind** project (€5.5 million) concerns the improvement of forecasting relative to wind power generation. Once again, RTE will be able to contribute expertise already employed with IPES;
- **the Optimate project** will be focusing on improving market rules to take account of the arrival of power generated by renewable energies on a massive scale.

Coreso reinforces the security of the electricity network
An initiative heralding future European coordination

Coreso is a limited company owned by three of Europe's leading TCOs, RTE (France), Elia (Belgium) and the National Grid (GB). It was created in February 2009 to reinforce the security of the electricity system in Central Western Europe: France, Belgium, the Netherlands, Germany and Luxembourg. Given the variety of power generation methods – nuclear, thermal, wind, etc. – this is a zone of significant and fluctuating energy exchanges. In order to ensure the security of the regional European network, resulting electricity flows through the network must be analysed and anticipated. To do this, Coreso calculates electricity flow forecasts for the five countries. These forecasts are sent to the TCOs concerned seven days a week, each afternoon for the following day (D-1 activities). These analyses are used to detect critical situations and implement counter-measures to limit transmission levels on lines.

> **www.coreso.eu**



ACTING TO REDUCE OUR ECOLOGICAL FOOTPRINT

RTE places environmental considerations at the heart of its activities as a network operator. The Company has established a management system enabling it to control, measure and limit the environmental impacts of its activities.

Controlling the impact on the environment

RTE places environmental considerations at the heart of its activities as a network operator. The Company has established a management system enabling it to control, measure and limit the environmental impacts of its activities.

THE ENVIRONMENTAL MANAGEMENT SYSTEM

The environmental management system (EMS), launched in 2002, is based on several action programmes hinged around the following themes:

- the preservation of the natural environment and biodiversity;
- natural resource management and pollution prevention;
- consultation with residents and attentiveness to stakeholder concerns;
- continuous improvement.

Regional environment managers are responsible for coordinating and implementing actions on the ground whilst an Environment Committee defines the broad directions of RTE's environmental policy, the resources to be deployed and the objectives to be attained.

RTE integrates the environment into its internal control plan and has a group of internal auditors, made up of employees qualified in quality and environmental audit methods. Hence, RTE has been ISO 14001 certified since 2004 and the certification was renewed in May 2009.

MANAGING ENVIRONMENTAL RISKS

RTE has mapped the risks of environmental pollution and drawn up an action plan to limit their impact.

For example, oils contaminated with PCBs in transformers were identified as a risk. A removal and decontamination plan has been in operation for a number of years. Accordingly, in 2009, 14 structures containing more than 500 ppm (parts per million) of PCBs were treated. The remaining nine transformers exceeding the threshold will be treated by the end of the year, bringing to an end the removal programme to comply with the national target.

At the same time, a plan to deal with transformers containing between 100 and 500 ppm of PCBs is underway and will last a period of several years.

EpE

RTE joins the *Entreprises pour l'environnement* association

In 2009, RTE joined EpE, an association bringing together around 50 major French and international companies committed to working together to better incorporate environmental considerations into their strategy and day-to-day management.

The member companies collaborate on a range of environmental issues including:

- **energy and climate change;**
- **health and the environment;**
- **biodiversity;**
- **environmental forecasting;**
- **environmental management methods.**

Fire underneath lines
An example of an environmental emergency

One of the environmental emergency situations that had to be dealt with in 2009 related to a fire that broke out underneath some lines. During work being carried out to burn branches and logs after pruning operations, the service provider involved realised that a fire had broken out and attempted to bring it under control itself. It believed it had done so effectively. However, once the company had left the site, strong winds reignited the flames (which had not in fact been properly extinguished), causing a fire that burned an area of 10 hectares. In agreement with the ONF (French National Forestry Commission), *Restauration des terrains en montagne* (RTM, or Mountain Area Restoration), the Town Hall, the company and RTE, replanting work will be carried out in the most affected area. In addition, awareness-raising and prevention initiatives aimed at service providers will be stepped up in 2010.

Opposite,
Raising a pylon without a crane in a rapeseed field.

Despite taking all the necessary precautions, environmental emergency situations can sometimes arise. These are accidental events likely to have a significant impact on the environment. RTE has prevention resources in place and the capacity to react when necessary.

For example, in 2009, 32 environmental emergency situations were detected, compared with an average of 15 for the three previous years. This increase is linked to fires beneath overhead lines and oil leaks from underground lines and transformers. It can also be explained by the fact that such events are now better identified and reported, which means that significant improvements can now be made in terms of preventing and managing damage to the environment. The work is conducted in partnership with RTE's service providers.

WASTE MANAGEMENT

RTE's activities generate waste, conventionally broken down into two categories: hazardous waste (oils and hydrocarbons, PCBs, batteries, etc.) and non-hazardous waste (paper, cardboard, wood, metals, etc.).

The total volume of waste produced in 2009 was 2,880 tonnes, almost equally divided between hazardous waste (51%) and non-hazardous waste (49%). The overall recycling rate for this waste was around 50%, which included material recovery via recycling as well as energy recovery through incineration.

The *Grenelle de l'environnement* bill has set a target of 75% by 2012 for the waste recovery of non-hazardous waste. RTE is committed to incorporation of this target in its industrial waste management policy, bearing in mind that the "material" recovery rate for non-hazardous waste in 2009 was 37%.

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structures of the 258 concerned containing more than 500 ppm of PCBs were decontaminated or removed as of 31 December 2009.

RTE
An example of waste recycling

As part of renovation work being carried out on the 400 kV Avelin-Warande-Weppes line, in Northern France, RTE's project team is committed to recovering the electrical insulators removed from the line. By the time the project is completed at the end of 2010, 240 tonnes of glass and metal will have been recycled.

Measuring the carbon impact

As a network operator, RTE has a major role to play in ensuring the electricity system evolves in such a way as to help tackle climate change. RTE launched its Carbone Balance Report with a view to making an even more direct contribution to this aim.

THE CARBONE BALANCE REPORT: A TOOL FOR ANALYSING OUR ACTIVITIES

In 2009, RTE launched an initiative aimed at measuring, analysing and managing greenhouse gas emissions, resulting directly or indirectly from its activities. By involving all the Company's employees, the initiative has succeeded in raising awareness of the climate change issue, and more specifically the battle to control the potential scale of its impact.

THE PRINCIPAL LESSONS

RTE's Carbone Balance Report relating to all its activities in 2008 revealed 1,126,000 tonnes of CO2-equivalent emitted for all annual activities and the industrial infrastructure for which RTE is responsible.
A number of different avenues for consideration emerge from this inventory, depending on the businesses and activities concerned. For example:

- **705,000 tonnes of CO2-equivalent** correspond to a valuation of greenhouse gas emissions associated with a share of RTE's existing infrastructure (overhead lines, underground lines, electricity substations and tertiary property at 31 December 2007). This historic volume reflects the carbon footprint of past activities and, by definition, is something the Company can do nothing about.

- **421,000 tonnes of CO2-equivalent** correspond to greenhouse gas emissions relating to activities carried out during the course of the year. This volume can be broken down as follows:

- **almost half** concerns industrial infrastructure building and renovation projects, taking into account the raw materials used. In order to control these emissions, RTE is working on the integration of a carbon criterion into the design and comparison aspects of various technical solutions relating to network engineering;

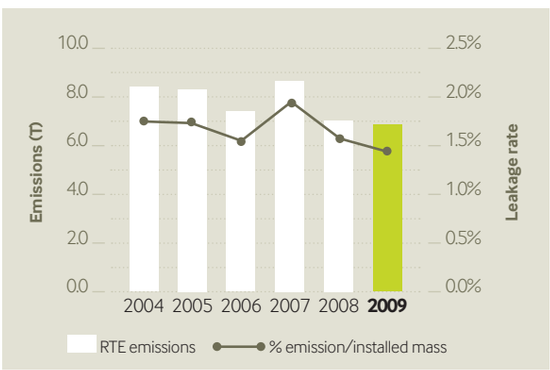
- **around 40%** relates to SF6 gas emissions. This gas, which has some exceptional electrical properties, is used as an electrical insulator in RTE's transformers (cf. box);

- **the remainder** mainly relates to the transport of people, employees (work-related travel, travel between home and place of work) and visitors. RTE is setting up a number of initiatives such as a change in procurement policy, with a view to acquiring low-carbon vehicles, and the implementation of company mobility plans.

Reducing emissions

Limiting SF6 emissions

In 2004, the Company joined forces with Gimélec, the MEEDDM and Ademe (French Environment and Energy Management Agency) to agree a voluntary reduction in sulphur hexafluoride (SF6) used in electrical equipment. The aim of the memorandum of understanding, which expires in 2010, was to cut SF6 emissions back to the levels observed in 1995, despite the intervening increase in facilities.
Following the Carbone Balance Report and in light of the likely renewal of this agreement, in 2009 the Company began to focus on defining its commitments vis-à-vis SF6 emission reductions for the coming years.



Global Carbone Balance Report

Perimeter used in accordance with Ademe methodology

The Carbone Balance Report published in 2009, concerning emissions in 2008, was conducted on the basis of a so-called "global" perimeter. It takes into account greenhouse gas emissions directly relating to RTE's activities, as well as emissions generated indirectly, particularly those generated by service providers.

THE ISSUE OF ELECTRICITY LOSSES ON THE NETWORK

The operation of a network generates electricity losses, principally due to the heating up of conductors when a current passes through them (Joule effect). These electricity losses have an impact on the environment in that greenhouse gas emissions result from the additional electricity generated to compensate for them. Losses on the French network in 2009 totalled 11.3 TWh, comparable with those recorded in 2008. The carbon footprint related to electricity losses can be analysed from various angles.
The evaluation method is a matter of convention – or "rules of the game" – to be defined with all power system players. By way of illustration, CO2 emissions associated with losses in 2008 range between 700,000 and 4,250,000 tonnes of CO2-equivalent depending on whether we refer to French power system emissions – particularly low carbon – or the emissions of the European system as a whole.

In its field of responsibility, RTE is focusing on measures designed to reduce network losses, including:

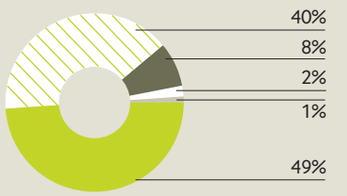
- the optimisation of the voltage profile at high levels for the 400 kV network;
- adapting the topology of the network in order to restrict transmission through lines that generate the most losses;
- the optimisation of isolation procedures in order to allow line maintenance work to take place;
- the restoration of isolated structures during the night.

The implementation of the above measures meant that losses totalling 125 GWh were avoided in 2008, representing 75,000 tonnes of CO2-equivalent in Europe. But in order to go further still, additional avenues for reducing electricity losses were explored in 2009, and twenty of these were retained for implementation, including:

- the replacement of conductor sections responsible for the biggest losses;
- the replacement of the least efficient transformers;
- testing the use of photovoltaic equipment for the supply of electricity to industrial buildings;
- technical alterations to dual-circuit overhead lines (two electric lines to a single pylon) to help reduce losses.

BREAKDOWN OF GREENHOUSE GAS EMISSIONS

related to activities



- Construction projects/maintenance and materials: 208,000 tonnes of CO2-equivalent
- Fluoride gas emissions: 170,500 tonnes of CO2-equivalent
- Personnel travel: 34,000 tonnes of CO2-equivalent
- Energy: 7,200 tonnes of CO2-equivalent
- Waste and freight: 1,300 tonnes of CO2-equivalent

Improving energy performance

Energy performance assessment for all buildings

A comprehensive assessment of energy performance was conducted on a sample of three existing tertiary buildings and was carried out with a view to identifying avenues for improvement and ultimately reducing their carbon footprint.
The action plan consists in optimising heating temperatures, improving air conditioning efficiency, managing ventilation and adjusting lighting. Energy savings of between 25 and 30% are expected during the first year following implementation of the recommendations.
The assessment campaign will continue in 2010, the aim being to draw up an energy management policy covering all of RTE's one hundred or so tertiary buildings.

Protecting, preserving and developing biodiversity

Electricity network infrastructure tends to be located in zones that are ideal for the preservation of biodiversity. RTE actively manages its infrastructure in such a way as to limit the impact on the natural environment and implements initiatives aimed at better understanding and protecting the flora and fauna present in the vicinity of lines. In so doing, the Company is contributing to the preservation and development of biodiversity.

THE PROTECTION OF BIRDLIFE, A LONGSTANDING PRIORITY

Overhead lines pose a danger to birds in terms of potential collision and electrocution. Since 1992, following requests from bird protection associations, RTE has been fitting sections of lines presenting known risks to birdlife with markers and other devices designed to frighten birds away. Such measures reduce the risk of accidents by between 65 and 95%. These birdlife protection initiatives are monitored by the French National Birdlife Committee (CNA), which brings together the French League for the Protection of Birds (LPO), *France nature environnement* (FNE – French ecological association) and the two electricity network operators, RTE and ERDF. The CNA fosters relations between operators and associations, at regional and national levels, allowing the concerns of both to be taken into better account. In 2009, the CNA organised a second seminar on the protection of birdlife. Some hundred representatives from associations and the electricity network operators attended the event, which was an opportunity to discuss progress so far and share solutions designed to protect species under threat.

Within the framework of the agreement signed in 2007 between RTE Sud-Ouest, the League for the Protection of Birds and the Aquitaine Regional Environment Department designed to protect the Pyrenean Bearded Vulture, RTE has restricted work using helicopters in areas where the bird is present during breeding and nesting periods. In addition, during 2009, the Company fitted a 4-km section of the 225 kV Pragnères-Biescas line with innovative beacon systems. The initiative can be repeated in other mountain areas where significant differences in altitude make it impossible to use traditional markers.

Bird markers

The preservation of protected birds in the *massif de la Sainte-Baume*

This operation to fit markers (680 along a 9 km section of EHV line) is aimed at providing increased protection for the 150 identified bird species in the *massif de la Sainte-Baume*, particularly the Bonelli eagle, which is threatened with extinction. Under the terms of the partnership agreement with the PACA (Provence-Alpes-Côte d'Azur) branch of the French League for the Protection of Birds (LPO), the initiative will be monitored in 2010 in order to assess the effectiveness of the markers on the different sections of line.

PRESERVING AND FACILITATING THE DEVELOPMENT OF BIODIVERSITY

In addition to initiatives designed to protect birdlife, RTE wants to develop a proactive approach to protecting biodiversity.

The land underneath overhead lines is often ideal for the development of flora and fauna. Paradoxically, these areas can help some ecosystems to regenerate or indeed adapt to the consequences of climate change.

Yvelines substation

An example of integration into the environment

A new substation was unveiled in Méré in March 2009, which now supplies the Yvelines region with its electricity. The facility was specially designed to reconcile environmental protection with technical performance. Hence €2.3 million of the €32 million invested was spent on integrating the facility into the landscape (housing of installation, paintwork adapted to the surrounding colours, tree planting on 6 hectares of the 10-hectare site, etc.), and the creation of a rainwater runoff tank.

Bird ringing

Partnerships with the Loire-Atlantique and Vendée region LPO

These partnerships continued in 2009 with numerous joint initiatives, particularly the ringing of young birds between the end of May and beginning of June. A total of 33 young storks were ringed out of 40 identified.

In wooded areas, the opening up of the natural environment with forest corridors, initially carried out to secure the network, also encourages the natural development of a biodiversity complementary to that observed under plant cover. Rare species have been seen to reappear in these corridors, protected from urban development and extensive farming.

Hence, within the framework of an agreement signed between the Île-de-France Regional Council, the French National History Museum and RTE, botanists from the Paris Basin National Botanical Conservatory conducted an inventory of the plant species present beneath 170 km of line in the Seine-et-Marne region.

Results: 5 extremely rare, 5 very rare, 7 rare and 14 fairly rare species were identified, i.e., around thirty species, the majority of which are under threat of disappearing altogether (cf. box). On the basis of the findings of this inventory, the Botanical Conservatory is working with RTE to analyse its methods of plant management with a view to adapting them where necessary.

Finally, land under electric lines can be seen as ecological corridors and as such could contribute to the creation of "green networks" initiated within the context of the *Grenelle de l'environnement*. At local level, partnership agreements with regional nature reserves have been signed to promote the use of forest corridors for the creation of "green networks".

In addition, the Company is working alongside the Biodiversity Research Foundation, created within the *Grenelle de l'environnement*. As part of this work, a transport and linear infrastructure group has been set up, responsible for taking into consideration the specific nature of land acquired for linear networks, such as electric lines, motorways, railways and waterways.

In 2009, RTE also set up an internal network of biodiversity correspondents. The network is responsible for disseminating information, explaining biodiversity issues, sharing experiences and presenting initiatives for the creation of green and blue networks. The network's first task will be to disseminate good practices for effective biodiversity management on land beneath RTE's structures.

Floral inventory

Milkwort and adder's tongue...

Around 30 rare species were indentified during an inventory of plant life beneath the lines of Seine-et-Marne, including milkwort (photo above), a species not seen in the Île-de-France region since 1960, and adder's tongue, which is extremely rare in the region.

Regional agreement

Partnership with the French National Hunting Federation

As part of the convention signed with the National Hunting Federation, a regional agreement relating to the operation of game reserves was signed with the Saône Hunting Association. With the agreement of the commune – the landowner – two areas of land (1.6 hectare) beneath the 225,000 volt Champagnole-Palente line, will be cleared and planted by the hunting association. The association will be responsible for managing the land for a period of six years. Initiatives such as this are designed to encourage the development of land beneath electricity lines for the benefit of wildlife.

Corporate responsibility, the evolving power system and the increasing importance of environmental issues: everything points to the need to improve our operating methods, both internally and externally vis-à-vis partner companies.

ACTING AS A SOCIALLY RESPONSIBLE COMPANY

Working with our partners to meet society's expectations

RTE carries out its public service mission across the country, supported not only by its employees but also numerous service providers. It is constantly striving to improve its relations with suppliers, particularly through a responsible procurement policy, and works hard to ensure third-party safety and rural vitality.

FULLY EMBRACING OUR PUBLIC SERVICE MISSIONS

RTE carries out public service missions which consist in ensuring a constant supply of electricity throughout the country at the lowest possible cost to communities. These missions are laid down in law and set out in the public service contract signed with the State. The principles of continuity, equality and adaptability are central to RTE's identity as well as that of its employees. These principles come to the fore in the event of extreme weather events.

On 24 January 2009, winter storm Klaus battered South-Western France, testing the network to its limits. However, the network strengthening programme launched following the storms of 1999 meant that half as many lines and three times fewer substations were affected compared with 1999. In addition to these technical improvements, the mobilisation of RTE's employees played a key role: 700 technicians out in the field at the height of the emergency, with numerous spontaneous offers of support. The result was that all customers were reconnected in less than five days in accordance with a commitment made with the State regarding reconnection times following such an event... a commitment that only comes into force in 2017.

WORKING AS A RESPONSIBLE PARTNER

Implementing improvement initiatives and risk prevention vis-à-vis our service providers.

In 2009, RTE wanted to multiply its training and prevention initiatives aimed at its partners and suppliers. The progress charter signed with the French Industrial Painting Contractors Group is a concrete illustration of RTE's determination to act as a responsible company. Documents setting out good practices in terms of protection and exposure to electrical risks have also been sent out to service providers.

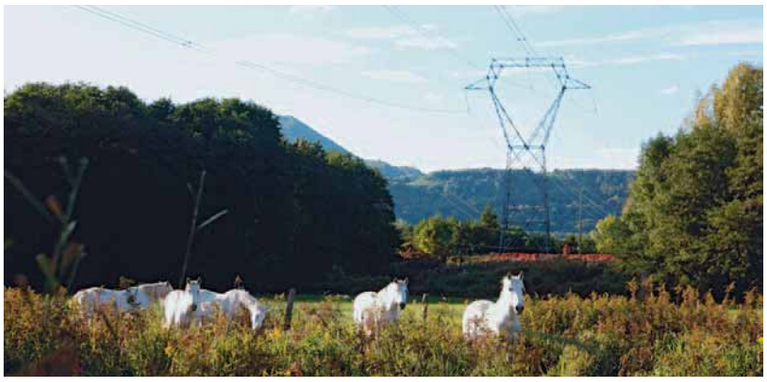
The implementation of a responsible procurement policy

Through the implementation of a rigorous procurement policy hinged around a sustainable development approach, RTE is aiming to give greater consideration to the impact of its activities on the economic and social fabric.
To this end, RTE strives to forge balanced and long-term relationships with its suppliers.
The specific areas of focus are:

- **giving greater visibility:** by sharing its industrial policy orientations (construction work, maintenance, equipment, etc.) as well as associated purchasing volume forecasts with its suppliers, RTE is helping them to better adapt their offers and work scheduling;
- **preserving the environment:** specifications relating to equipment purchasing and maintenance operations implementation contracts now incorporate environmental criteria. The complete cost of a vehicle over the course of its life is now taken into account, covering such

The progress charter: a joint undertaking by RTE and GEPI

This year, RTE and the industrial painting companies that work on electricity pylons, represented by Gepi (French Industrial Painting Contractors Group), have committed to a joint progress initiative, combining quality, security and environmental protection. The initiative will be a means of developing the professionalism of painting service providers, increasing their knowledge in the field of safety and ensuring their active involvement in RTE's commitments to protecting the environment. In the same vein, RTE guarantees transparency in terms of the selection and evaluation of its suppliers.
Concrete measures, such as training employees in the risks associated with electricity, working at height, job techniques or environmental protection, via the selection of paints and ground protection, will be implemented. Every year, around 8,600 pylons within the high voltage and every high voltage electricity network are repainted. There are a total of 230,000 such pylons throughout France.



Partnership

An example of a partnership: the Laval Agricultural College

This continuing partnership enables RTE to raise awareness amongst future farmers of electricity risk prevention in the agricultural setting. The risks, which may relate to faulty installations or the harmful effects of low voltages and parasitic currents on animals, and the measures that need to be taken to deal with them are covered in the college.

considerations as fuel consumption and associated CO2 emissions;

* **promoting professionalization, employment and quality:** services comprising a significant labour component (cleaning, security, park maintenance, etc.) are formalised by contract, with long-term contracts and provision for optional years.

Information and third-party safety

In 2009, in partnership with ERDF, RTE developed specific information tools aimed at different categories of public working in the vicinity of the industrial infrastructure. The information relates to the risks associated with the lines and surrounding areas.
The website www.sousleslignes-prudence.com offers prevention advice and information to companies in the public buildings and works sector, farmers, open air sport enthusiasts and fishermen.
Thus RTE has joined forces with the French National Fishing Federation for a three-year partnership aimed at developing and implementing awareness-raising initiatives.
Finally, the information campaign now targets an additional group: rental equipment users.

FOSTERING SOLIDARITY IN RURAL AREAS

RTE has firmly established roots in every region of France through its extensive electricity network and as such contributes to balanced regional development. In creating its Foundation at the beginning of 2008, under the aegis of the *Fondation de France,* RTE wanted to demonstrate its commitment to rural development, reflecting the fact that more than 80% of its 100,000 km of lines are located in rural areas.
Its aim is to contribute to rural vitality, firstly, by backing general interest and solidarity initiatives designed to reduce exclusion and promote the development of social ties and, secondly, by supporting rural heritage (buildings, cultural, natural, etc.). The RTE Foundation has a budget of €3 million over three years.

In 2009, 40 projects across France received the backing of the RTE Foundation to the tune of €700,000. Some projects related to the creation of jobs for people living a long way from job opportunities, the creation of activities and services, the reinforcement of social ties and efforts to tackle exclusion. Others focused on the promotion of rural heritage (buildings, local produce, expertise, countryside, etc.) within the framework of sustainable development.

One third of the projects were supported thanks to the mobilisation of the Company's current or retired employees, reflecting the commitment of its 8,500-strong workforce throughout the country.

Supporting the Club Marpen association

A project supported by the Foundation

The Club Marpen association is involved in heritage restoration projects and reinsertion initiatives. The purpose of its *"Bâti et Paysages"* (Buildings and Landscapes) project is to landscape three gardens, each with a very different flavour: a monastery garden, a European garden dedicated to the themes of water and Europe and a conservation orchard combining local fruit trees and small traditional buildings... These three projects – platforms for the mixing of various cultural and social groups – are being conducted thanks to hands-on training schemes aimed at young apprentices, insertion initiatives for the disadvantaged and international volunteers. These gardens have received the backing of the RTE Foundation to the tune of €20,000.

Allowing employees and the Company to evolve together

As far as RTE is concerned, long-term collective success depends on the existence of permanent social dialogue. The initiatives implemented in 2009 in the fields of diversity, professional equality, career support, and health and safety at work illustrate the Company's philosophy.

SKILLS MANAGEMENT

Understanding the skills of RTE's employees and knowing how to ensure they evolve to reflect changes in the electricity sector: these form the cornerstones of the Company's long-term human resources management approach.

The Workforce Management Planning agreement was signed in January 2010 by RTE's Chairman and the five trade unions representing employees. The aim of the agreement is to facilitate the professional development of employees, identifying and anticipating potential gaps between the skills available and those required. It will make it easier to define recruitment and training plans and improve the support provided for individual career development. It comes as an addition to the three existing agreements relating to the monitoring and training of employees throughout the course of their careers.

HEALTH AND SAFETY AT WORK

The importance accorded by the Company to the health and safety of its employees has a direct bearing on the quality of life at work and a significant impact on social relations as well as the economic efficiency of the organisation.

Due to the highly technical nature of RTE's professions, initiatives in this area have always focused on accident prevention. The risks associated with ground-level work and road accidents have always been made a priority: they accounted for 62% of all accidents in 2009 and affected all RTE's professions.
At local level, RTE implements a range of initiatives, often joining forces with other companies in efforts to promote road safety, such as the signing of charters, for example.

In 2009, RTE revised its health and safety policy, developing initiatives focusing more on health and quality of life in the workplace. An internal communication campaign and several events (managers' convention, theme days, etc.) enabled employees to take part in workshops on dependence, actions that save lives and responsible driving. The overall aim is to give employees responsibility for the implementation of the policy.
The Company's commitment in this area was also reflected in the creation of a new post in the Human Resources Division, an Officer in charge of health and quality of life in the workplace. The officer is responsible in particular for psychosocial risks.

PROMOTING GREATER DIVERSITY AMONG EMPLOYEES

As far as RTE is concerned, the diversity of its employees' backgrounds, origins and professional experience is a fundamental asset against the backdrop of a constantly evolving society, particularly in terms of dynamism, wealth and adaptability.
In January 2009, RTE signed the diversity charter and at the same time the first discrimination awareness seminars were held for managers (the first commitment in the charter). During the course of 2009, some 500 managers were involved in diversity promotion initiatives.
In addition to the general charter, RTE signed specific agreements with all its social partners relating to two legal criteria: gender and disability.

2009

A few results:

- **A proportion of women in the workforce of 19% at the end of 2009.**
- **External recruitment of women up 6.4% in two years (28.4% in 2009).**
- **18 Scientific and Technical Prizes awarded and supported by RTE in Île-de-France region alone.**
- **8 employment contracts and three apprenticeship contracts awarded to disabled applicants.**
- **11 students accepted on ARPEJEH placements (Support for Study Projects for Young Disabled Pupils and Students).**
- **More than 6,500 training hours financed by RTE delivered to disabled people from outside the Company.**

Supporting employees

Careers advice network

Working with regional Human Resources offices, careers advisors support the career development of the Company's employees. Part of their role, for example, is to help define or establish the feasibility of a career development plan and to indentify skills as a function of future needs. Confidentiality is a key aspect of their role.

Agreements relating to gender equality (14 May 2007) and the integration of disabled people (28 April 2009) – both signed unanimously – commit the Company to quantitative targets. Among the key objectives are the three-yearly target for the integration of disabled workers of 37 full-time contracts and 10 work placement contracts, as well as a 2% increase in the number of women employed by the Company (an overall target of 20% women).
In order to achieve these ambitious objectives, RTE has a network of correspondents. Internally, these networks focus on the make-up of personnel (in terms of mix, disability, etc.). Externally, they work to develop partnerships (with schools, specialist organisations, etc.) with a view to intervention upstream of the job market. This recruitment lever enabled the proportion of women employed at RTE to increase from 17.9% at the end of 2007 to 19% at the end of 2009.
The recruitment of disabled people – 3.2% at the end of 2008 compared with 2.6% in 2006 – continued its upward trend in 2009. The new disability agreement, signed in April 2009 by the five trade unions, sets out a range of adaptation solutions (human, material, organisational, etc.) designed to facilitate the integration of these employees into the Company.

MONITORING EMPLOYEE SATISFACTION TO UNDERSTAND AND ACT

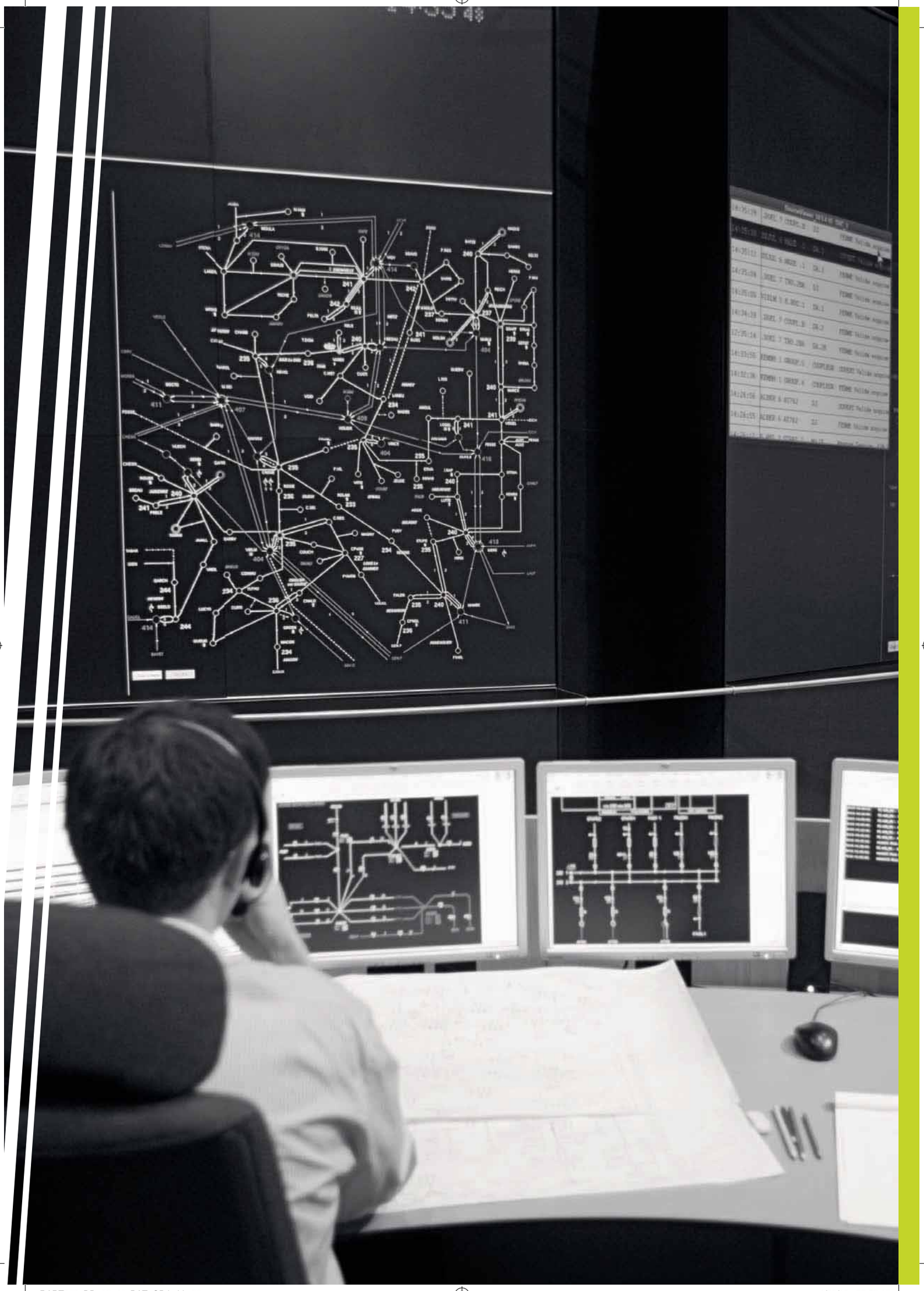
RTE conducts regular surveys to establish employees' perceptions of their Company. In 2009, half of the 8,500 employees questioned provided feedback. The 2009 survey revealed a strong sense of belonging to RTE, of pride (more than 80%), of trust in the Company and interest in their work. However, it also revealed significant expectations in terms of career development support as well as concerns regarding work load and excessive stress.

PRACTICAL IMPLEMENTATION INTERNALLY

All employees need to be involved in and support the sustainable development project and numerous tools are in place to this end. In addition to the awareness-raising tools rolled out in 2008 (*Club des acteurs du développement durable* or Sustainable Development Players' Club, and the suggestions box), now come a dedicated intranet site, specialist training courses and an e-learning programme.
Finally, to enable all employees to contribute to the Company's sustainable development approach, in 2009 RTE held its first Sustainable Development Challenge.
One of the categories of the Challenge was dedicated to health and safety at work. Open to all employees, 325 entries were received. Three prizes were awarded for the best ideas. The Challenge will be held every year and the best ideas will be implemented by the Company.

I very much appreciated the event and the fact that we spoke about health too instead of just safety. In professions like ours, safety usually comes down to not falling off your chair or cutting yourself with a Stanley knife. Quality of life at work is also important. I'm responsible for a team of 50 people and I'd like them to be happy in their lives in general and enjoy coming to work.

AN EMPLOYEE, TALKING ABOUT NATIONAL HEALTH AND SAFETY AT WORK DAY HELD ON 28 MAY 2009.



STEERING TOOLS

FINANCIAL PERFORMANCE

CONSOLIDATED INFORMATION[1] in € millions	2007	2008	2009	CHANGE
Revenue	**4,126.0**	**4,221.3**	**4,130.1**	**- 91.2**
of which grid access for "extraction"	3,559.5	3,621.9	3,674.3	**52.4**
of which grid access for "injection"	88.0	88.0	84.4	**-3.7**
of which grid access for "interconnections"	388.3	382.5	257.0	**-125.5**
of which miscellaneous service	90.2	128.8	114.4	**-14.4**
System purchases	**-938.1**	**-1,061.6**	**-1,166.1**	**-104.6**
Operating expenses (OPEX)	-1,209.3	-1,266.8	-1,331.5	**-64.8**
of which other net purchases	-648.4	-674.6	-706.8	**-32.1**
of which net payroll costs	-561.0	-592.1	-624.8	**-32.6**
Taxes	-405.8	-391.5	-411.2	**-19.7**
Other operating income and expenses (APCO)	15.7	-152.8	-10.0	**142.7**
EBITDA	**1,588.3**	**1,348.7**	**1,211.2**	**-137.4**
Other income and expenses from operations	0.0	-3.7	0.0	**3.7**
Depreciation and amortisation	-555.8	-574.6	-587.8	**-13.2**
EBIT	**1,032.5**	**770.4**	**623.4**	**-146.9**
Financial expense	-322.4	-318.8	-235.4	**83.4**
Result before tax	**710.2**	**451.6**	**388.0**	**-63,6**
Income taxes	-244.2	-159.9	111.5	**271.4**
Share of profit of companies under the equity method	0.0	3.2	0.0	**-3.2**
Income	**466.0**	**294.9**	**499.5**	**204.7**
Income excluding impact of EU Court decision of 15/12/2009.			**198.9**	

Values in the table are expressed in millions of euros (€ millions).
Rounding-up may sometimes lead to an insignificant discrepancy in terms of totals and variations.

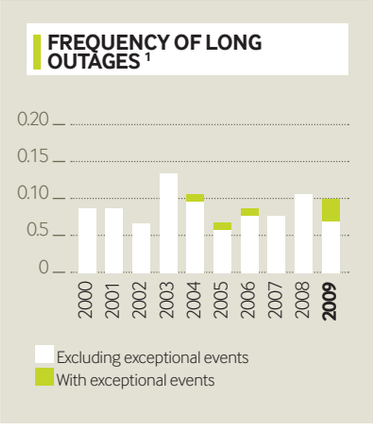
1 - Since 2007, RTE's accounts have been produced following International Financial Reporting Standards (IFRS), in application of the European ruling of 19/02/2002. RTE Group's consolidated financial statements are established taking into account the following companies: RTE SA, Ǫrteria, RTE International and HGRT.

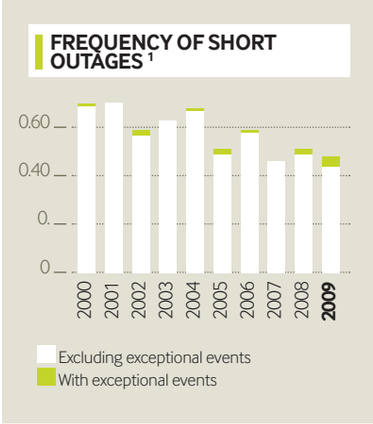
ECONOMIC PERFORMANCE

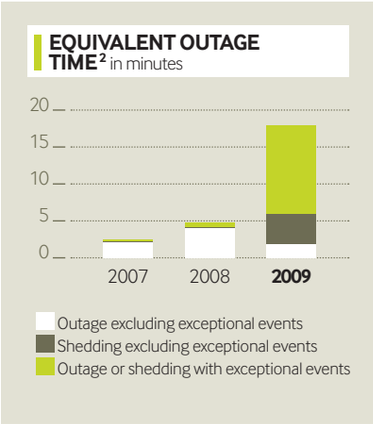
CONVERGENCE OF MARKET PRICES	2007	2008	2009
Daily market coupling between France-Belgium-the Netherlands: convergence of basic prices % of time with identical basic prices (%)			
Powernext-BELPEX-APX	64.0	69.5	**57.5**
Powernext-BELPEX	89.5	84.6	**70.5**
BELPEX-APX	73.5	84.2	**85.4**
Daily market coupling between France-Belgium-the Netherlands: convergence of peak prices % of time with identical peak prices (%)			
Powernext-BELPEX-APX	61.2	71.8	**54.6**
Powernext-BELPEX	88.2	83.7	**65.2**
BELPEX-APX	72.2	87.5	**87.8**

ELECTRICITY LOSSES ON THE NETWORK (in TWh)	2007	2008	2009
Electricity purchases to offset losses on the network	11.1	11.2	**11.3**
pm: production injected into the network	514.8	517.8	**486.7**

Expenditure dedicated to Project Support Plans (PAP)
In 2009, €4,200,000 was spent on the scheme. Around 60% of this funding related to regional sustainable development initiatives.







The continuity and quality of the voltage wave depend on the network's capacity to feed delivery points on a permanent basis. Its alteration is expressed in terms of outages. In some circumstances, consumption shedding may be performed on distribution networks.

Outage: interruption of 3 power supplies to customer delivery points.

- Short outage: between 1 second and 3 minutes.
- Long outage: more than 3 minutes.

Shedding: shedding consists in deliberately switching off part of consumption in a controlled manner to avoid more serious outages or the occurrence of a more generalised incident in terms of serious consequences. Shedding is governed by a regulatory framework defined in the public electricity transmission network's specifications.

Equivalent outage time characterises the amplitude of outages over the course of a year. Two exceptional climatic events had a significant impact and represented 12 minutes and 19 seconds of equivalent outage time in 2009: storm Klaus on 24 January in South-Western France and storm Quinten on 10 February in Central France.

Excluding exceptional events and shedding, equivalent outage time was 2 minutes and 3 seconds, an improvement on recent years on a like-for-like basis. The list of main incidents that had an impact on the distribution networks and industrial companies in 2009 is available in the appendix of the 2009 Annual Report on Electricity Quality.

In terms of breakdown of outages by site, it should be noted in 2009 that:

- 94% of customer sites experienced no long outage and 77% no short outages;
- 0.8% experienced more than 1 long outage;
- 1.5% experienced more than five short outages.

Around twenty sites experience more than 1 long outage or 5 short outages per year on a recurrent basis. These situations are currently the focus of an action programme.

1 - Outage frequency is the number of outages per site connected to the transmission network and per year.
2 - Since 2005, the equivalent outage time indicator has included consumption shedding. In 2009, shedding accounted for around 4 minutes and 18 seconds of equivalent outage time. This was caused by two local incidents in the PACA region.

ENVIRONMENTAL PERFORMANCE

CHARACTERISTICS OF THE RTE NETWORK (in km)	At 31/12/2007	At 31/12/2008	At 31/12/2009
RTE transmission connections in operation and off-line (network higher than or equal to 63 kV)			
Length of overhead lines	78,730	78,659	78,507
Length of underground lines	3,454	3,569	3,760
Total	**82,184**	**82,228**	**82,267**

BIODIVERSITY IN PROTECTED AREAS	2007	2008	2009
Mileage of lines crossing protected natural sites	16,032 km (of which 7,890 km in Natura 2000 zones)	15,708 km (of which 8,082 km in Natura 2000 zones)	115,700 km (of which 8 750 km in Natura 2000 zones)
pm: total mileage of lines (higher than or equivalent to 63 kV)	**78,730**	**78,659**	**78,507**
Number of RTE substations in protected natural sites	350 substations (of which 108 in Natura 2000 zones)	23 substations (of which 111 in Natura 2000 zones)	342 substations (of which 114 in Natura 2000 zones)
pm: total number of RTE substations	**2,495**	**2,510**	**2,518**

EXPENDITURE LISTED BY RTE AS CONTRIBUTING TO ENVIRONMENT PRESERVATION (in € thousands)	2007	2008	2009
Total environmental expenditure	**80,029**	**88,498**	**67,509**
Ambient air protection	1,489	2,309	**2,606**
Waste water management	839	386	**232**
Waste management	4,721	4,149	**3,876**
Protection and purification of soil, ground water and surface water	8,434	10,753	**6,611**
Reducing noise and vibration	771	1 215	**1,873**
Biodiversity and landscape protection	44,182	48,122	**31,807**
Radiation protection	832	788	**881**
Research and development	4,909	4,085	**2,051**
Other environmental protection activities (including energy control)	14,097	16,692	**17,489**

Only additional expenditure recognised as being used to prevent, reduce or repair damage caused to the environment is taken into account. The evaluation is based on costs before tax broken down into operating, investment and research expenditure.

COMPLIANCE WITH ENVIRONMENTAL LEGISLATION AND SPECIFIC AGREEMENTS	
Resorption of appliances polluted with more than 500 ppm PCBs (polychlorobiphenyls)	249 appliances treated (since the beginning) 258 appliances to be treated initially (of which 9 by the end of 2010)
Compliance with the agreement with ADEME regarding SF6 emissions (RTE + ERDF)	23.1 tonnes in 1995

The regulations require that all appliances with a PCB content of over 500 ppm be eliminated by the end of 2010. RTE has defined a removal plan in line with this objective. The number of appliances with a PCB content of over 500 ppm that still need to be treated was declared to the authorities in July 2007.
The agreement signed with the Ademe regarding SF6 emissions aims to reduce emissions that are damaging to the environment, bringing them down to 1995 levels in 2010 (the 1995 figure covered the current perimeter operated by RTE and ERDF, i.e. a global objective of 23.1 tonnes).
In 1998, RTE's facilities represented 555 tonnes.
In 2007, this had been reduced to 457 tonnes and accidental leaks stood 8.6 tonnes, i.e. 205 CO2 -equivalent kilotonnes.
In 2008, the figure was 449 tonnes and accidental leaks stood at 7.0 tonnes, i.e., 167 CO2-equivalent kilotonnes.
In 2009, the figure was 485 tonnes and accidental leaks stood at 6.8 tonnes, i.e., 155 CO2-equivalent kilotonnes (new SF6 emission factor: 22,800, Ademe).

SF6 EMISSIONS	2007	2008	2009
SF6 Emissions (tonnes)	8.6	7.0	6.8
pm: mass installed in gas-insulated substations and circuit breakers	**457**	**449**	**485**

These volumes are established accounting contingencies aimed at offsetting leakages or losses following handling during interventions, and represent 1.4% of installed mass.

ACCIDENTAL OIL LEAKS (in m^3)	2007	Recovery rate	2008	Recovery rate	2009	Recovery rate
Underground lines	8		0.9		7.5	
Transformers and substations	5		13.1		4.2	
Total	**13**	**82%**	**14**	**71%**	**11.7**	**87%**
pm: in 2006 => 15 / 60%						
pm: in 2005 => 30 / 12%						

Underground cables with liquid oil sare old cables that RTE is gradually decommissioning. It is for this reason that leaks from these lines are decreasing significantly and will continue to do so. As far as leaks from transformers and substations are concerned, the figure of 4.2 m^3 should be considered in the context of a pool of more than 1,000 transformers containing hundreds of litres of oil, up to 50 tonnes.

WASTE MANAGEMENT BY TYPE AND DESTINATION (tonnes)	**2007**	**Recovery rate**	**2008**	**Recovery rate**	**2009**	**Recovery rate**
Hazardous industrial waste	**1,537**		**1,032**		**1,460**	
Equipment and other waste soiled by oil/hydrocarbons	525	81%	278	70%	206	62%
Oil and hydrocarbons	482	55%	258	73%	338	61%
PCBs	199	32%	244	10%	447	30%
Batteries and storage cells	131.5	98%	111	100%	160	100%
Hazardous products	65	38%	62	41%	230	4%
Waste electrical and electronic equipment (WEEE)	60	91%	52	98%	47	99%
Asbestos	53	5%	33	38%	33	7%
Other used equipment	68.5	91%	23	89%	37	90%
Non-hazardous industrial waste	**1,271**		**1,331**		**1,420**	
Mixed non-hazardous waste	483	39%	632	48%	748	33%
Paper/cardboard	242.5	92%	163	80%	181	89%
Metals	208.5	88%	203	91%	215	92%
Insulators	155	43%	136	47%	105	65%
Wood (untreated)	119	61%	110	80%	91	93%
Non-hazardous waste (miscellaneous)	15	80%	39	31%	22	78%
Inert waste	–		19	0%	20	25%

In 2009, 47% of hazardous industrial waste and 54% of non-hazardous industrial waste were recovered. These volumes represent waste directly produced by RTE. RTE can pass on responsibility for removing waste to service providers when building or maintenance work is being carried out, except for asbestos and PCBs. If this is the case, the service provider is identified as producing the waste.

MONITORING DEMANDS FROM INTERESTED PARTIES (DPPI)	2005	2006	2007	2008	2009
Number of complaints received	784	586	530	493	**547**
Number of requests for information received	816	640	624	504	**586**
Total number of requests	**1,600**	**1,226**	**1,154**	**997**	**1,133**
Percentage of requests handled within 30 days	97%	95%	96,5%	92,5%	**94,6%**

Interested parties: "Individuals or groups of individuals concerned or affected by the environmental performance of an organisation" (ISO 14001). Around 300,000 people live near HV and EHV lines. By analysing demands from interested parties, the company can structure its actions around the concerns of residents and meet their expectations as closely as possible.

PERCENTAGE OF LINES PLACED UNDERGROUND	At 31/12/2007	At 31/12/2008	At 31/12/2009
Percentage of HV lines underground	38,2%	64%	69,4%

The percentage of 63 and 90 Kv lines deployed underground in 2009 was 69.4%, well above the 30% commitment set out in the 2005-2007 public service contract still in force.

LENGTH OF OVERHEAD LINES	At 31/12/2007	At 31/12/2008	At 31/12/2009
Length of overhead lines (63 to 400 kV lines in and out of service)	78,730	78,659	78,507

The overall trend for RTE's network infrastructure (63 to 400 kV, in and out of service) shows a reduction in length of 152 km (overhead lines). Work to create and modify structures has led to the removal of 90 km of overhead lines).

UNDERGROUND LINES BUILT	At 31/12/2007	At 31/12/2008	At 31/12/2009
Underground lines built (km of circuit)	94	114	220

SOCIAL PERFORMANCE

PROFESSIONAL EQUALITY AND AVERAGE REMUNERATION BY CATEGORY AND GENDER (€)

	Women			Men			Difference women/men (%)		
	2007	2008	**2009**	2007	2008	**2009**	2007	2008	**2009**
Operational	19,465	20,617	**20,871**	19,055	19,913	**20,196**	+2.15	+3.54	**+3.34**
Supervisory	24,078	25,583	**26,025**	24,380	25,756	**26,195**	-1.24	-0.67	**-0.65**
Managerial employees	40,213	43,439	**43,492**	40,053	42,538	**42,998**	0.40	+2.12	**+1.15**
All categories	**30,175**	**32,565**	**33,058**	**30,468**	**32,390**	**33,058**	**-0.96**	**+0.54**	**+0.77**

SAFETY AT RTE IN 2009	2007	2008	2009
Lost time accidents on the job	36	30	**42**
Frequency (broad definition)	6.23	6.74	**6.59**
Total accidents on the job	**73**	**81**	**80**
Frequency rate	3.07	2.49	**3.46**

HEALTH AND SAFETY AT WORK IN 2009	2007	2008	2009
Accidents on the job or while travelling with and without lost time	115 *	121	**129**
Fatal accidents	1	1	**0**
Number of days of lost time accidents on the job	1,171	1,399	**1,534**
Hours of absence (illness, accidents, unpaid leave) / Effective duration of work	3%	2.9%	**3%**

The number of ground-level or road-related accidents is 80 out of 129, i.e., 62%.
These risks affect all RTE employees.

AVERAGE NUMBER OF TRAINING HOURS PER EMPLOYEE AND CATEGORY	2007	2008	2009
Operational	55	48	**48**
Supervisory	42	57	**51**
Managerial employees	45	48	**43**

VOLUME OF TRAINING HOURS DEVOTED TO THE ENVIRONMENT		
2007	2008	2009
4,870	**5,845**	**6,048**

WORKFORCE AND PERCENTAGE OF WOMEN BY GENDER AND CATEGORY at 31/12/2009

Category	Female	Male	Total	Percentage women
Operational	67	417	484	13.8%
Supervisory	828	3,473	4,301	19.3%
Managerial employees	711	2,909	3,620	19.6%
U and HC*	11	99	110	10.0%
Total	**1,617**	**6,898**	**8,515**	**19.0%**

Population: statutory employees at 31/12/2009.
* Senior management.

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RTE is the operator of France's power transmission network, the largest in Europe with 100,000 km of high and very high voltage lines.
In 2009, RTE invested more than €1 billion to strengthen the security of electricity supply in France and Europe and to contribute to the economic stimulus plan. RTE employs over 8,500 people, who share a commitment to serving the public interest.

RTE-EDF Transport, a limited company governed by an Executive Board and a Supervisory Board with capital of €2,132,285,690 - RCS Nanterre 444 619 258

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