



EDF Group
Report 2004

Sustainable development

When your world lights up



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STRUCTURE OF THE REPORT

The EDF Group's Sustainable Development report for 2004 is designed to report on Group commitments particularly within its Agenda 21, its public service commitments and the Global Compact.

It has also been prepared with reference to external reference frameworks: the Global Reporting Initiative (GRI⁽¹⁾) guidelines and the French New Economic Regulations (NRE).

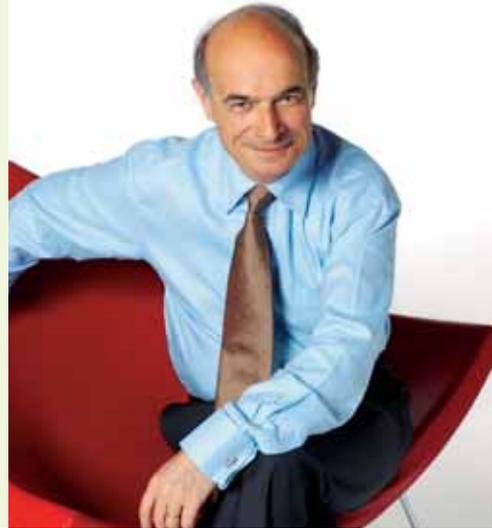
This report covers only part of the EDF Group's activities. More information on results and references relating to the EDF Group's strategy on sustainable development are available on the website www.edf.com.

Some general information can also be found in the "Annual Report".

(1) GRI: International initiative launched by the Coalition for the Environmentally Responsible Economies (CERES) and the United Nations Environment Programme (UNEP) to promote the harmonisation of published data, on a voluntary basis, from companies on their environmental, economic and socially responsible performance.

Chairman's statement

> **Pierre Gadonneix**,
Chairman and Chief Executive Officer



EDF Médiathèque/Stéphane de Bourglès

Our Group is changing in order to better respond to the needs of our stakeholders, especially our customers, employees and the partners working with local authorities and NGOs.

Acquiring limited company status gives EDF more transparency. It also gives us greater latitude, notably when it comes to offering energy-related services. Lastly, it will allow us to sell a portion of our capital to investors and thus give our employees and new partners a chance to participate in our growth.

The business plan I prepared for the next three years has been seen and approved by the EDF Board of Directors and submitted to executives, who will be overseeing its implementation in 2005. A chapter is devoted to industrial matters, in response to growing electricity demand in France and Europe. Our choices will be dictated by the laws of economic viability, safety and environmental responsibility, notably reducing the greenhouse effect. We have decided to build a first next-generation EPR, in preparation for the renewal of our nuclear fleet. The new technology makes nuclear power even safer and facilitates nuclear waste management. We also intend to build a hydro facility in the Alps, to replace several run-of-the-river dams. The fossil-fired plants will also be upgraded to achieve better performance with less pollution. Each kWh produced by EDF will thus continue to have one of the lowest carbon contents in the world. Our involvement in China's nuclear and hydro

projects, as well as in the construction of Laos's Nam Theun dam, is in keeping with these priorities.

The commercial portion of our business plan features energy efficiency services and green electricity offerings, two essential elements of our product and service offer included in the packages offered to all customers since 2004.

The EDF Group's performance hinges upon the quality, dedication and personal involvement of our staff. The corporate social responsibility (CSR) agreement signed on 24 January 2005 with 15 union organisations representing 11 countries was the result of discussions held throughout 2004. The CSR agreement will govern our actions worldwide for the next three years. It includes provisions against discrimination and access to electricity in poorer countries.

The agreement was a logical outgrowth of the actions undertaken by the Group over many years, actions that led, among others, to the signature in 2004 of an agreement calling for gender equality in the workplace, for 10% of new hires to be young people from underprivileged areas, and for further improvement in our policy regarding treatment of the disabled, be they customers or employees.

We have deliberately chosen to open ourselves to scrutiny and demonstrate rigorous accountability, by reappointing the environmental and sustainable development boards and ensuring that they are chaired by non-EDF members.

Equally important changes await EDF and its partners in 2005. The best illustration of this is clearly the preparation for our capital increase. Our goal is to ensure that we provide a clear view of our objectives and how we plan to meet them. It is with this in mind that I will maintain an open and ongoing dialogue with all our stakeholders.



Vision and strategy

Critical to economic and social development, at the centre of environmental issues, energy and particularly electricity, is a major challenge for sustainable development. Electricity is a vital commodity that plays an essential role in the structuring of our societies and countries. It has its own specifics requiring a high level of risk management and investment based on long term choices for the next fifty or a hundred years. It cannot be stored, except in batteries or in the form of water reserves in dams, yet must be constantly available. Its development requires a real economic, social and environmental commitment to the communities within which the EDF Group operates.

GROUP STRATEGY IS FOCUSED ON THREE AREAS

The first is to guarantee effective governance at all levels of the Group. This includes promoting dialogue with all stakeholders, meeting long term commitments (Agenda 21, Commitments to public service, Global Compact) and developing the controls needed to achieve transparency and manage risk. This is why common management tools are used across the Group (ISO 14001), ensuring consistency and transparency and why a reporting process, founded on international best practice, is being developed. Commitment to the principle of subsidiarity ensures solutions best suited to local conditions.

The second is to take into account how Group activities fit with the local market picture. In particular, this means supplying electricity at lower cost in order to make it available to everyone, and monitoring the impact of its generation plants on the human and natural environment.

The third is to make a proactive contribution to the management of global environmental issues, using its know-how in nuclear and hydropower, energy efficiency and saving to reduce the impact of greenhouse emissions.

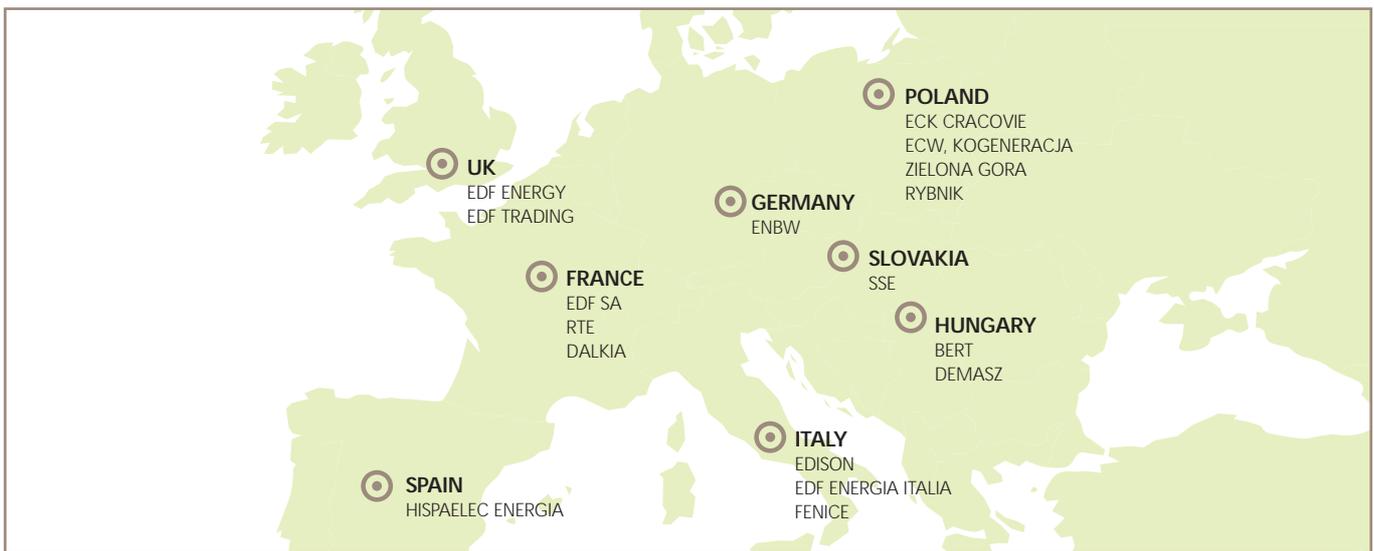
This strategy is founded on five values: respect for the individual, the environment, performance, social responsibility and integrity. Arising from our quality public service culture and shared by employees across the EDF Group, these values are both our greatest asset and our guarantee for the future. They inform everything we do and underpin our results.



EDF made progress towards its sustainable development objectives in 2004 particularly in governance and the environment. With the implementation of the Corporate Social Responsibility (CSR) agreement of 24 January 2005, the Group added high 'socially responsible' performance to its other objectives. It is now better placed to be fully accountable for results in the areas of human rights and discrimination.

EDF at a glance^(*)

— The EDF Group consists of 75 affiliates and investments⁽¹⁾ in addition to the parent company. EDF has investments in 22 countries and offers services and consulting in 35 countries.



Europe

FRANCE

EDF SA

- Sales: €29,457 million
- 27.6 million customers
- Electricity sales: 522.8 TWh
- Electricity generation, including overseas departments 101,126 MWe installed capacity; 487.4 TWh generated
- Transmission: RTE (regulated activity) 99,458 km high and very high voltage lines
- Distribution: EDF Network Distribution & EDF Gaz de France Distribution (regulated activity) 1,240,000 km of medium and low voltage lines 32.5 million sites connected

Dalkia – EDF 34%, Veolia Environnement 66%
• Energy-related services

UK

EDF Energy (1999)⁽²⁾ – EDF 100%
• Sales: €5,964 million

- Electricity sales: 51,544 GWh. Gas sales: 21,791 GWh
- Electricity generation: 4,942 MWe installed capacity; 25,219 GWh generated
- Electricity distribution to 3.8 million customers and gas to 1.01 million customers
- Electricity networks: 164,840 km (low, medium and high voltage lines)

EDF Trading (1999) – EDF 100%

- Sales: €408 million
- Electricity trading (745 TWh), gas (134 Gm³), coal (237 Mt), oil (141 Mb).

GERMANY

EnBW (2001) – EDF 48.43% (EDF share);

- Sales: €4.627 million
- Electricity sales: 99,700 GWh. Gas sales: 83,000 GWh
- Electricity generation: 14,366 MWe installed capacity; 73,115 GWh generated
- Electricity distribution to 4.6 million customers and gas to 385,000 customers

- Electricity networks: 147,236 km (low, medium and high voltage lines)

ITALY

Edison (2001) – Company not included within EDF Group consolidation scope

- Sales: €6,491 million
- Electricity sales: 51,500 GWh. Gas sales: 12,900 Mmc⁽³⁾ Gas/Fuel
- Electricity generation: 10,045 MWe⁽⁴⁾ installed capacity; 47,753 GWh generation.
- Electricity networks: 2,900 km (low, medium and high voltage lines)

EDF Energia Italia – EDF 100%

- Electricity sales to eligible customers. Energy-related and environmental services to industry with **Fenice**, to the services sector and local authorities with **Siram**.

HUNGARY

Bert – EDF 95.57%

- Generation: 417 MWe and 1,600 MWth installed capacity

Demasz – EDF 60,91%

- Distribution to 751,000 customers

POLAND

ECK Cracovie, ECW, Kogeneracja, Rybnik, Zielona Gora

- Electricity generation: 4,647 MWe and 4,757 MWth (Rybnik only) installed capacity

SLOVAKIA

SSE – EDF 49%

- Electricity sales and distribution to 691,000 customers.

SPAIN

Hispaelec Energia – EDF 100%

- Electricity sales to major customers: 780 GWh

(1) See note 37 "Consolidation scope", pages 70-73, of the "Financial Statements". (2) The dates in brackets indicate when the affiliate joined the EDF Group. (3) Mmc: millions of m³. (4) Raw data taking into account Edison share of Edipower generation.

Revenues of
€ **46.9** BILLION

Installed capacity of
125,447 GWe

42.1 MILLION
customers in the world

161,310
employees



Asia

CHINA

Figlec – EDF 100%

- Electricity generation: 720 MWe installed capacity

Shandong Zonghua Power Company – EDF 19,6%

- Electricity generation: 3,000 MWe installed capacity

VIETNAM

Meco – EDF 56,25%

- Generation: 715 MWe installed capacity

LAOS

Nam Theun Power Company – EDF 35%

- Hydro generation (1,080 MW) under construction

Americas

UNITED STATES

EnXco – EDF 50%

- Wind power generation : 137 MWe installed capacity

ARGENTINA

Edenor (1992) – EDF 90%

- Electricity sales and distribution: 14,752 GWh to 2.25 million customers.
- Electricity network: 37,730 km.

BRAZIL

Light (1996) – EDF 94,79%

- Electricity sales and distribution: 18,148 GWh to 3.35 million customers
- Generation (hydro): 850 MWe installed capacity, 4,155 GWh generation
- Electricity network: 42,663 km
- Norte-Fluminense** – EDF 90%
- On stream end 2004.
- Electricity generation: 820 MWe installed capacity

MEXICO

Anahuac, Saltillo, Altamira

- Independent generation: 2,332.5 MWe installed capacity

Gasoducto del Rio

- Gas transport: 410,000 GBTU/day

Africa

SOUTH AFRICA

PNES – EDF 50%

- Electricity distribution: 350,000 people

MOROCCO

CED

- Wind power generation (50 MWe) and photovoltaics

EGYPT

Port-Suez, Port-Said

- Independent generation: 1,360 MWe installed capacity

IVORY COAST

Azito

- Electricity generation: 300 MWe installed capacity

Reference framework and stakeholders

ACCOUNTABILITY INDICATORS*

In order to ensure global information transparency and enable comparative analysis, the EDF Group has adopted accountability indicators consistent with GRI (Global Reporting Initiative) criteria.

In 2001, the EDF parent company, now EDF SA, and six Group companies, EnBW in Germany, Light in Brazil, Edenor in Argentina, London Electricity (now EDF Energy) in the UK, Demasz in Hungary and Électricité de Strasbourg in France, came together to draw up EDF's sustainable development indicators. This allowed us to test a progress assessment method and to publish a first series of indicators in the 2001 annual report.

In 2002, we continued these efforts and a number of indicators were applied for the first time across the Group and published in the Sustainable Development Indicator Guide for that year.

In 2003, the EDF Group improved its calculation and consolidation methods.

In 2004, the Sustainable Development indicators were extended to include the Mexican Rio Bravo 3, the Brazilian Norte Fluminense, the Egyptian power plants, the Polish Zielona Gora and the Ivory Coast Azito plants as well as the Spanish marketing business Hispaelec Energia.

The EDF Group Sustainable Development indicators are consolidated along the lines of the financial accounts but cover a more limited area, including the following companies:

France: Électricité de France SA, EDF Trading, Électricité de Strasbourg, Tiru, ASA, EDF Énergies Nouvelles (ex-SIIF-Énergies), Dalkia.

Continental Europe: ECK (Poland), Kogeneracja (Poland), ECW (Poland), Zielona Gora (Poland), Erska (Poland), Demasz (Hungary), BERT (Hungary), EnBW (Germany).

Western Europe, Middle East and Africa: Fenice (Italy), EDF Energia Italia (Italy), EDF Energy (UK), EDF Gulf Suez (Egypt), EDF Port Said (Egypt), Hispaelec Energia (Spain), Azito (Ivory Coast).

Americas: Altamira 2 (Mexico), Anahuac (Mexico), Saltillo (Mexico), Rio Bravo 3 (Mexico), Light (Brazil), Edenor (Argentina), Edemsa (Argentina).

Asia Pacific: Figlec (China).

FOR STAKEHOLDERS

To customers: we guarantee supply continuity at competitive prices in markets increasingly open to competition, offer products tailored to customer requirements, and provide advice.

To shareholders: we ensure returns on invested capital.

To employees: we work together to provide excellent working conditions, foster professional development and protect job and social security.

To suppliers: we guarantee equitable treatment and encourage buy-in to our objectives.

To residents near EDF sites: we remain attentive to their needs and work together to achieve solutions to promote their activities and quality of life.

To associations: we encourage dialogue and take into account their needs wherever possible.

To national and local governments: we aim to be a force for economic and social progress in the communities we serve; we partner with regional governments in their planning and projects.

* Figures for environmental spending are estimates.

EDF REPORT ON ITS COMMITMENT TO THE TEN PRINCIPLES OF THE GLOBAL COMPACT

A member of the United Nations Global Compact since July 2001, EDF reports, for the second year in a row, on its progress on Group-wide implementation of the principles relating to human rights, employment standards, the environment and tackling corruption.

	Principles	Initiatives and results in 2004
1	Support and respect of human rights by the company	Respect for individual and human rights included in the Group's ethical charter implemented in 2004 and in the global agreement on corporate social responsibility (CSR) signed in January 2005 (article 1).
2	Monitoring that the company is not involved in cases of human rights violation	Implementation in January 2004 of an ethical alert system, available to everyone internally or externally, to signal any shortfall in compliance with EDF values.
3	Recognition of the freedom of association and the right to collective bargaining	Commitment in the global corporate social responsibility agreement, signed by the Chairman of EDF, union representatives from affiliates and international union federations, to respect and ensure respect in all Group affiliates of the freedom of association and the right to collective bargaining (article 1 on corresponding ILO Conventions, article 20).
4	Abolition of all forms of compulsory labour	Inclusion in EDF's general procurement conditions of a socially responsible clause excluding recourse to compulsory labour.
5	Abolition of child labour	Inclusion in EDF's general procurement conditions of a socially responsible clause excluding recourse to child labour.
6	Non-discrimination	<ul style="list-style-type: none"> - Signature of an agreement at Branch and Group levels on professional gender equality. - 10% of recruitment in France to be of young people from underprivileged urban backgrounds. - Accessibility of all customer service venues in France to people of reduced mobility. - Hiring in France of 380 employees with disabilities.
7	Implementation of the principle of precaution in environmental issues	Commitment to medical studies and research programmes on the effect of small doses of ionising radiation.
8	Initiatives to demonstrate environmental responsibility	<ul style="list-style-type: none"> - ISO 14001 certification for all EDF Group's industrial activities. - Inclusion in general procurement conditions of an environmental clause reminding suppliers of EDF Group strategy on this issue.
9	Support for the development of environmentally-friendly technology	More than €395 million of investment in R&D, of which nearly €118 million for environmental protection (energy efficiency, renewable energies, etc.)
10	Promotion of initiatives to counter and prevent corruption	Prohibition of all forms of corruption in the Group's ethical charter and inclusion of the risk of fraud and corruption in the ethical alert system.

 In the following report can be found other initiatives implemented in line with the ten principles and flagged by the Global Compact logo as well as the performance indicators, some of which draw on GRI guidelines.

Sustainable development panel

PUBLIC SUMMARY STATEMENT

The EDF Group has invited us to combine our expertise into an advisory panel on sustainable development. As such we will help the company to better integrate issues of sustainable development into its strategy.

Although we are just at the beginning of this journey, we appreciate the magnitude of the challenges that face the Group as it confronts intensified competition and opens part of its capital to shareholders with new demands.

We cannot expect the EDF Group to immediately follow each and every one of our recommendations. Moreover, on some questions this panel may not as yet have reached a unified view. But we value the fact that the EDF Group has invited us to be frank and specific and that it will be making our recommendations accessible to all its employees and the public at large.

Based on our first review we recognise the stated importance of sustainable development for the company. It is expressed through a number of commitments – the company's Agenda 21, its support for the 10 principles of the UN Global Compact, its Public Service commitments and, just recently, the Corporate Social Responsibility agreement negotiated with the work force. We have also reviewed the contents of the annual Sustainable Development Report.

We concluded that a clear improvement is needed in how the company explains its performance in relation to these commitments. Has progress been made or not? And why? The commitments need to be expressed soon in specific, measurable objectives that also define who is responsible for accomplishing them. The only credible communication is one that is accountable, thus matching actions and results.

EDF aims to be a reference in performance reporting. This is a wise anticipation of increasing pressure from financial institutions and public authorities. But EDF should get its reporting process to a point of quality and transparency that makes for optimal external verification. While this still requires a substantial effort, the ISO certification obtained in 2004 was a major step in the right direction. Stakeholder dialogue is a leitmotif in EDF's commitments and publications. Yet, the company needs to clarify the type of relations it wishes to establish with stakeholders. Stakeholders engage not just to satisfy their curiosity about the company. They engage to influ-

ence change. A genuine, productive stakeholder dialogue is thus part of the wider process of how the company reviews risks and opportunities, and assesses their material and financial impacts to set priorities on how to deal with them. As a panel of outside advisors, we recommend that EDF better spell out how we, and stakeholders at large, fit into this process. This will be very helpful for further phases of our discussions with EDF Group.

The first topic of broadest common interest is the question of a sustainable energy strategy. The future of the world's largest electricity producer is entirely tied to finding solutions to a number of crucial issues: energy poverty and access, energy efficiency, climate protection, and a sustainable mix of energy sources. We are aware of the passions surrounding some aspects of this debate, such as nuclear safety and reliance on renewable energy sources.

We come at those questions with diverse perspectives. We will do our best to work with EDF executives and specialists in the coming sessions of the panel to elaborate new ideas that can inspire the strategy and decisions of EDF Group in the near term.

*The Sustainable Development Panel
January 2005*

SUSTAINABLE DEVELOPMENT PANEL

Panel members	Short profile
<p>Brenda Boardman Oxford University, UK</p>	<p>Leader of Lower Carbon Futures; Head of Energy Section of Environmental Change Institute, Oxford University.</p>
<p>Frances Cairncross Exeter College, Oxford, UK</p>	<p>Rector of Exeter College, Oxford, chair of Britain's Economic and Social Research Council and former management editor of "The Economist" .</p>
<p>Claude Fussler Sustainable development and innovation strategies adviser</p>	<p>Senior Adviser to the UN Global Compact. Former Vice President of DOW Europe and former Director at the World Business Council for Sustainable Development (WBCSD).</p>
<p>Peter Goldmark Environment Defence Fund, New York, USA</p>	<p>Climate Campaign Director at US Environmental Defence Fund. Former CEO of "International Herald Tribune" .</p>
<p>Daniel Lebègue Director of the <i>Institut français des administrations</i></p>	<p>President of the Sustainable Development and International Relations Institute; President of French section of Transparency International; former CEO of <i>Caisse des Dépôts et Consignations</i>.</p>
<p>Philippe Levèque CARE, France</p>	<p>CEO of CARE France, the French Branch of the CARE international network, one of the main worldwide NGOs for development.</p>
<p>Ezio Manzini Politecnico Milano, Italy</p>	<p>Professor of Industrial Design at the Milan Polytechnic; Chair Professor of Design under the Distinguished Scholars Scheme at the Hong Kong Polytechnic University.</p>
<p>Rajendra K. Pachauri TERI, New Delhi, India</p>	<p>Director General of Tata Energy Research Institute and chair of UN Intergovernmental Panel on Climate Change.</p>
<p>Fritz Vahrenholt REpower, Hamburg, Germany</p>	<p>Chairman of the Board of REpower Systems AG, ex Senator for the environment of the City of Hamburg and former Director of the Board of Shell-Germany.</p>
<p>Farid Yaker Enda, Paris, France</p>	<p>Head of Enda, an NGO for investment and development programmes for the South.</p>
<p>Yann Laroche EDF Group, Paris, France</p>	<p>Board Director and Chief HR and communications Officer.</p>
<p>Claude Nahon EDF Group, Paris, France</p>	<p>Senior Vice President, Sustainable Development and Environment.</p>
<p>Vincent Denby-Wilkes EDF Group, Paris, France</p>	<p>Head of the Access (Access to energy and services) Programme.</p>

Achievements 2004

Field of action	Commitments/Objectives	Actions undertaken in 2004	Actions to be undertaken 2005
Corporate Governance: our new system			
Core values and ethical policy	<ul style="list-style-type: none"> - Draft and implement the EDF Group Code of Ethics 	<ul style="list-style-type: none"> - Extended application of ethics policy and implementation of an ethical alert system 	<ul style="list-style-type: none"> - Finalise ethical plans of action by Group divisions and affiliates - Creation of corporate ethics workshops (anti-corruption, anti-discrimination)
Risk control and planning for the issues of the future	<ul style="list-style-type: none"> - Design tools for risk control - Making R&D a driver for progress and anticipation in terms of SD 	<ul style="list-style-type: none"> - Finalised consolidated Group risk mapping for 2003 in January 2004 (after first exercise in 2003). Implemented half-year updates - Formalised action plans aimed at guaranteeing risk control - Commitment to 14 R&D challenges relating to the Group's major sustainable development issues 	<ul style="list-style-type: none"> - Draft and implement action plans aimed at reducing or controlling the risks identifying by the various Group entities. - Pursue implementation of R&D programme and review progress
Stakeholder dialogue	<ul style="list-style-type: none"> - Form partnerships with our stakeholders 	<ul style="list-style-type: none"> - Reinforced specialist committees and held first meetings under the new configuration - Enriched and expanded tools for surveying shareholder perceptions in and outside the company (BE and BIPE) 	<ul style="list-style-type: none"> - Consistently provide feedback on decisions made in response to stakeholder expectations - Submit new sustainable development action plan to Sustainable Development Panel.
Management systems	<ul style="list-style-type: none"> - Extend ISO 14001 to all EDF parent company industrial sites - Integrate sustainable development principles into decision-making 	<ul style="list-style-type: none"> - Extended ISO14001 certification to all EDF parent company power generation and distribution operations - Drafted first sustainable development screening procedures, tested on all residential offers in France and some investment projects. Worked principles of sustainable development into commercial offers 	<ul style="list-style-type: none"> - Renew Group ISO 14001 certification - Evaluate decision-making methods aimed at applying sustainable development principles to investments and commercial offers. Commercial offers in particular will be evaluated in terms of sustainable development impact.
Commitment to Corporate Social Responsibility	<ul style="list-style-type: none"> - Eliminate discrimination in hiring and the workplace - Improve conditions in terms of health and safety for our staff and the staff of our service providers 	<ul style="list-style-type: none"> - Negotiation (and signature in January 2005) of the company's first CSR agreement on a global scale. - Signed and implemented gender equality agreement - Arrived at term of 3-year programme aimed at hiring the disabled with 380 employed under agreement as of 2004 - Achieved programme of professional insertion for young people from underprivileged urban areas - Made sustainable development a part of seminars for senior executives - Began AIDS awareness campaigns 	<ul style="list-style-type: none"> - Implement CSR agreement and undertake first review - Undertake first implementation review of gender equality agreement - Draft yearly agreement for 2005 with public authorities on hiring of the disabled - Implement seminar series on Strategy, Finance and CSR aimed at senior executives - Redesign sustainable development training programmes - Expand AIDS awareness campaigns - State audit application of policy Health and Safety and its priorities and principles and their acceptance by management and social partners
Striving for best management of local issues			
Customer dialogue	<ul style="list-style-type: none"> - Provide customers with offers favourable to sustainable development - Make all EDF customer centres accessible to customers with reduced mobility 	<ul style="list-style-type: none"> - Created new brands EDF Pro® and EDF Entreprises® - Achieved high EDF parent company customer satisfaction: >84% residential customers; >83% business customers - Adapted 815 EDF customer centres in France to the needs of people with reduced mobility - Launched R&D project INCLUDE 	<ul style="list-style-type: none"> - Roll out new line of products: <ul style="list-style-type: none"> * Optimia – energy optimisation * Equilibre – renewable energy * Excellis – supply quality - Expansion of programmes for customers with impaired hearing or sight

Field of action	Commitments/Objectives	Actions undertaken in 2004	Actions to be undertaken 2005
Supplier dialogue	<ul style="list-style-type: none"> – Build long term relationships with suppliers who share our ethical, social and environmental values – Associate suppliers with our approach to protecting the environment 	<ul style="list-style-type: none"> – Drafted and implemented our sustainable development policy regarding suppliers – Signed a charter with our nuclear subcontractors 	<ul style="list-style-type: none"> – Continue to implement our sustainable development policy regarding suppliers and carry out first review
Environmental impact	<ul style="list-style-type: none"> – Reduce impact on aquatic environments – Reduce dust, SO₂ and NOx emissions – Improve waste reclamation – Bury 90% of all new medium voltage power lines 	<ul style="list-style-type: none"> – Inaugurated Avrieux fish ladder and began construction of Bamsheim ladder. – Carried out about one hundred environmental drills at thermal power plants – Increased percentage of waste reclaimed from 58.7% to 77.4% – Recycled all EDF parent company ash produced in 2004 and some stored ash – Buried 94.3% of all new medium voltage power lines – R&D challenge 8 	<ul style="list-style-type: none"> – Begin construction in Le Havre of largest Selective Catalytic Reduction denitrification facility – Drafting of a Group waste action plan
Nuclear waste management	<ul style="list-style-type: none"> – Optimise management of nuclear waste 	<ul style="list-style-type: none"> – Contributed to the French inventory of nuclear waste conducted by the Andra – Published nuclear waste content per kWh generated – First year operation of storage facility for very low level (VLL) waste 	<ul style="list-style-type: none"> – Develop dialogue on and awareness of nuclear waste issue, notably in preparation of discussions to precede the French Bataille Act of 2006.
Industrial safety (nuclear safety, hydro safety)	<ul style="list-style-type: none"> – Continue improving safety and accountability – Control fluctuating water flow upstream of hydrodams and flood risk 	<ul style="list-style-type: none"> – Confirmed improved nuclear safety indicators – Began new awareness campaign surrounding hydro dams – R&D challenge 10 	<ul style="list-style-type: none"> – Continue efforts at management levels and working methods aimed at strengthening and perpetuating results achieved in nuclear safety – Experiment with a method for upstream risk evaluation involving hydro dams and reservoirs – Contribute to the creation of master plan for water level forecasts in relation with the French Ministry of Ecology and Sustainable Development.
Rural and urban planning	<ul style="list-style-type: none"> – Contribute locally to sustainable development 	<ul style="list-style-type: none"> – Pursued development of our Montant de Charge offer for public housing: over 100,000 households renovated in 2004. – Launched sustainable housing awards – R&D challenge 13 	<ul style="list-style-type: none"> – Form sustainable development partnerships with local authorities
Contributing to global issues			
Climate change	<ul style="list-style-type: none"> – Limit greenhouse gas emissions – Make energy efficiency a priority in our businesses and in our offers – Develop the EPR – Be a major player in renewable energy 	<ul style="list-style-type: none"> – Contributed to preparing national allocation plans in countries where we are active – Designed line of energy efficiency offers for every customer sector – Made decision to build a new generation EPR nuclear reactor in Flamanville, France – SIF Energies became EDF Énergies Nouvelles – Made decision to build a new hydro plant in Gavet, France – Commissioned 60 MW and began construction of 300 MW of wind power capacity in Europe – Decision made to build new factory in Toulouse, France, to manufacture photovoltaic cells with a capacity of 15 MWp – Extended renewable energy offer to professional customers in France – R&D challenges 3, 4, 5, 6, 9, 11, 12 + CISEL project + marine current turbine project 	<ul style="list-style-type: none"> – Participate on the emissions trade market – Implement a white certificate energy efficiency scheme – Expand energy efficiency service offers – Participate in public debate on EPR in France – Implement new renewable energy policy
Access to vital commodities	<ul style="list-style-type: none"> – Develop a socially responsible approach towards low-income customers – Facilitate access to energy in developing countries – Provide energy to 400,000 by the end of 2005 through our Access programme 	<ul style="list-style-type: none"> – Evaluated Group policy towards low-income customers – Prepared way for implementation of a basic necessity rate – Reinforced social mediation by opening multi-service mediation information centres (PIMMS) – Expanded Access programme (existing decentralised energy services to peri-urban areas, to affiliates) – 133,000 people connected by the end of 2004 (500,000 applications) – Jointly created first Community Heritage Area with the Nicolas Hulot Foundation. – R&D challenge 14 	<ul style="list-style-type: none"> – Participate in government efforts to improve aid to low-income customers, especially as concerns informing social services – Have outside reviews of results of our actions – Launch pilot energy efficiency programmes in peri-urban areas (Argentina and South Africa) – Extend rural electrification programmes (Morocco, Mali, South Africa)
Biodiversity	<ul style="list-style-type: none"> – Contribute to protecting biodiversity 	<ul style="list-style-type: none"> – Reviewed our French power plant biodiversity action plans – Drafted socio-environmental plan for the Nam Theun hydro dam, Laos – Jointly created a French birdlife committee with the <i>Ligue de Protection des Oiseaux</i> and <i>France Nature Environnement</i> 	<ul style="list-style-type: none"> – Draft a Group biodiversity action plan – Begin implementing socio-environmental action plan for the Nam Theun hydro dam



A new system of corporate governance

— 2004 saw significant changes in the commercial and regulatory context of the French energy sector, in line with European directives. The French electricity market opened up to competition for 70% of customers and EDF, a public sector company, acquired limited company status, enhancing transparency.

True to the EDF Group's commitment to public service and sustainable development, it implemented its ethical charter together with new analytical tools for business tracking and risk management. A new form of dialogue was initiated with stakeholders, particularly employees and their representatives.

A NEW CORPORATE STATUS: EDF, A LIMITED COMPANY

In compliance with French law of 9 August 2004, EDF changed from a public sector company, reporting to the French government, to a limited company. EDF SA is now able to increase its capital. The legislation stipulates that the French State hold at least 70% of the share capital and voting rights and specifies EDF's public service commitment, for which the company will sign a three-year public service contract with the French government.

This move puts the company on an equal footing with its competitors: the same entrepreneurial freedom, the same risks, the same conditions of access to credit, the same accounting basis. In terms of sales and

marketing, EDF is no longer held to its "electricity" speciality principle but may now offer its customers both electricity and gas together with related services as several of its European affiliates are already doing.

The legislation stipulates the creation of a separate affiliate for electricity transmission (*Réseau de transport d'électricité - RTE*) to remain 100% State-owned and which will continue to be governed by the French energy regulatory body (*Commission de régulation d'énergie - CRE*) as to its neutrality with respect to market players. To the same end, two distribution network operators have been established at EDF and Gaz de France. For electricity, the EDF Distribution Network guarantees eligible customers and EDF competitors neutral and transparent access to the distribution grid. These operators are supported by a common operator, EDF Gaz de France Distribution, with a mandate for the construction and maintenance of the network.

The legislation reinforces and confirms the status of EDF employees. 2004 also saw a new stage in the opening of the French gas and electricity markets, with eligible customers moving from 37% at the beginning of the year to 70% as of 1 July. Residential customers will be able to choose their supplier in 2007.

70%
of French
electricity market
open to
competition as
of 1 July 2004.

(1) Website edf.fr:
"EDF Group's Code
of ethics in 2004."



— The ethics committee focuses mainly on questions of how to maintain close customer relations in a competitive environment and how to fight fuel poverty and social exclusion.

The new company Board of Directors still includes elected employee representatives (6 of the 18 members) as well as consumer representatives. In order to function effectively, the Board renewed the mandates of the Ethics, Audit and Strategy Committees and created a Remuneration Committee.

ACTIVELY COMMITTED TO AN ETHICAL APPROACH⁽¹⁾

In 2004, all Group entities mobilised to implement its ethical strategy formalised in a Charter founded on five core values: respect for the individual; respect for the environment; individual and corporate performance; solidarity; integrity. These values inform all the Group's commitments: membership of the UN Global Compact, Agenda 21, Corporate Social Responsibility Agreement, negotiated in 2004 and signed on 24 January 2005.

Implementing the ethical charter

The ethical charter was made available at the end of 2003, on the Group websites www.edf.fr and www.edf.com, together with our Handbook of Ethics, looking at concrete examples of ethical conflict and designed to help with decision making. In 2004, it became a management priority and was rolled out across all Group affiliates. Thus, for instance, the 11,000 EDF Energy employees each received their own copy of the new code of conduct as well as the new Group regulations on disciplinary matters, equal opportunity and intimidation and harassment.

The new ethical strategy inspired, in 2004, the setting up or reworking of ethical codes in branches or business areas where ethics are a major issue, such as in procurement or the use of IT systems in recruitment, training of sales and marketing personnel or affiliate company management.

Other Group divisions contributing to optimal governance

Reporting directly to the Chairman and CEO:

- General Inspector for Nuclear Safety and Radioprotection, a body independent of management and dealing with nuclear safety and radioprotection issues
- Corporate Audit Division and internal auditors and controllers
- Corporate Risk Division
- Corporate Strategy Division

Others:

- The Mediator⁽¹⁾
- The Solidarity team⁽¹⁾
- The Head of the disability taskforce⁽¹⁾

⁽¹⁾ Their reports are published and are available on the edf.fr website

On the ethical alert

In 2004, the Group posted on its Internet portal a draft consultative ethics agenda, with its own email address: delegue.ethique@edf.fr. The company thus called for a transparent review of its activities by both internal and external participants. Of the 130 ethical alerts received from customers in 2004, close to 80% concerned a lack of respect for the individual linked to unacceptable behaviour or outright rudeness. The other alerts concerned the environment, integrity and social responsibility. The Head of Group Ethics checks the foundation of the complaint before contacting the management concerned. In serious cases, investigations and specific measures to be taken are decided at the highest management level.

TRACKING RISK AND READING THE BUSINESS CHALLENGE AHEAD

Risk management means not just identifying risk but also anticipating it with the support of Research and Development.

Regular risk mapping

The first consolidated risk mapping exercise at Group level was carried out in 2004. A summary of this together with the Group's audit programme based on the risk map, were presented to the Group's Management Committee, the Board's Audit Committee and the Auditors. Risk mapping is updated every half year. At the time of the second exercise, launched in the 2004 second half, each Group entity had formalised its action plan.

In parallel, an in-depth analysis of financial risk was initiated. Group policy on insurance and risk cover was revised in line with the new risk map. The identification of insurable risks and those which cannot be covered effectively will be completed in 2005.

Reading the business challenge ahead and investment in R&D

Research and Development is critical to driving Group performance. EDF SA spent €395 million in 2004 on a resource employing close on 2,200 people in France.

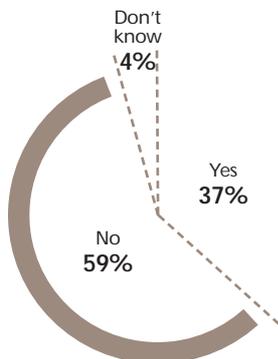
Between 2004 and 2007, EDF R&D structured its long term programmes around fourteen "challenges", drawn from the risk mapping exercise and representing 30% of R&D spending, of which eight make a direct contribution to sustainable development:

- to identify and control the impact of existing operations (challenge 8),
- to evaluate the performance and impact of future generation methods (challenge 3),
- to develop a distribution network able to integrate decentralised energy sources with improved supply quality (challenge 9),
- to come up with innovative solutions to help customers control energy consumption in buildings and industrial processes (challenge 11),
- for local authorities, to develop technological solutions in housing, transport and energy to serve the sustainable town (challenge 13),
- to predict water availability both in terms of quantity and quality and detect possible technical breakdown in the world water supply (pumping, desalination etc.) (challenge 10),
- to support worldwide energy access by perfecting local generation solutions based on renewables and offering solutions best tailored to essential lighting, communication, cooling and food preparation needs (challenge 14).

Sustainable development: EDF employees better informed than the general public

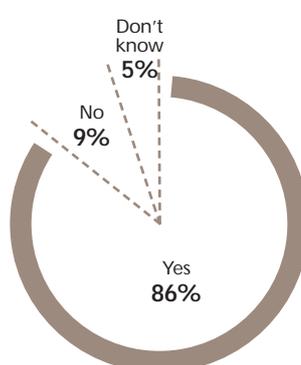
Responses in early 2004

Are you familiar with the term "sustainable development"?



Environmental survey (BE) 2004
Public opinion

Have you heard speak of sustainable development in the workplace?

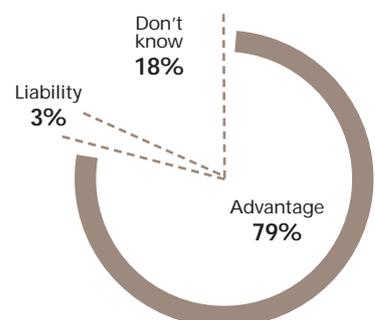


Environmental survey (BIPE) 2004
In-house opinion

In house: Energy saving an advantage for EDF employees

Distribution early 2004

Do you consider EDF's promotion of energy saving to be more of an advantage or a liability?



Environmental survey (BIPE) 2004
In-house opinion

— 14 “Challenges” provide the framework for the long term programmes of EDF R&D.



EDF Médiathèque/Julien Daniel

€395 million
spent in 2004 on EDF Group R&D.

DEVELOPING DIALOGUE WITH STAKEHOLDERS

Strengthening governance committees

The EDF Group is supported by committees and advisory groups composed of stakeholder representatives and designed to evaluate and guide its conduct and business processes.

Reformulated to reflect the new principles (presided by an external person, internal and external publication of the comments from these committees), the mandates of the governance committees, as with the Environment Board or the Sustainable Development Panel, have been renewed. Comments from the Sustainable Development Panel on strategy and the Group's Sustainable Development Report can be found on page 10 of this report.

Analysing internal and external opinion

In France, every two years, EDF undertakes an environmental survey (*Baromètre environnement – BE*), on perceptions outside the Group; a similar, internal survey (*Baromètre interne des perceptions de l'environnement – BIPE*), is conducted annually. Cross-referencing the latest results revealed a net improvement in EDF's environmental culture. Employees are better informed and more sensitive to environmental issues, particularly with respect to energy saving, than the broader public. These tools will be extended outside France in 2005 with the support of EDF Energy and EnBW.

A SOUNDER BASE FOR MANAGING SUSTAINABLE DEVELOPMENT

ISO 14001 certification: a key reference

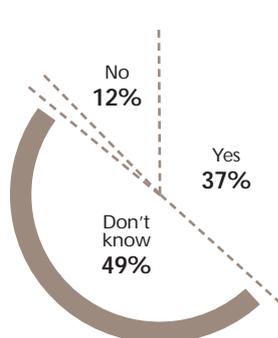
On the basis of a sample representing each business line, the Group obtained its first ISO 14001 certification in 2002. The certification perimeter continues to widen. In 2004 it covered all the industrial activities, the majority of support operations, 17 affiliates in France and abroad, as well as retail and professional marketing. In terms of size, EDF Group's global certification is one of the largest in the world. The main objective for 2005 is the successful renewal of Group certification, official recognition for the environmental performance of the past three years.

2,230
men and women working in R&D in France.

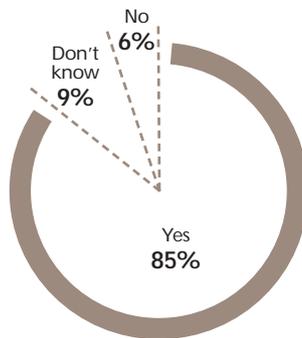
Future consequences of climate change on day-to-day life: EDF employees better informed than the general public

Responses in early 2004

Do you think that in the coming years climate change will affect our daily lives?



Environmental survey (BE) 2004
Public opinion



Environmental survey (BIPE) 2004
In-house opinion



— In France, EDF's gender equality agreement provides for corrective measures, to be carried out over a three year period, regarding staff, employment and recruitment, and professional mobility.

ISO 14001

certification for all French industrial activities.

5%

further reduction in individual and collective doses compared with 2003, Radioprotection making constant progress in France.

(1) Coge: Brazilian Foundation whose aim is to develop best CSR practice within companies in the Brazilian energy sector.

(2) Website edf.fr: "CSR Agreement."

(3) Website edf.fr: "Professional Male-Female Equal Opportunity agreement".

(4) ZUS: Zones Urbaines Sensibles.

(5) A report on EDF policy on disability was drawn up by the Head of the Disability Taskforce working alongside the Chairman and CEO of EDF.

Initiatives beyond ISO 14001 certification

Numerous entities and affiliates have quality and/or security certification. Thus the "Committed to Excellence" certificate was awarded in 2004 to Électricité de Strasbourg by the European Foundation for Quality Management (EFQM) for its policy of overall quality. Several affiliates were QSE certified – Quality (ISO 9001), Safety (OHSAS 18001), Environment (ISO 14001) – including Hidisa Hinisa in Argentina. EDF Energy's HSE (Health Safety Environment) certification was renewed in the UK in 2004, as was Azito's QSE certification in the Ivory Coast.

These efforts are recognised by stakeholders. Light has won two awards from the Coge Foundation⁽¹⁾, one for its environmental work and the other for its policy on health and safety at work. The Rybnik plant received a "Pantheon of Polish ecology" award.

Factoring sustainable development into the decision-making process

In 2004, EDF embarked upon a process of evaluating its investment projects and commercial offer in the light of sustainable development requirements. A common screening process was drawn up and tested on the retail offer in France and on several investment projects such as the hydro plant at Gavet in the Alps.

A NEW POLICY OF SOCIAL RESPONSIBILITY



Corporate Social Responsibility agreement across the Group⁽²⁾

Negotiated in 2004 with employee representatives from the eleven countries where the Group has a significant presence and with the four international union organisations in the electricity sector, the Corporate Social Responsibility (CSR) agreement covering the Group's worldwide activities was signed on 24 January 2005. It will help to promote social dialogue and produce a sustainable improvement in performance as well as build a Group culture and enhance EDF's reputation.

Commitment to mutual responsibility between the Group and its environmental protection and the promotion of energy efficiency, to urban quality of life and governance principles: these are the main themes covered by this agreement.

In 2005, the agreement will be comprehensively implemented in Group companies and its success monitored. A joint Committee for Dialogue on the Group's social responsibility has been established to this effect.



Equal opportunity

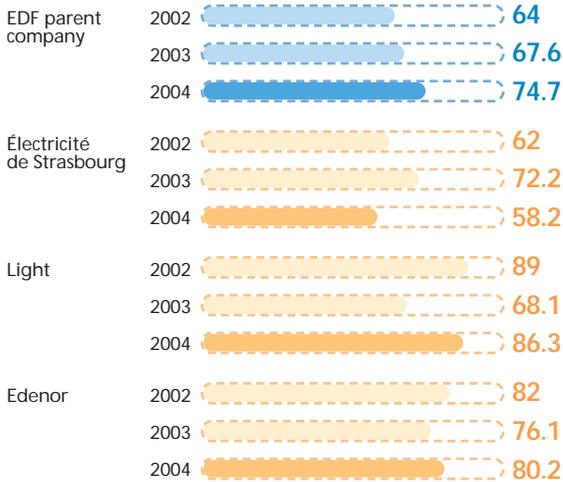
Respect for the individual, one of the Group's five key values, led to new advances in 2004 in tackling various forms of discrimination linked to gender, social status or disability.

In the UK, EDF Energy published its new equal opportunity policy, marking its ambition to create a work community reflecting the diversity of its business environment.

In France, an agreement was signed on professional gender equality⁽³⁾. Accompanied by management objectives, the agreement opens the way to correcting disparities over the next three years in salaries, employment, recruitment, career progression and professional training opportunities. Awareness campaigns will be launched to help change mind sets.

In line with its commitments, EDF has earmarked 10% of its recruitment for young people from underprivileged neighbourhoods called ZUS⁽⁴⁾, in order to help them find a way into professional life. Taken on for the most part in customer-facing roles in agencies located in underprivileged urban zones, these new employees will have the opportunity for career progression within the company and will enrich its social diversity.

Percentage of employees benefiting from professional training



The Paris-based customer training agency devised a six-month customer adviser training programme for twelve of these young people and nine were hired. As the experience proved positive, the scheme will be extended to technical personnel.

As for the policy of integrating employees with disabilities, the 5th agreement, signed for the three-year period from 2002 to 2004 included a commitment to recruit 380 individuals with disabilities. This target was reached⁽⁹⁾.

Training as leverage for sustainable development

During 2004, EDF reaffirmed its commitment to training as critical to its management process: senior and divisional management is to identify needs in terms of competence and then develop and implement professional training activities. Training is the responsibility of the professional training department, which responds to the needs outlined in partnership contracts with the main EDF business areas. This process lends itself to tailoring professional training, in volume and content, to employees' needs and in line with technical developments.

To make sustainable development a natural part of daily management and embed the concept at the heart of Group activities, the Group University has integrated the subject in its induction and career progression programmes for current and future management. In 2005, a special programme targeting this group will focus on the interaction between corporate social and environmental responsibility, strategy and finance.

In parallel, awareness training on sustainable development will be included in employee training programmes.

HEALTH AND SAFETY: CONTINUOUS PROGRESS

The proportion of employees covered by a health and safety management system (SM2S) has been rising steadily since 2002.

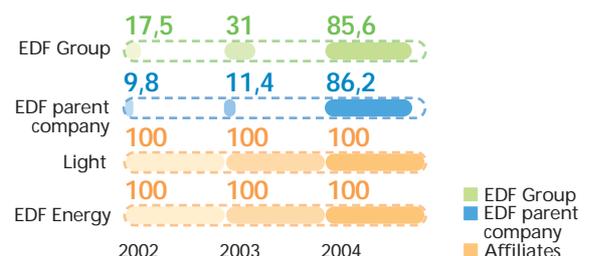
In France, radioprotection continues to improve, with a reduction in individual and collective dose rates of more than 5% on 2003 levels. This progress confirms the positive trend seen over the past five years.

Six priorities (control of road risk, factory floor risk, toxic risk, risk of musculoskeletal problems, psychological and social risk and on-site subcontractor safety) and six principles (subsidiarity, management

involvement, sending our people to where it counts in the field, continued improvement, benchmarking, multi-disciplinarity) inform the health and safety policy as laid down for 2003-2007. Meeting on 7 December 2004 for a first annual management review, the national guidelines and tracking committee (*Comité national d'orientation et de suivi - CNOS*) noted that the entities and management were progressively implementing this policy, but that compliance was still uneven. An audit will be conducted in 2005. 2004 saw a marked reduction in workplace accidents in priority areas and a marked reduction in the gravity of such accidents. This trend will need to be confirmed in 2005 in order to match EDF's ambitions.

A particular emphasis has been put on prevention in countries exposed to epidemics. All the employees of the Asia-Pacific branch have been vaccinated against Hepatitis B. In Africa and Asia, the Group has run hard-hitting campaigns providing information on how to fight and prevent AIDS. In Azito (Ivory Coast), an anti-AIDS committee called Casa ("health" in Baoulé, the local language, or *Comité anti-Sida d'Azito*) was set up. In Beijing, EDF organised the first AIDS information and prevention day with its personnel.

Employees covered by a Health and Security management system (%)



■ EDF Group
 ■ EDF parent company
 ■ Affiliates

— EDF provides residential customers with comfortable, economical electricity solutions, as well as advice on efficient use of energy.

EDF Médiathèque/Michael Zumstein



44,000

professional customers chose an EDF Pro® offer.

Taking the local dimension into account

— A European and international group, EDF is also, in many respects, a local player, through its generation plants, its transmission and electricity distribution networks as well as its customer service centres. It looks to develop a responsible long term relationship with customers, suppliers and those living near its industrial sites and plants. It works towards limiting the environmental impact of its activities and is committed to partnering with local authorities in regional development and urban policy.

17,000

SME's chose an EDF Entreprises® offer.

815

customer service centres now accessible to people with reduced mobility.

MEETING THE NEEDS OF A DIVERSE CUSTOMER BASE

Distribution: neutral and transparent network management
Faced with the opening of the French electricity market on 1 July 2004, EDF spun off the management of its distribution networks marketing activity and created EDF Network Distribution. This network operator (GRD), with complete management, organisational and operational decision-making autonomy, guarantees genuinely neutral treatment of all users of the distribution networks (suppliers, energy-generating companies, customers, etc.). EDF and Gaz de France, which also has its own GRD, will continue to be supported on the ground by a common network operator: EDF Gaz de France Distribution (EGD). The law of 9 August 2004 confirmed this organisation, adopting the European directives into French law.

Staying in touch with customers

EDF and its affiliates conduct annual surveys to measure customer satisfaction and identify their expectations. In France, despite a slight fall for corporate and professional customers, customer satisfaction remains at a high level: 83% for companies and professionals and more than 84% for the residential market. EDF is committed to creating products that are even better tailored to the expectations of the different customer segments.



Bringing new products to market

In France, EDF has created two dedicated brands, *EDF Pro*® and *EDF Entreprises*®, under whose banner it offers its customers supply and services packages best adapted to their requirements. These products include management, reporting and invoicing tools as well as advice on optimising electricity consumption and quality. 17,000 SMEs and 44,000 professionals have signed up for these new products.

EDF supports its residential customers through important stages of their lives, such as moving house, building projects, the purchase or renovation of a home, with efficient, cost-effective solutions for improving their home electricity environment (the *Vivrélec*® product range), and comprehensive advice on energy use with sustainable development principles in mind (*Conseil Confort électricité*, *Conseil Confort d'été*).

Making services more accessible to all our customers

In order to make its 815 customer service centres in France more accessible to people with reduced mobility, EDF undertook a large adaptation programme, covering everything from freedom of circulation to access to documents and services, completed at the end of 2004. Variable height reception desks were installed. Thanks to the *e-Sourds* scheme, operating

Residential customer satisfaction



Business customer satisfaction



■ EDF Group ■ EDF parent company ■ Affiliates

in several centres, customers with impaired hearing can make visual contact with a customer adviser competent in sign language via a mini computer, internet connection and a webcam. In the same way, services for the blind and visually impaired have been developed: Braille versions of the important parts of bills, large-type versions of the introductory booklet for new customers and internet terminals enabled for vocal synthesis. The Include project regroups all the R&D aimed at developing technical solutions and services for customers with disabilities (reception, adaptation of the environment to their needs, etc.). In the United Kingdom, EDF Energy's marketing team in charge of Priority Service won a National Customer Service Award in the handicap category (Focus on Disability) for the range of services offered to vulnerable and disadvantaged customers, including, for example, bills in Braille.

WORKING WITH SUPPLIERS ON PROCUREMENT POLICY

The new discussion framework

EDF's procurement policy contributes to its competitiveness and to reducing costs. In addition to this objective, the Group seeks to build long term relationships with its suppliers that go beyond price requirements to focus on issues such as quality and respect for ethical, social and environmental principles. As of June 2003, an environmental clause was gradually introduced into procurement contracts.



This became standard practice in February 2004 with the new General Procurement Conditions and was completed in July 2004 with the addition of a social and ethical clause.

According to the area of procurement, from 2004 the sustainable development criteria now apply in the conditions of contract for suppliers, from the analysis of requirements to reference to environmental labels, in the choice of product or the specifications on environmental protection.

Prior to consultation, the supplier must complete a questionnaire including information on its environmental policy (existence of an environmental management system, compliance with environmental regulations, training and awareness of its personnel, waste and effluent management, etc.).

In 2005, the environmental dimension will be included in product/supplier appraisal in order to increase feedback and prepare the way for future procurement.

Dialogue with the nuclear contractors

In France, programmes aimed at ensuring the protection of the 17,000 employees of the 600 contractor companies working in the Group's nuclear power stations have been in place for many years, without compromising their contractor status.

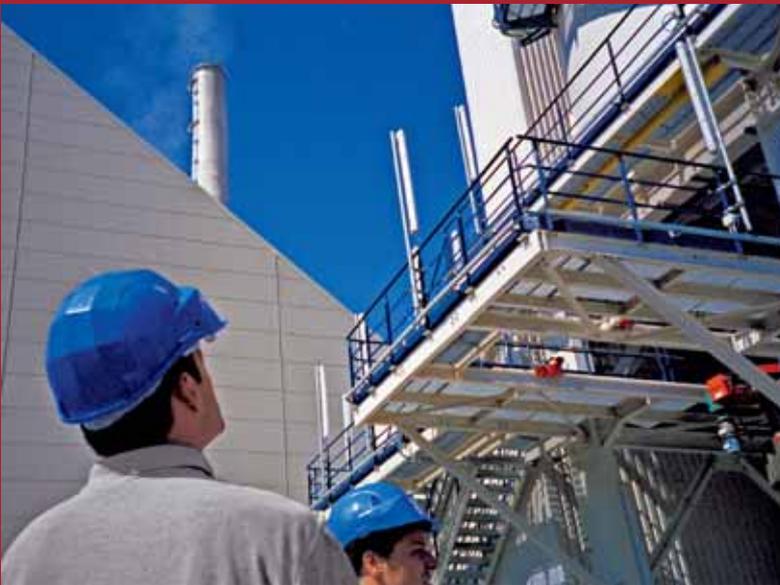
EDF and the main professional organisations adopted a charter for the progress and development of sustainable development in 2004. Within this framework, a National Contractor Guide was published and a seminar on contractor competence organised. As of Autumn 2005, a professional baccalaureate qualification on the nuclear environment will be created. Agreement was also reached on a salary increase for IFS (Important for safety) work as well as the creation of an inter-company commission for safety and working conditions (known as the CIESCT) in each nuclear power station.

A policy of using subcontractors to eliminate waste

Since 2003 in France, EDF has been developing a subcontractor policy for waste elimination. The objectives: to offer all its sites consistent and cost-effective solutions that go beyond adherence to regulations.

In two years, the progress has been noteworthy. The typical set of contract conditions presents the requirements in a homogenous way; the markets are standardised by region, the subcontractor provides a global service with one sole contractor managing all the waste of one site, and waste recycling targets have been beaten. Most of the sites are covered. This approach generated 17% of the savings on contractor contracts renegotiated in 2004.

However, EDF has chosen a national approach for waste from electrical and electronic equipment (known as DEEE) and batteries, in order to adhere to regulations concerning them. The advantages are numerous: simplification of the administrative process and that of regulatory approval, better control of the volume of waste eliminated,



EDF Médiathèque/Mat Jacob

— The fossil-fired plant at Le Havre is equipped with a desulphurisation system. Flue gas is scrubbed before release into the atmosphere, thus reducing SO₂ emissions by over 85%.

identical elimination process for all the sites, optimisation of logistics, when all the waste materials are removed at the same time. Another advantage is the 33% cost reduction. This scheme will be appraised in 2005 by the umbrella association Elen⁽¹⁾.

A specific approach for the protected sector

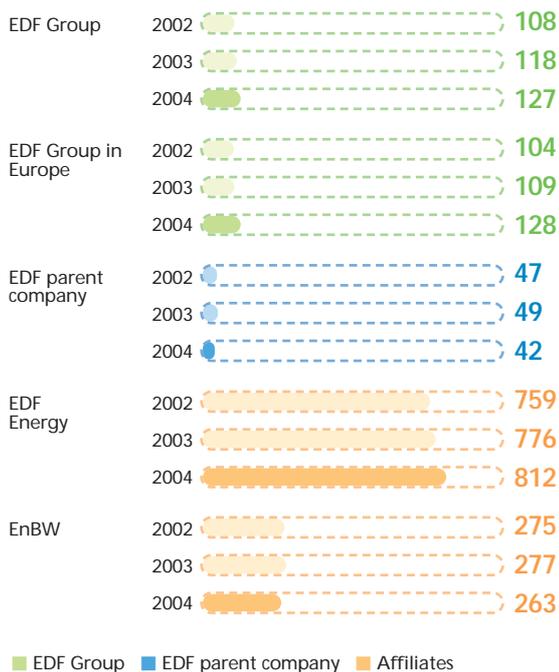
EDF maintained its procurement from the protected sector (protected workshops, help through work centres, etc.) at more than €9

million in 2004 and sees its commitments here as long term. Thus, the EGD agency in Marseille entered into a partnership with Micro'Orange, a company with 29 employees which recycles IT and electronic material and aims to help the unemployed get back into the job market. Another example is the partnership with Ecod'air, which reconditions redundant IT materials and employs the mentally disabled.

€9 million
in EDF purchases
from protected
sector.

Group CO₂ emissions:

resulting from electricity generation (g/kWh)



— CO₂ content per kWh produced by the EDF Group remains far below average emissions in other European Union countries. The French fleet, thanks to nuclear and hydropower, is one of the least emitting, with 42 grams per kWh in 2004.

LIMITING ENVIRONMENTAL IMPACT

Emissions to air and water

– SO₂, NO_x, and CO₂ emissions

In the UK, EDF Energy began installing desulphurisation units at both its coal-fired plants, Cottam and West Burton, representing an investment of €292.5 million.

In Hungary, BERT continued upgrading its cogeneration plants in 2004, replacing oil-fired units with a combined-cycle gas turbine. At the Le Havre thermal plant in France, tests are underway to upgrade dust separators using electrostatic precipitators. This is partly subsidised by Ademe, the French agency for environment and energy management.

– Parent company thermal emissions to water from nuclear power plants

Three ministerial decrees dated 11 June 2004, define a new range of thermal emissions in conditions of extreme weather for the Tricastin, Bugey and Golfech plants in France.

(1) Elen: Electricity Environment (body which federates companies producing electrical and electronic waste).

(2) SO₂: sulphur dioxide
NO_x: nitrogen oxides
CO₂: carbon dioxide

— EDF's hydrobiological tracking process, applied upstream and downstream at each nuclear plant, was reinforced in 2004.

EDF Médiathèque/Mario Guerra (p. 24), Philippe Brault (p. 25)



100%
of ash produced
at fossil-fired
plants recycled
in 2004.

Use of this new range is extremely limited and, wherever possible, must be kept to cases of real network need.

We are therefore stepping up our programme of hydrobiological tracking both upstream and downstream of each plant as soon as it goes on stream. Each decree authorising drawing and release of water sets out the terms of use, which are adapted to the specificities of each plant and associated rivers or bodies of water, as well as the main physico-chemical parameters and biological factors covered in the tracking programme.

In addition, all of the operational nuclear plants undergo yearly radioecological monitoring.

All these measures check that there is no impact on the atmosphere or aquatic life other than traces of radioelements in the sediments and aquatic vegetation just below the point of discharge.

– Impact of hydropower plants: spilling and sluicing

In Dordogne, France, several years of study and discussion on the impact of sluicing have led to a draft agreement between the main stakeholders. EDF has committed to adapting the plants at Hautefage and Argentat in order to increase minimum flow rates in winter and reduce flow variation in the spring. The French water agency is helping to fund the operations for the period 2004-2006, and Epidor is spearheading the operation.

RADIOACTIVE LIQUID EFFLUENTS

EDF parent company France

	Unit/ reactor	2002	2003	2004
Tritium*	TBq/nr**	15.9	15.2	16.1
Carbone-14	GBq/nr	12.9	13.0	13.2
Iodine	GBq/nr	0.01	0.01	0.01
Others radioelements	GBq/nr	0.7	0.6	0.4

* Tritium, a radioactive form of hydrogen, has a very low level of radioactivity. It is produced in the primary circuit of nuclear reactors, but low levels exist naturally in rainwater and most mineral water.

** The radioactivity of a substance is measured in becquerels (Bq) as set out by the International System of Units (SI). These units are so small that in most cases, they are quantified in terms of gigabecquerels (GBq or billions of becquerel) or terabecquerel (TBq or trillions of becquerel). Figures above correspond to units per reactor.

There was an increase in tritium recorded in 2004 owing to increased electricity generation and the use of new fuels (to become more common in the coming years) that emit higher levels of tritium.



— In France, ash resulting from use of coal fuel is recycled and used to manufacture cement and concrete. The EDF Group is extending the approach to its affiliates in China, Poland and Germany. Here, the Rheinhafen Dampfkraftwerk plant, Germany.

Under an agreement between the Baie de la Rance, France, and the French association Cœur, representing local authorities and users of the bay, desilting works were undertaken on the Rance in 2004. After lengthy discussions and negotiations with the Ministry of Ecology and Sustainable Development, 91,000 m³ of sediment was extracted over a year in order to reinstate anchorage and navigation channels. The mud was decanted for distribution to neighbouring farms and the sand was used to restore a number of beaches.

Recycling by-products and waste

The EDF Group is applying an increasingly systematic approach to integrating the principles of industrial ecology and waste recycling.

– Ash

Recycling of ash is beneficial both ecologically and economically. It saves natural resources like sand and reduces the need to dig quarries. Added to cement, a tonne of ash means 800 kg less CO₂.

In France, EDF carefully tracks production, storage and use of ash from its fossil-fueled plants. In 2004, each plant recycled 100% of its ash production. EDF even reduced its stored ash, recycling 885,000 tonnes compared with only 632,000 produced, thereby reducing stored volumes to 9.3 million tonnes. Reclaimed ash is used in making cement and concrete, in road building, and as a filler for decommissioned mines. Tests using ash as a filler for power line trenches are proving successful.

The EDF Group is bringing all of its affiliates in China, Germany and Poland into line with this approach. In the latter, the Chairman of VKN, our ash recycling affiliate in Kogeneracja, Wroclaw, received the Feniks “Manager of the Year” award for the second straight year, paying tribute to his highly innovative and ecological approach.

– Gypsum

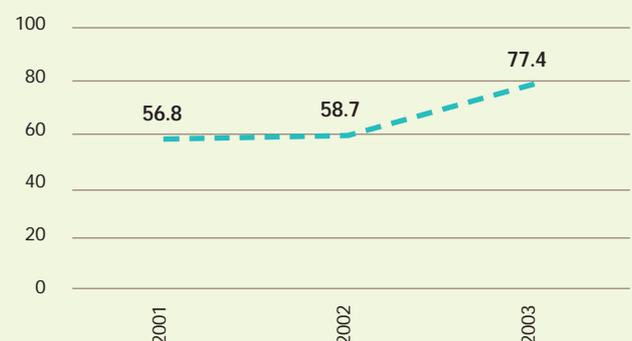
EDF recycles gypsum produced in the desulphurisation of smoke from its coal-fired power plants. In 2004, all of the gypsum produced at the Cordemais and Le Havre plants was recycled for use in the plaster (80%) and cement (20%) industries.

Rehabilitating a saltwater marsh: an independent committee of international experts

Responding to associations for the protection of the saltwater marsh Étang de Berre in France, EDF has reduced its release of freshwater into the marsh and cut silt discharge sevenfold since 1993. These measures, representing a cost of €14 million per year, comply with French legislation, but were deemed insufficient by the European Court of Justice which decreed on 7 October 2004 that France was contravening European regulations. Negotiations are underway and France has offered to implement a number of technical and administrative measures under the supervision of a committee of independent, international experts appointed by the European Commission.

Recycling reclamations*

(in %)



* Figures for France in 2003, analysed in 2004 – Generation business in France.

– Waste reclamation indicators

Annual tracking of the waste reclamation indicator is an integral part of the EDF Group's environmental management programme. Reclamation rates (quantities of waste reclaimed/quantities of reclaimable waste) rose from 58% to 77% in just one year, bringing us closer to our 2007 goal of 80%. This indicator covers four kinds of waste – packaging, oils, batteries and accumulators – and unregulated reclaimable waste, covering 40% of waste produced. Means of reclamation include incineration for energy recovery, materials recycling or reuse, physico-chemical processing (regeneration of oils and solvents, reprocessing of batteries, fluorescent tubes, etc.).

Landscape conservation and noise control

A source of major concern to residents, exposure to noise is a complex issue, as noise often comes from overlapping sources (neighbours, transport, industry). Its perception is often subjective and changes in relation to other factors (wind, rain, etc.), making accurate measurement all the more difficult. Environment managers at EDF's generation plants receive training on these issues. They have their own intranet site and guide on methodology, published in 2004, allowing them to take into account all stakeholder concerns.

Several power plants have undertaken special measures, such as at Vitry where extractor fan silencers were installed in response to complaints from local residents, with whom EDF is conducting a study aimed at identifying the problematic frequencies and their causes. For its part, the Maxe plant has officially undertaken to reduce noise in its 2005 action plan.

The Group is also tackling other forms of disturbance. The Maxe plant is building a landing stage, complete with conveyer belt, to unload coal directly from boats on the Moselle river. The objective: to eliminate the pollution and other risks created by the circulation of 20,000 lorries a year. A similar project is underway at Blénod, where part of the Hallebois waste tip has been replanted.

MANAGING NUCLEAR WASTE

Research on best practices

From the coming on line of EDF's very first nuclear power plants, we have applied leading edge techniques to reduce waste volumes from operations and maintenance. In 2004, we continued to invest in waste processing (fusion and incineration, through Socodei) and its temporary and permanent storage.

EDF is also improving the performance of reactor fuel (increasing enrichment levels and extending life cycle, etc.). Saving energy in this way significantly reduces waste volumes produced per kWh. These solutions, approved by the French nuclear safety authority, are being implemented progressively.

To further our efforts to reduce waste volumes and save uranium resources, we have chosen to process spent fuel for reuse in EDF reactors.

All this contributes to sustainably managing the nuclear fuel life cycle and to reducing the environmental impact of waste.

Taking responsibility

EDF takes full responsibility for managing its waste and carries the cost. We make provisions accordingly, submitting projected expenditure to our statutory auditors. The cost of every kWh takes into account on-going processing and management of long-lived radioactive waste (0.16 eurocents/kWh present value), as well as plant decommissioning (0.14 eurocents/kWh).

Waste from operations

Waste from operations and maintenance of nuclear power plants falls into three categories depending on volume and level of radioactivity:

- Medium to high level long-lived radioactive waste (MHL/LL), from the reactor. This waste concentrates 99.0% of radioactivity;
- Low to medium level short-lived waste (LML/SL);
- Very low level short-lived waste (VLL/SL).

Decommissioning waste

Current estimations of waste linked to decommissioning of nuclear power plants (first generation and current fleet) represent approximately:

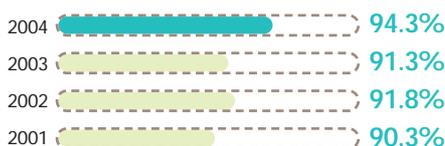
- 700,000 m³ for short-lived waste (LML and VLL/SL),
- 40,000 m³ for low level long-lived waste (LL/LL), particularly irradiated graphite produced by our original natural uranium graphite gas reactors,
- 5,500 m³ medium level long-lived waste (ML/LL).

Short-lived waste: a permanent solution

Short-lived waste is processed and conditioned by EDF in its plants before transport to storage facilities run by Andra⁽¹⁾, France's national radioactive waste management agency.

Medium to high level short-lived waste is conditioned in metal drums or concrete containers, then surface-stored at Andra's Soulaire facility. After detecting a generic defect in a reactor vessel head in 1994, EDF decided to progressively replace vessel heads

Burial of medium voltage power lines



— Spent fuel from nuclear reactors is transported in lead casks for processing and recycling at the Areva facility in La Hague, France.



EDF-Mediatheque/Philippe Lopparelli

throughout its fleet. The spent vessel head stored at the Souline facility in 2004 was only the first. From now until 2013, six vessel heads will be replaced and stored yearly.

Socodei's Centraco facility processes and conditions some low level waste, melting down metal and incinerating certain liquid and solid waste, thus significantly reducing volumes stored by Andra.

In 2003, Andra's Morvilliers facility went onstream for low level short-lived waste, mainly from dismantling of 1st generation nuclear power plants that have been out of operation for several years, but also from plants still in operation (iodine traps, resins, etc.). In a little over a year approximately 5,000 tonnes of waste have been buried in shallow land trenches of impermeable clay. The facility at its present dimension can store 650,000 m³ of waste, providing France with a sound, lasting structure for disposal of short-lived radioactive waste.

Long-lived waste: industrial storage from now to 2006

Spent nuclear fuel is processed and recycled by Areva.

Processing and recycling allows up to 96% reclamation of spent fuel, either in the form of processed uranium, or in the form of plutonium oxide, used in MOX⁽²⁾ fuel.

The 4% remaining is considered irreclaimable and accounts for long-lived waste. This is vitrified and poured into stainless steel canisters. Fuel rods are compressed and conditioned in other containers and also stored in La Hague.

In 2006, the French Parliament will, in compliance with the decree of 30 December 1991, decide which solution for long term storage will be retained. In the meantime, EDF will have devoted nearly €1 billion to researching adapted techniques.

94.3%
of new medium voltage power lines buried in 2004.

ANNUAL VOLUMES OF OPERATIONAL WASTE

Family of waste	Nature of waste	Total annual waste volumes	Grams of waste per MWh generated	Raw waste in grams/inhabitant/year	Characteristics and level of radioactivity
Long-lived waste	(MHL) (produced in reactor)	360 m ³ 5%	1	7	High level radioactivity 10,000,000,000 bq/g*
	(LML) (garments and other protection)	6 000 m ³ 81%	10	70	Low to medium level radioactivity 1,000,000 bq/g*
Short-lived waste	(VLL) (rubble)	1 000 m ³ 14%	2.4	17	Very low level radioactivity 100 bq/g*

*The radioactivity of a substance is measured in becquerels (Bq) as set out by the International System of Units (SI).

(1) ANDRA (Agence Nationale de gestion des Déchets RAdioactifs): an independent, public agency charged with designing, building and running nuclear waste storage facilities, the sole body authorised to do so in France.

(2) MOX fuel: a mixture of uranium oxide and plutonium oxide derived from reprocessing of spent fuel.

— EDF joined together with a French housing union (*Union sociale pour l'habitat*) to create the *Challenge Innovélec* awards in recognition of exemplary public housing initiatives. In keeping with the principles of sustainable development, the focus is on energy saving installations and new services for tenants.

EDF Médiathèque/Anne-Claude Barbier



€1 billion spent by EDF on long lived nuclear waste management research.

9,000 residences in public housing renovated in 2004 to reduce electric heating bills.

Contributing to France's inventory of radioactive waste

In October 2004, at government request, Andra published an inventory of France's radioactive and reclaimable waste. EDF, along with other producers of radioactive waste, provided the information necessary to draft the inventory, which serves as both a reliable database and a vector for official communications.

INDUSTRIAL SECURITY: A PRIORITY

2004: Progress in nuclear safety

Ensuring nuclear safety in our fleet is an absolute priority. Far from being at odds, safety and performance go hand in hand. The safer our power plants, the less susceptible they are to incidents, and the more highly productive they become. Safety indicators reflect the operational quality of our plants. In 2004, most showed improvement. Only one class 2 (INES⁽¹⁾ scale) incident occurred. It involved a relative irregularity in cable insulation in switch boxes.

Seeking always to further improve results, EDF is comparing its approach with the best practices of other nuclear operators around the world. Responding to our request, the World Association of Nuclear Power Operators (WANO, 144 members) conducted peer reviews at our Cattenom and Dampierre plants in Normandy. The International Atomic Energy Agency (IAEA) conducted an operational safety assessment review (Osart) at our Penly plant, during which experts identified 27 best practices and several areas for improvement. Two other visits were made following up Osart reviews of the Civaux and Nogent plants in 2003.

An ongoing approach to hydropower safety

For over ten years, EDF's hydro engineers, technicians and managers have made everyday safety their priority, both in the workplace and for stakeholders. The approach: better informing the public about risks near hydro works, reinforcing security access and improving methods for detecting and analysing risks. We work closely with associations for whitewater rafting and nature preservation, tourist bureaus and local authorities on planning and implementing concrete solutions.

In 2004, EDF launched an awareness campaign on security downstream from hydro dams, particularly during the summer. 10,000 yellow signs were posted to alert people to the proximity of a hydro dam or other electricity-related riverworks. 40,000 posters and 350,000 pamphlets were distributed, and 200 young people were specially employed to hike the riverbanks, informing users.

TAKING PART IN URBAN AND RURAL DEVELOPMENT

Working towards quality public housing

In the past, electrical heating systems in a certain number of housing developments have resulted in high energy bills for tenants. Since 1997, EDF has worked with a French union for public housing (USH) renovating electrical heating to create savings. *Montant des Charges* is a renovation offer designed specifically for public housing which includes a cap on heating bills. In 2004, 9,000 houses or flats were renovated under this offer, bringing the total number of renovations to nearly 100,000 since 1997, with bills dropping an average of 30%.

EDF is advising tenants on how to save energy in the home. Distribution of brochures, low energy lightbulbs, equipment for

(1) International Nuclear Event Scale.

(2) Promotion des Emplois et des Ressources des Entreprises prestataires du Nucléaire.

optimising water consumption, information and social services training are all a part of the programme. Nearly 200 meetings were held in 2004 with tenants and public housing managers.

The French network of public housing coordinators is largely responsible for the programme's efficiency. Nearly one hundred meetings with local authorities and other urban players led to joint 2004 programmes for the under privileged, and the strengthening of social ties within the communities involved.

Partnering is at the heart of our policy. An agreement with the French agency for home improvement (*Agence Nationale pour l'Amélioration de l'habitat – ANAH*) aims at improving the comfort and safety of electrical installations, and at limiting heating costs in existing homes. The agreement specifies under which conditions Anah approves electrical heating projects and provides guidelines for organisation of local cooperation. To this same end, EDF signed a partnership agreement with a Paris organisation promoting social solidarity, energy efficiency and renewable energies (OPAC). One aspect of this agreement involves installing fuel cells in 250 homes.

Sustainable housing

For residential customers, EDF and its partners in the construction industry organise awards to showcase exemplary design in terms of sustainable development: *Innovélec* award for public housing, *Vivrélec* for individual homes, and *Palm'élec* for private real-estate initiatives.

In the UK, EDF Energy along with local authorities and their communities have created the London Warm Zone to improve the quality and energy efficiency of residences in underprivileged neighbourhoods of London. EDF Energy's dedicated team also provides the fuel poor with aid in household management.



Creating jobs while protecting nature

Everywhere that EDF is active, whether at regional or international levels, we aim to impact local employment in positive ways. Our businesses and affiliates support a number of initiatives, especially those that create employment while protecting the environment. Safeguarding the Normandy coast is one aspect of the Natura 2000 programme aimed at preserving biodiversity in the European Union. EDF has formed partnerships with not-for-profit organisations dedicated to social and environmental responsibility to set up and carry on prevention and education in favour of the environment. In 2004, the Penly nuclear power plant and the association Estran celebrated 10 years of partnership by signing a new three-year agreement by which EDF and other players support the organisation's widely recognised efforts to keep clean a 60 km strip of beach on the Normandy coast. The "coastal workers" hired by the association also educate schoolchildren and other beachgoers about the environment.

Providing young people with qualifications

EDF businesses, in partnership with local industrials, the French education boards and other service providers work together to give young people professional experience in fields lacking qualified employees. To this end, the Chinon nuclear power plant and other partners created the association Peren⁽²⁾ in September 2004, whose mission

is fourfold: inform young adults and employment seekers about careers with subcontractors in the nuclear industry, help them to adapt their skills, make the jobs more attractive while increasing opportunities for professional mobility and formalise EDF's dialogue with the regional industrial relations committee.

This is also a way for us to manage human resources, as a large number of skilled employees retire over the next few years, and to enhance EDF's recruitment and training programmes in neighbourhoods at risk.

— Control room at the Laibin B fossil-fired plant in the province of Guangxi, China.

EDF Médiathèque/Julien Goldstein (p. 30), Guillaume Lemarchal (p. 31)



Tackling global issues

— By the very nature of its business, the EDF Group is confronted with three major issues of global significance: climate change, access to energy and protection of biodiversity.

Taking up the challenge, the Group offers solutions for access to electricity for all, is committed to keeping down energy costs, and is always seeking to make sound, sustainable energy choices.

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GRAMS

CO₂ per kWh in 2004; the French generation fleet is one of the least emitting.



FIGHTING GLOBAL WARMING AND PRESERVING RESOURCES

Limiting greenhouse gas emissions represents a tremendous challenge for all electricity players. In 2004, in keeping with the Kyoto Protocol, European operators prepared the way for a CO₂ emissions trading market, planning for the periods 2005-2008, 2008-2012 and beyond. EDF is actively contributing to these works and bolstering its environmental policy accordingly.

Of all Europe's major energy players, EDF in France has the lowest CO₂ emissions rates per kWh, thanks to our nuclear hydropower fleet. In terms of industry, our emissions in France nevertheless rank second, owing to the size of our fossil-fuelled thermal plants, an indispensable complement to nuclear and hydropower.

EDF contributes to reducing emissions by giving priority to technologies that emit no, or little, CO₂ (nuclear, hydro, new and renewable energies). We consistently research innovative technologies, seek optimal integration of clean energy solutions in our electrical systems, and help our customers to manage their energy consumption efficiently.



— The Nogent-sur-Seine nuclear plant, France.

Stepping up our commitment to nuclear power

Nuclear power, along with hydropower, is the best means of generating large amounts of electricity without emitting greenhouse gases.

In view of renewing its nuclear fleet, EDF has decided, in agreement with the French government, to begin construction of an initial-run, European pressurised water reactor (EPR – 1,600 MW) in Flamanville, Normandy.

Based on the estimated life span of 40 years for the nuclear plants now operating, the first plant retirement is expected in 2015. Retirement of other units will follow accordingly, requiring preparation in advance.

The EPR is the fruit of cooperation between French and German engineers. An improvement over existing PWR reactors, the new model reinforces safety and energy efficiency standards while lowering volumes of waste per kWh generated. In 2003, Finland also announced its intention to build an EPR. The new reactor does not sign a total break with past technology, so we will be able to capitalise on experience gained from existing reactors. EDF will ensure engineering of the plant, integrating operator requirements into construction. Cost is estimated at €3 billion.

Highlight on China

EDF's 6th annual challenge aims to encourage innovation and share best practices in terms of safety, security, and radioprotection. In 2004, Daya Bay and Ling Ao took first place in security and first place in radioprotection for their 900MW plants.

Regulated procedures, starting with a national public debate to be organised in 2005, and contractual agreements will be signed from 2005 to early 2007. Construction will be carried out over a five-year period, beginning in 2007.

Investing and providing offers in renewable energies

The EDF Group is pursuing diversified development of renewable energies. SIF Energies changed its name to EDF Énergies Nouvelles, boosting visibility for our new renewables business. EDF Énergies Nouvelles is focusing on developing mainly in Europe, but also in the United States through its affiliate windpower operator EnXco.

Hydropower: the leader in renewables

Hydro is the only renewable energy that supplies a major source of power. It is also the sole means of stocking potential energy. Its profitability is time-proven.

EDF generates more hydropower than any other company in the European Union, with 45,3 GWh in 2004. One of our challenges for the future is to renew our concessions under conditions that best meet the needs of other water users (farmers, fishermen, industrialists, tourists) while maintaining maximal generation capacity.

To meet future needs, and after careful screening in terms of sustainable development, EDF has decided to build a new plant in Gavet in the French Alps. Representing an

investment of €160 million, this will be the most important hydraulic works undertaken since the 1980s. The ultramodern, underground 92 MW plant will, by 2013, have replaced six former plants along the Romanche river. The new plant will generate an annual 560 MWh, 80 MWh more than the existing plants combined. The environment will also gain from the exchange; the works are invisible, the penstocks, canals and medium voltage power lines out of view. Nearly €3.5 million will be devoted to protecting the environment.

In South-East Asia, EDF is an investor operator (35%) in the Nam Theun 2 Power Company Limited (NTPC) that ensures the BOOT⁽¹⁾ scheme for Laos' Nam Theun project. This 1,080 MW installation will supply Thailand with nearly 6,000 GWh of renewable electricity annually, eliminating the need to develop thermal plants in the country. Building the dam will, however, require flooding 450 km² of the Nakai plateau. To compensate, the project will finance the protection of most of its 4,000 km² catchment area, in the Annamese Cordillera, of global significance in terms of biodiversity. The 1,100 families that will be displaced, as well as those impacted downstream, will benefit from development programmes and a compensation framework, financed and implemented by various project partners under independent control. Five international workshops to prepare the project were organised by the World Bank in Asia, Europe and the United States. These workshops provided a platform for stakeholders (promoters, financiers, local populations, NGOs, the media, etc.) to discuss and debate the technical, economic and socio-environmental aspects of the project.

EDF also launched a research programme on generating electricity from the energy of underwater currents, using marine current turbines. EDF Energy has been experimenting with this technology off the east coast of the UK, while currents off of Barfleur, on the French side of the Channel, are being evaluated for their potential.

GROUP WIND POWER CAPACITY: DEVELOPMENT

Installed capacity (MW)

EDF share of installed capacity based on stake in project

	Operational at end 2003	On stream 2004	On stream planned 2005	Total
Portugal	38 19	20 6	106 33	164 58
France	57 14	21 6	80 42	158 62
United States	335 122	60 15	0 0	395 137
Great Britain	40 22	0 0	44 22	84 44
Italy	0 0	23 6	70 18	93 24
Other	79 36	0 0	0 0	79 36
TOTAL	548 213	123 32	300 115	971 359

— The Nievan windfarm near Narbonne, France, comprising 21 turbines.



EDF Médiathèque/Sophie Loubaton

New developments in wind power

In Europe, EDF Énergies Nouvelles put on stream over 60 MW of wind power and began construction of nearly 300 MW more in 2004. The Group is also optimising operations of its windfarms over the long term. EDF R&D has developed methods for optimising maintenance of large turbines using reliability methodology (*Optimisation de la maintenance par la fiabilité*). These methods are now being tested by EnXco at the Chanarambie windfarm in the United States.

Growth in solar power

With its share in Total Énergie (EDF 40%, Total 35%) for photovoltaic and Giordano for solar thermal, the EDF Group is stepping up development of solar power.

The photovoltaic market is showing exponential growth as more powerful on-grid photovoltaic technologies become the rule. As a result, in 2004 Total Énergie decided to double its generation capacity and build a plant in Toulouse for an investment of €6 million. Due to go on stream end 2005 with 15 MWp of capacity that could be doubled with time.

To prove sustainable, such growth must go hand in hand with lowering costs, as has been observed up to present. EDF's R&D project Cisel lowers costs with the development of multi-layered thin-film photovoltaic cells using electrodeposition of copper indium selenium (CIS).

EDF's partner Giordano, France's leading manufacturer in solar thermal, sells integrated heating and hot water systems (especially heat pumps) for individual homes and service industries. In 2004, the company produced nearly 12,000 individual solar water heaters and 44,000 million solar captors.

Green offers

Designed in 2002 for eligible customers in France, the *Équilibre* offer was adapted and extended in 2004 as new types of customers became eligible: professionals, SME's and local authorities. The principle remains the same; for each kWh sold under *Équilibre*, EDF injects the electricity networks with a kWh generated through its renewables, a procedure audited and certified by Observ'ér, the French representative of the independent European Recs (Renewable energy certificate system).

45.3 GWh

hydropower generated by EDF SA (metropolitan France and overseas departments) in 2004.

60 MW

wind power put on stream in Europe in 2004 by EDF Énergies Nouvelles.

PHOTOVOLTAIC ENERGY PRODUCED BY TOTAL ÉNERGIE

(in MWp)

Year	2000	2001	2002	2003	2004 (Forecast)	2005 (Forecast)
	4	4.1	5.4	8.6	25.5	40

(1) BOOT: Build, own, operate, transfer.



— For professional customers such as these architects, EDF offers advice on lighting solutions and regulations for existing electrical systems.

32

major French companies chose the *kWh Équilibre*, green electricity offer.

63,800

MWh generated from renewables sold by EDF Energy to residential customers.

The *kWh Équilibre* offer had already attracted 32 major industrial companies (62 industrial sites with a total consumption of 210,000 MWh). In 2004, 15 new contracts were signed with major groups, and another 337 with SMEs (700 customers with an estimated consumption of 26,000 MWh), and 301 with professional customers (estimated consumption 1,300 MWh). The total represents over 237,000 MWh.

In Spain, this same offer is proposed via Hispaelec. EDF Energy offers the "Green Tariff", in the UK with over 300,000 MWh of green electricity sold to companies and professional customers and over 60,000 MWh to individual households in 2004. Germany's EnBW has two similar offers, *Naturenergie Silber* and *Naturenergie Gold*. For many years now, Électricité de Strasbourg and its partners, developers, architects and installation engineers, have had great success with heating solutions using heat pumps. At the end of 2004, over 750 systems of this kind had been installed in France's Lower Rhine area, representing a significant percentage of the 21,000 houses built in France over the same period.

EDF created Everbat, the company that proposes an integrated offer for the construction industry based on renewables, combining heat pumps, solar thermal and photovoltaic.

Energy efficiency: a customer offer

Committed to helping customers efficiently manage their energy needs and to reducing CO₂ emissions, the EDF Group offers customers advice, information and services on energy efficiency. EDF Energy has taken the lead when it comes to achieving the target set by the UK government's energy efficiency programme EEC1. With EEC2 coming up, EDF Energy is working with Group R&D to further improve its offer.

In France

– **Residential customers:** EDF offers an array of customer advice solutions, including *Conseil confort*, *Vivrélec* (over 300,000 customers), *Conseil confort d'été*, *Conseil avant-projet rénovation*, and *Conseils solutions électriques* aimed at equipping new housing with electrical heating systems. Customers also benefited from financial aid in renovating existing housing and in outfitting new homes with adapted electrical solutions.

– **Commercial customers:** EDF helps these customers better grasp their consumption with personalised yearly reports (*Bilan annuel de consommation*, *Bilan annuel personnalisé*). Two targeted reviews (« *Projecteur sur* », « *Lettre EDF Pro* ») keep professional customers up to date on the latest in energy. In 2004, EDF offered advice on air-conditioning, lighting and regulations regarding indoor electrical installations.

For businesses, our *Optimia* energy efficiency offers complete our energy management, consumption monitoring, and load curve services. Through *Optimia*, EDF can advise customers on all or part of their existing equipment, from prediagnostics of a business' electricity consumption to advice on how to reduce it (financial simulation), as well as advice on energy solutions – especially optimising lighting – for future offices, shops, workshops, etc.



— Residential customers can benefit from financial support in renovating their homes.

– **Local authorities:** EDF has adapted its *Optimia* offers to optimise public spaces: offices, classrooms, swimming pools, public lighting, etc. EDF also advises local authorities on solutions that use renewable, especially for HQE (high environmental quality) certified projects.

HQE projects take off

The 2004 opening in Branféré, Brittany, of the new *École Nicolas Hulot*, a pioneering school for environmental education focusing on biodiversity, was the result of a long adventure for EDF, highly motivated and a founding member of the *Fondation Nicolas Hulot* since 1990. For this joint project in which the *Fondation de France* also participated, EDF mobilised all its skills to bring to fruition the construction of an HQE certified building to house the school, advising and tracking technical solutions, in particular with respect to choosing of a geothermal heat pump solution.

A new agreement with France's Agency for the environment and energy management

EDF and Ademe signed a new three-year partnership agreement in April 2004, aimed at energy saving and the development of renewable energies.

The agreement focuses on promoting energy efficiency in all sectors, with the support of suitable services and technologies. It provides for the implementation of incentives such as energy savings certificates in keeping with the future Energy Policy White Paper. EDF and Ademe will also contribute to the design of HQE certified buildings. Studies will evaluate the impact of energy efficiency measures and electricity generation on CO₂ emissions. R&D will focus on new high performance technologies aimed at optimising consumption and electricity generation, especially renewables.

Our first joint study was carried out in 2004 to determine CO₂ emissions resulting from electricity consumed in France in terms of what the electricity was being used for. The data are being processed for use by EDF and Ademe.



FACILITATING ACCESS TO ELECTRICITY

Solutions for low-income customers

The EDF Group is active in a number of countries, each with its own approach to legislation and aid regarding low-income customers. But everywhere the company operates, electricity is fundamental to the fabric of society.

In the UK, EDF Energy has created an independent fund, the EDF Energy Trust, to help impoverished customers get out of the debt spiral. The Trust works with the Citizen's Advice Bureau and other NGOs to offer financial and energy savings advice, in addition to aid in settling payment arrears.

In Argentina, Edenor pursued its awareness campaign aimed at low-income customers promoting safe and efficient use of electricity. The end goal: avoid accidents, save energy, and protect the environment. More than 200,000 documents were distributed in 2004.

In France, a "basic necessity" rate was decreed in 2004 for 1.6 million low-income households, effective as of January 2005. Electricity bills for these households will lower by 20% on average. This measure adds to others already undertaken by EDF and public authorities over the past fifteen years, such as an energy solidarity fund (*Fonds solidarité énergie*) to which EDF contributed €18.7 million in 2003, and €17.5 million in 2004. The fund has benefited 200,000 vulnerable customers.

Since 1999, EDF has been committed to protecting low-income customers in France from supply cutoffs due to payment arrears before social services have intervened. An energy maintenance service (*Service maintien de l'énergie – SME*) maintains a minimum meter power of 3 kW. If direct contact cannot be made, EDF reduces minimum service to 1 kW (SMI). In 2004, EDF supplied 200,000 SMEs and more than 125,000 SMIs. Thanks to these temporary arrangements, the number of cutoffs fell from 670,000 in 1993 to 225,000 in 2003. With our toll-free solidarity line, vulnerable customers in France can contact EDF 24 hours a day, 7 days a week.

In addition to advantageous rates and similar forms of aid, social mediation plays an especially important role. By bringing together public service companies, local authorities, social services and local associations, social mediation contributes to reweaving the social fabric, facilitating access to public services, settling conflicts, empowering individuals and improving chances of employment. In 2004, EDF developed several such structures in France, including 11 multi-service mediation centres and 15 residential services centres. Some of our teams were able to resolve 70% of cases submitted. All teams also aim at prevention, advising customers on energy efficiency and even household budgeting for particularly high energy consumers.

In 2004, EDF experimented with *Assurélec*, a service that guarantees payment of electricity bills up to 12 months for customers wishing to be insured against the risk of non-payment, in case of loss of employment, for instance.

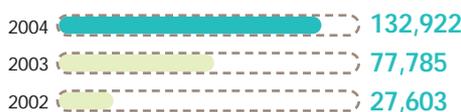
Access to energy

EDF's Access programme (ACCess to Energy and Services) is aimed at the populations of developing countries, both in remote rural areas and the periurban areas of large cities.

In 2004, the Group reviewed results of its actions in the periurban areas of Capetown, South Africa and Buenos Aires, Argentina. In Buenos Aires, Edenor's programme installing 4,500 prepaid meters met with a high level of customer satisfaction (90%). The project evaluations also pointed to areas with room for improvement, namely information to customers on managing energy consumption and choice of energy efficient installations. In Capetown, PNEs⁽¹⁾, a joint venture by EDF and Eskom, has distributed electricity in the township of Khayelitsha since 1984 (350,000 people). The project evaluations provided information that can be used in planning the city's programme for electrification as well as other public services, pointing, for instance, to the ill-equipped state of many households. Following the evaluations, EDF is working with Edenor, PNEs and local NGOs, and has launched two pilot projects to install energy efficient equipment and improve insulation in homes.

For remote rural populations, EDF proposes the creation of economically viable decentralised energy services companies (SSD), offering electricity, gas, water pumping, etc. using local renewable energy resources wherever possible. In 2004, EDF and its partners Total, Total Énergie and Nuon decided to expand the four companies created locally in Mali, Morocco and South Africa. Temasol, in Morocco, was selected by the authorities for a new phase of development that will boost the number of families provided with solar-based electricity services from 16,000 to 53,000.

Number of people benefiting from the Access Programme



Customers provided with decentralised energy services



— In Kwazulu Natal, South Africa, towns far from the national grid are equipped with solar panels and prepayment metres.



EDF Mediatheque/Julien Goldstein

Kwazulu Natal in South Africa: a group-wide achievement

In 2004, EDF decided to expand Kwazulu Energy Services (KES), the decentralised services company created in 2002. This decision is expected to increase the company's customers from 3,000 to 11,000 by end 2005. A study was launched in conjunction with Care South Africa to determine the prevalence of AIDS among KES employees and the best means of prevention and treatment. EDF Energy and a local NGO helped KES to develop its concession area economically by creating a programme for irrigating market garden produce using solar water pumps. Arts and crafts made by the women of this area will be offered as company gifts by EDF in 2005.

Partnering with the Fondem: 2004-2006

EDF's partnership with the *Fondation énergies pour le monde* (Fondem – a global energy foundation), aimed at developing innovative access-to-electricity projects, was renewed on 19 December 2003 for three years beginning 2004. Under the new agreement, the economic sustainability of projects takes on new importance, adding to the existing environmental and social objectives. The new agreement places special emphasis on revenue-generating businesses powered by electricity that may be provided by renewables. In 2004, six projects of this kind led to improved access to health services, education and drinking water, improving quality of life for households and developing revenue-generating activities for nearly 25,000 people in Senegal, Madagascar, Laos and Haiti.

Partnering with the Fondation Nicolas Hulot

EDF works with a number of NGOs to improve access to energy. The *Fondation énergies pour le monde* and the *Fondation Nicolas Hulot* are two longtime partners. The concept of Heritage Areas, recently adopted by the IUCN (World Conservation Union), aims at using natural and cultural heritage as a vector of economic development among local populations. Through their partnership for the creation of Heritage Areas, the *Fondation Nicolas Hulot*, EDF and Ademe favour access to energy and vital commodities, the economic development of rural populations and the protection of the environment. In 2004, Senegal inaugurated two Heritage Areas, one at the Somone Lagoon, and another in the village of Dindéfelo.

PROTECTING BIODIVERSITY

Policy-making towards biodiversity

Electricity generation (thermal, renewable, etc.) and distribution necessarily confront operators with issues impacting on biodiversity.

In 2004, the EDF Group pursued its three major objectives in terms of protecting biodiversity. The first is to accurately assess impact. For the past twenty years, EDF has closely tracked plant and animal life surrounding its nuclear plants in France. The second objective is to reduce impact. At hydrodams, for instance, EDF optimises flow and management of reservoirs, integrates dam works into the landscape, and builds fish ladders. Elsewhere the company installs systems designed to dissuade birds and bats from approaching potential

2004-2006

new EDF-Ademe agreement focuses on energy saving.

200,000

customers in difficulty benefited from funds for the fuel poor between 2003 and 2004.

(1) Phambile Nombane Energy Services.

— Reforesting the area surrounding the Lajes hydrodam, Brazil.

EDF Médiathèque/Antonio Scorza



danger, or provides them with attractive incentives to favour safe areas. Thirdly, EDF endeavours to raise awareness among staff and the general public, supporting local associations and initiatives.

Biodiversity on a major scale

Impact studies carried out in view of the Nam Theun hydrodam project in Laos have contributed to learning about the biodiversity of the region. Sixteen species of fish were discovered in the two catchment areas linked to the project, none of which in areas subject to its impact. The recently discovered Saola (*Pseudoryx nghetinhensis*), was also identified in the area. A population study of the region's elephants is currently underway with the Wildlife Conservation Society.

Partnering for biodiversity

We work with a number of local, national, and global NGOs to protect biodiversity. In February 2004 Bird Life International's French partner (*Ligue de Protection des Oiseaux*) and the NGO federating French associations for the protection of the environment (*France Nature Environnement*), RTE and EDF signed an agreement to create a national birdlife committee in France. Two national seminars organised in 2004 brought together the partners and local representatives.

In the UK, EDF Energy also undertook new partnerships with a number of NGOs that focus on protecting biodiversity (Adas Wildlife, Adas Sustainable Land Management, Norfolk Wildlife Trust and Suffolk Wildlife Trust) towards a 2005 action plan.

Glossary

Ademe: France's Agency for Environment and Energy Management. Under the supervision of the French Ministries of Research, Land Management, Economy, and Industry, Ademe both advises and finances the environment-friendly projects of public authorities as well as private companies and individuals.

Agenda 21: Action plan for the 21st century signed by more than 150 nations at the 1992 Earth Summit held in Rio de Janeiro and aimed at fighting poverty and social exclusion, production of sustainable goods and services and protection of the environment. Since then, local authorities, companies and associations have been invited to adapt the principles of the Agenda 21 agreement to their specific situations by defining and implementing "local Agenda 21". The process involves implementation of sustainable development principles on a daily basis. The commitments made by EDF as part of its own local Agenda 21 are set forth on the company's website (www.edf.fr).

Local Distribution Companies (LDC): The law of 8 April 1946 governing electricity distribution in France nationalised hundreds of electricity producers and distributors, making them part of EDF. The law nonetheless stipulated that certain local companies that provided or were susceptible of providing general interest services (notably local government administrations and semi-public companies) would retain their status. The law of 10 February 2000 relative to the modernisation and development of the public electricity service confirmed these provisions. However, the companies in question are forbidden from expanding geographically, and their scope of action in terms of electricity distribution is strictly limited to the commune or communes covered by their original mandates.

High Quality Environment (HQE): HQE (Haute Qualité Environnementale) is an approach aimed at limiting short and long term impacts of construction and renovation works, while ensuring occupants of healthy, comfortable living and working conditions. Developers are able to limit impact on the outside environment by following a set of 14 guidelines, integrating buildings harmoniously into their surroundings and choosing low impact products, technologies and work-sites. "Eco-management" (management of energy, water, waste produced from business activity and maintenance) results in quality interiors that are comfortable (in terms of temperature and humidity, acoustics, smells, aesthetics) and healthy (clean air and water).

INES: The International Nuclear Event Scale classifies nuclear incidents for public information on a scale of increasing severity from one to seven as defined by the International Atomic Energy Agency (IAEA) and the Organisation for Economic Cooperation and Development's (OECD) Nuclear Energy Agency (NEA). For information in French, see the website of the *Autorité de Sécurité Nucléaire*: www.asn.gouv.fr

kWh Équilibre®: EDF offers its professional customers the possibility of purchasing electricity generated from renewable energy sources. The kWh Équilibre® offer is backed by green certificates delivered by the French agency Observ'ER (*Observatoire des Énergies Renouvelables*).

NATURA 2000: A label aimed at contributing to the preservation of biodiversity within the European Union. Composed of geographical sites designated by each of the member States in application of the European Bird and Habitats Directives of 1979 and 1992. The label's creation contributes to fulfilling the objectives of the Convention on Biological Diversity adopted at the Rio de Janeiro Earth Summit in June 1992.

NGO: Non governmental organisation.

Global Compact: Initiated in July 2000 by the UN Secretary General to encourage dialogue between corporations, the various agencies of the United Nations, labour and civil society. The Global Compact identifies 9 principles of human rights, labour and environment. A tenth principle was added in 2004 regarding the fight against all forms of corruption.

Fuel-cell battery: A system whereby electricity and heat are generated simultaneously thanks to a chemical reaction between oxygen and hydrogen. The latter can be obtained from oil products, natural gas, alcohol or other combustibles. Fuel-cell batteries have a high energy yield and low environmental impact (no noise pollution, gaseous emissions such as carbon monoxide, nitrogen oxide, release of soot or other particles).

National allocation plan (NAP): NAPs are a lead-up to the future European greenhouse gas allowance trading scheme aimed at reducing emissions of European industries. NAPs focus on limiting, for the period 2005-2007, the CO₂ emissions of the most polluting industrial and generation sites.

Multi-service information and mediation centres (Pimms): local services and support to residents with administrative tasks to perform. Created and financed by companies like EDF and the French postal service, these centres inform customers on taking care of everyday business: how to pay bills, where to find appropriate social services, help with writing letters to the various administrative offices or filling out forms.

Units referred to:

– **Kilowatt hour (kWh):** a unit of energy corresponding to 1,000 watts per hour. One kilowatt hour is equal to the energy consumed by a 1,000 watt electrical appliance used for one hour (or 100 watts used for ten hours). One can also speak of megawatt hours (MWh, 1,000 kWh) and Terawatt hours (TWh, 1,000,000 kWh)

– **Kilowatt peak (kWp):** Kilowatt peak refers to the maximum energy obtained when the sun is strongest.

– **Sievert (Sv):** unit used to derive equivalent doses. It measures the biological effect of a given dose of radiation. A millisievert (μSv) expresses one thousandth of a Sievert and a microsievert (μSv) a millionth of a Sievert.

– **Becquerel (Bq):** derived unit of radioactivity in the International System of Units (SI). The units involved are so small that in most cases, they are quantified in terms of Gigabecquerels (GBq, or billions of Becquerel) or Terabecquerels (TBq, or trillions of Becquerel).

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