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## The environment, a continuous commitment

"By adopting sustainability principles in all aspects of our operations, we will fulfill France Telecom's commitment to meet the quality-of-life needs of future generations."



**E**nvironmental responsibility has become a critical objective for corporate activities.

The time has come **to act on responsibilities**, by ensuring that the environment is no longer a passing or peripheral concern, but rather a central priority which is underpinned by sound policies.

The time has come **to look ahead**, and envision the kind of planet we want to leave our children. Appropriate solutions and approaches must be found to meet the enormous challenges facing us.

The time has come **to formalize** our procedures for measuring and monitoring our progress and identifying opportunities for improvement, in order to ensure our performance indicators provide a transparent measure of our results.

Environmentally responsible, forward-looking, systematic in our approach. These three qualities are the guiding principles for France Telecom's first environmental report on its activities in France.

Our environmental policy is both comprehensive and pragmatic. Its objectives oblige us to increase our energy efficiency, reduce waste, dispose of redundant equipment and materials safely, diminish emissions

of pollutant gases into the air, minimize visual intrusions by our network infrastructure, share our expertise and know-how with the scientific community, particularly in the area of electromagnetic fields, ensure effective product stewardship and, more generally, take an active role in promoting sustainable development. Our efforts allow us to correct existing imbalances and prepare ourselves for the future.

This report is a summary of our achievements, corporate programs, research developments and current projects in environmental management. It is designed to support the evaluation and monitoring of our continuous improvement efforts, and stimulate dialogue and consultation on the major issues facing communities and the planet as a whole. Just as importantly, it is a first step towards providing more comprehensive indicators in 2003 for the entire France Telecom Group which will take account of the diversity of the businesses and countries in which our businesses are active.

Customer service lies at the heart of each of our activities. By formally adopting sustainability principles in all aspects of our operations, we will fulfill France Telecom's commitment to meet the quality of life needs of future generations.

A handwritten signature in black ink that reads "Michel Bon".

Michel BON  
Chairman and Chief Executive Officer





## Business lines and key figures



One of the world's leading telecommunications operators, France Telecom has consistently remained ahead of the technology cycle in its sector. As the information society rapidly takes shape, abundant growth opportunities are opening up for carriers with the capacity and solutions to support customer needs across the planet.



# Leading-edge networks, premium services

Wireless, Internet and data services are the key drivers of growth within the global telecommunications industry. Despite increasing competitive pressures, France Telecom remains the leader in the French domestic market. In France, the Group carries 64% of long-distance traffic on its networks, covers 48% of the wireless customer base, and provides 44% of total Internet connections.

## • Wireless services

France Telecom's wireless businesses are essentially concentrated under the Orange brand. It is currently deploying advanced GRPS and UMTS services which will provide new applications, enhance quality of life and provide leading-edge networks and user-friendly solutions which will be commercialized with the aim of promoting sustainable development. At end 2001, Orange has nearly 18 million customers in France.



## • Business services

With Equant, France Telecom's corporate customers can plug into a comprehensive range of advanced solutions for their voice and IP networking, outsourcing and integrated communications needs. The Group's highly sophisticated solutions offering covers the entire telecoms value chain and is backed by France Telecom's worldwide access network and the Group's position as an equity member and partner to the world's leading submarine cable consortia. France Telecom's backbone networks in Europe and in North America, which will become fully operational by the end of 2002, provide efficient, end-to-end service in 220 countries and territories, giving the Group coverage of nearly the entire planet. Little wonder then, that France Telecom is a leading solutions provider to more than two-thirds of the one hundred largest corporations in the world.



## • Consume wire-line services

Like wireless services, demand for wire-line services continues to snowball, thanks to the enormous popularity of ADSL, the latest illustration of France Telecom's creativity as a service provider. The quality of the Group's customer relations, services and innovative offers are its foremost strengths in an increasingly competitive market environment. Internet access constitutes the other major growth driver for the Group's wire-line services.

France Telecom has 34 million wire-line customers in France.

## • Internet services

In addition to Wanadoo, whose Internet access, portals, e-commerce and directories services are dedicated to serving users' everyday needs, other France Telecom entities active in the Internet and on-line services value chain include the Group's retail, network management, R&D, and traffic management units. France Telecom is committed to deploying ADSL networks and broadening its array of communications, information and transaction support services in order to pave the way for the advent of broadband services such as interactive video and pay-per-view TV. France Telecom's Internet businesses have 3 million active customers and regularly provide Internet access for more than 13.7 million terminals.



Today, France Telecom Group is active in 220 countries and territories. At end-2001, it employs 100,000 people and holds top-tier positions in fast-growing segments of the telecommunications industry. **Orange** is Europe's number one in mobile services in the United Kingdom. **Wanadoo** is Europe's number three in Internet access and audience. **Equant** is Europe's number one in data services.

## Key figures



### Consolidated financial data

(at December 31, 2001)

- 43 billion euros in **revenues** (up 27.8% in one year); international revenues account for 15.4 billion euros of total (up 77.3% in one year).
- 12.3 billion euros in EBITDA (up 14% in one year)
- 5.2 billion euros in operating income (up 7.1% in one year)

### Network and transmissions infrastructure

- **Backbone networks:**
  - European Backbone Network: direct connections for 34 metropolitan areas and, in conjunction with partners, seamless access for more than 250 cities in 16 countries.
  - North American Backbone Network: 15 cities connected in 2001, with a further 31 cities to come on stream by end 2002 (24,000 km of optical fiber cable).
- **Submarine optical fiber cable:**

Since the advent of commercially viable fiberoptic technology in the 80s, France Telecom has laid more than 150,000 km of submarine cable. It operates four cable ships under the French flag and has numerous submersibles.
- **Cable and satellite networks:**
  - France Telecom has capacity on 67 satellites which are principally leased from Eutelsat and Inmarsat.
  - 2.5 million kilometers of optical fiber in France.
- **Broadcast services:**

At end 2001, France Telecom's broadcast service subsidiary TDF operated 14,300 TV transmitters and 4,100 FM transmitters at around 5,300 sites.



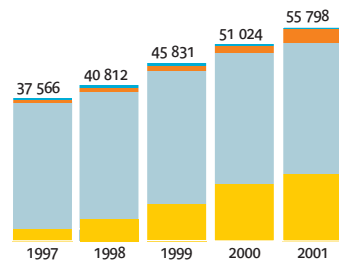
employed 206,000 people worldwide, 145,300 of them in France. All of the Group's subsidiaries in France are majority owned. Orange is Europe's second largest wireless operator and the market leader in France and the UK. Orange is a world leader in data and IP services for multinational companies.

### Operating highlights (at December 31, 2001)

- 91.7 million customers worldwide, including 55.8 million customers in France

#### Increase in customer base in France (thousands)

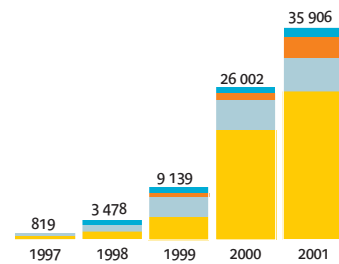
■ Wireless ■ Fixed-line telephony ■ Internet (1) ■ Cable networks



(1) Subscribers in years prior to 1999 and active customers as from 1999..

#### Increase in customer base outside France (thousands)

■ Wireless ■ Fixed-line telephony ■ Internet (1) ■ Cable networks



(1) Subscribers in years prior to 1999 and active customers as from 1999..

### Customer base (Majority controlled companies)

	2001	% change 2000/2001
<b>Wireless (thousands of customers)</b>		
France	17,823	+24,5%
Europe (excl. France)	20,520	+29,4%
Rest of world	4,841	+66,6%
<b>Total</b>	<b>43,184</b>	<b>+30,6%</b>
<b>Fixed-line telephony (thousands of customers)</b>		
France (incl. Numéris ISDN lines)	34,151	-
Europe (excl. France)	2,549	+31,6%
Rest of world	3,308	+4,5%
<b>Total</b>	<b>40,009</b>	<b>+2%</b>
<b>Internet services* (thousands of customers)</b>		
France	3,001	+63,9%
Europe (excl. France)	3,128	+360,8%
Rest of world	208	+57,2%
<b>Total</b>	<b>6,337</b>	<b>+139,8%</b>
<b>Cable networks (thousands)</b>		
France	824	+7,2%
Europe (excl. France)	1,351	+1,7%
<b>Total</b>	<b>2,175</b>	<b>+3,7%</b>

\* Active customers



@More information is available at: [www.francetelecom.com](http://www.francetelecom.com)





## Performance indicators



In order to prioritize its future efforts and develop performance indicators meeting the requirements of the **Global Reporting Initiative**, France Telecom has assessed its current performance in each of the areas covered by its environmental commitment, whether in terms of increasing energy efficiency, reducing emissions into the atmosphere, minimizing environmental nuisances and intrusions caused by its operations and network infrastructure, protecting resources by promoting reuse and recycling, or ensuring effective management of waste streams.

Indicators have been specifically chosen to measure the environmental impact of France Telecom's domestic operations in France. Other indicators on consumption of resources such as heating oil and gas and water are currently being finalized and will be included as from the 2002 financial year.



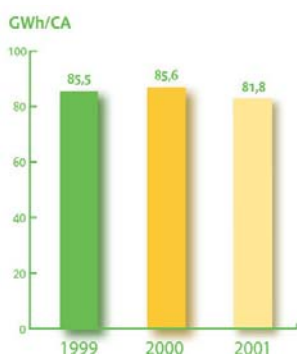
## Measuring and benchmarking our performance : Global Reporting Initiative

A decisive competitive challenge for future years, corporate sustainability can be measured using a variety of methods. In some cases, financial metrics are used, while in others, specific metrics are used to evaluate corporate policy decisions. Since 1997, the guidelines of the Global Reporting Initiative (GRI), which was convened by the United Nations Program for the Environment (UNEP) and the Coalition of Environmentally Responsible Economies (CERES), has served as a reference for responsible companies around the world. The aim behind GRI is to adopt a common framework for sustainability reporting that has comparable practices and levels of acceptance to financial reporting. This report on France Telecom's environmental performance is intended to demonstrate the Group's commitment to the GRI guidelines insofar as they apply to its activities.

## Energy consumption Electricity



Estimated energy consumption in GWh, France Telecom SA (network and service activities)



Energy consumption GWh/Revenues (G€), France Telecom SA

Figures for electricity consumption have been stable in recent years and are comparable to those of France Telecom's peer group, i.e. the members of ETNO, the industry body for European operators. Energy savings were partially offset in 2001 by the rapid development in new services such as ADSL, network developments and by the installation of equipment for other telecommunications operators at France Telecom switching facilities. Despite this, consumption represents a much smaller proportion of total revenues than in 2000.



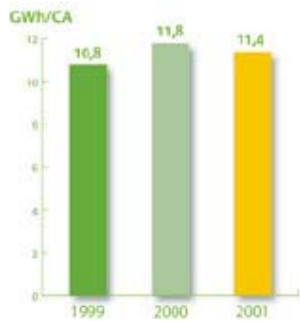
## Heating gas

Heating gas is essentially used to service properties in the France Telecom estate, with heating for network infrastructure accounting for an insignificant amount (0.5%) of total consumption.

Consumption statistics show an increase in recent years which is attributable to the increase in the number of gas-heated locations. As a general policy, older oil-fired heating systems are replaced with modern, energy efficient gas-fired systems.

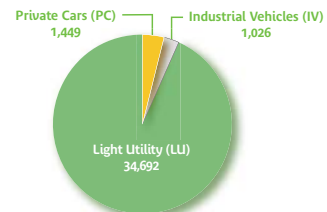


Estimated energy consumption (GWh), France Telecom SA

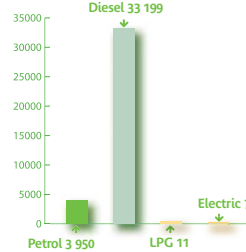


Energy consumption GWh/Revenues (G€) France Telecom SA

## Road fuels (France Telecom corporate fleet)

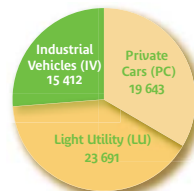


France Telecom SA corporate fleet : fuel usage by vehicle class At December 31 2001

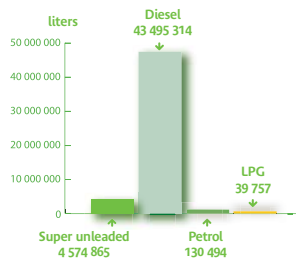


Vehicle fleet by road fuel – France Telecom SA At December 31 2001

At December 31, 2001, France Telecom's corporate fleet comprised 37,167 vehicles with an average age of 3.68 years.



Average kilometerage by vehicle class At December 31 2000



Fuel usage (in liters) by road fuel At December 31 2001

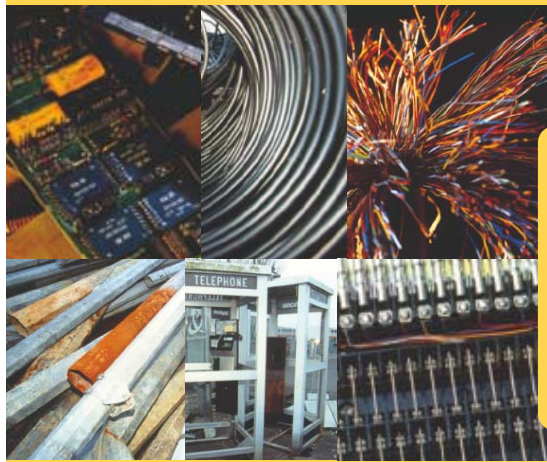


# Waste management

France Telecom's waste management programs are structured by material grade and disposal process. To date, ten programs have been established and other programs are being added, notably in the areas of civil works and building refuse, office supplies, paper and packaging waste. This section provides information on France Telecom's priority waste recovery initiatives.

## Telegraph poles

Of the 16.5 million telegraph poles in France Telecom's communications network, some 14 million are made of wood and the remainder of metal. Every year, around 300,000 poles are removed, and in the last three years France Telecom's engineers changed more than 1,066,360 poles. Approximately one-third of this total was made up of poles replaced in the course of preventive maintenance operations, involving poles damaged by storms or by public works.



Electrical and electronic waste, cabling, telegraph poles, payphone kiosk and switching equipment are recovered and recycled.

## Waste from electronic and electrical equipment

Two programs have been set up to deal with this category of waste material. The first covers the recovery and disposal of more than 32,000 **office machines** (printers, servers, scanners, micro-computers, etc.) which are scrapped each year. The second concerns end-of-life management of **phone-sets**. At present, around 1.25 million phone-sets and 8,000 payphones are removed and reused each year under the three-year campaign ending in 2003.

## Batteries and storage cells

As from April 2001, all of France Telecom's mass retail outlets began offering used battery recovery points for customers. Similar facilities are also provided at functional and technical premises thus enabling used batteries to be recovered and recycled as required by law. In 2001, some 11 metric tons of batteries and storage cells were taken back from customers and 9 metric tons were collected internally for recycling. In 2000, the same figures were 9.2 metric tons and 8 metric tons respectively.

## Payphone kiosks

Under its 2000-2003 plan, France Telecom has set a target of removing around 8,000 public payphones each year in the course of its rationalization and modernization efforts.



### Lightning arrestors

At end 2001, France Telecom had earmarked 800,000 lightning arrestors for decommissioning which are deployed at network premises as well as to protect overhead cable routes.

### Cabling

France Telecom disposed of 8,630 metric tons of copper-wire cabling in 2001. In the previous year, it disposed of 9,100 metric tons of copper-wire cabling. Approximately 99% of the cabling disposed of is plastic covered and the remainder is lead covered.

### Halon

France Telecom will remove all automatic fixed flood systems containing halon 1301 from its sites by December 31, 2003. Surveys performed

in 2001 show that 140 metric tons of halon remains to be recovered and disposed of.

### Polychlorinated biphenyls

An inventory of transformers and capacitors containing PCBs was performed in 2000. Under French and European legislation, France Telecom must recover these substances from around 1,000 installations by 2010.

### Switching equipment

Over coming years, France Telecom will decommission some 360 telecommunications switches which will reach the end of their operating lifetime. Thirty switches were replaced in 2001, compared with twenty in 2000.

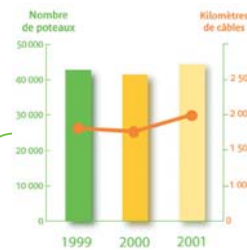
## Visual amenity

### Wire-line services

France Telecom's entire domestic long-distance network is serviced by underground lines as are virtually all of its transport network (97%) and some two-thirds of the local loop. An average of 43,000 poles and 1,900 km of cabling was removed in each of the three years to 2001, as part of burying programs for network cabling. The share of line investment and maintenance spending allocated to burying of transmission lines

increased significantly in 2000 and 2001, reflecting exceptional repairs required in the wake of the exceptional storms which affected France in winter 1999, and will contract in future years. Insofar as placing overhead lines underground represents an additional investment cost for local and regional authorities, expenditure projects will be evaluated in relation to the company's objectives under its global sustainability approach.

Number of cables and telegraph poles removed annually under the program to underground overhead lines.



Number telegraph lines removed  
Kilometers of cable removed

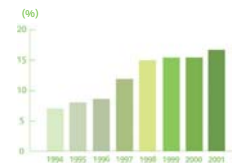
### Wireless

At end-September 2001, Orange France had 10,200 cellular masts and base stations. Installations are sited to ensure minimal impact to the visual amenity of natural sites.



A mobile phone base station integrated within the landscape

Share of line investment and maintenance spending allocated to undergrounding of overhead lines (% of total)







Combustion equipment

# Regulatory compliance of France Telecom sites

## Industrial sites

The latest inventory conducted by France Telecom SA in 2001 found some 2,100 installations and sites covered by national legislation on industrial installations classified under public regulation. Under the provisions of this legislation, France Telecom is required to declare 2,092 installations and obtain authorizations for 15 sites from the public authorities.

### Classified installations at December 31, 2001 – (FT SA)

Installations	subject to public declarations
- Battery charging facilities	723
- Combustion appliances	113
- Refrigerant systems and gas compressor sets	470
- Fuel oil tanks	73
- Covered warehouses	6
- Automatic fixed flood systems containing halon	140 *
- Equipment containing PCB/PCTs	561 *
- Other	6

\* Decommissioning planned and scheduled

# ISO 14001 certification process

ISO 14001 certification efforts underway at functional and technical units and operating sites are at varying stages of completeness. In May 2001, France Telecom obtained ISO 14001 certification for its fleet of cable-laying ships and support facilities.



A maintenance assignment for the cable ship, Raymond Croze.





# Committing to the environment and quality-of-life

## Partnering for progress



As an environmentally responsible, pan-European telecommunications operator, France Telecom is sharing its know-how and pooling its resources with partners on a global scale.

## Rising to the challenge of sustainability

Corporate sustainability is a fundamental ethical challenge for any enterprise that has an impact on the environment in which it operates. As a policy, it makes good management sense insofar as its principles are complementary with those of medium and long-term value creation.

### Balancing the "triple bottom line"

#### Creating value

In an increasingly complex and competitive global operating context, developing and implementing a comprehensive strategy for environmental management is a decisive advantage for companies by helping to underpin and sustain value creation. Within France Telecom, three measures have been adopted to evaluate environmental performance, and ensure that sustainability goals are integral to the Group's growth strategy.

#### Economic value

Sustainability is not only good for the environment, it is also good for our business. Energy efficiency, waste management and landfill tax savings all contribute to the economic vitality of the company.

#### Competitive value

Enhanced competitive ability and productivity, breaking into new markets, attracting investors, etc. are some examples of ways in which companies can increase their edge on competitors.

#### Social and ethical value

France Telecom's values and guiding principles require the company to address pro-actively its environmental, quality of life, customer service, and social duties, whether in terms of action in support of regional development, employment development, or outreach to local communities. This, in turn, has key implications for the Group's image among public representatives, institutions, non-governmental environmental organizations, staff and the general public.

## Guiding principles

Our vision is to be the benchmark provider of global communications solutions. The guiding principles for our brand values and corporate culture are responsibility, local service and creativity. As both an everyday concern and an aspiration for the future, these guiding principles define the primary duties of France Telecom's employees to customers and their enterprise. They are designed to enable every member of the company to fulfill the Group's values in their day-to-day relations with customers and colleagues as well as in decisions concerning our service offering, approach to value creation and impact on the environment.

As a definition of our societal potential, our guiding principles are the primary motivation for our commitment to environmental responsibility.



## A rating system for corporate social responsibility

Society is increasing its demands on the business community with regard to its management of social and environmental issues. To guide their investment decisions, investors use rating systems and

specialist stock market indices which regularly monitor and report on the environmental of social sustainability of multinational and national corporations, including France Telecom. In this way, France Telecom's stock is

included in so-called "socially responsible" investment funds and is a component in the FTSE4Good and EuroStoxx ASPI Eurozone indexes.

## Harnessing globalization for a more sustainable world: the Global Compact

United Nations Secretary-General Kofi Annan first proposed the Global Compact in an address to the Davos World Economic Forum in January 1999. He challenged world business leaders to seek to establish ethical corporate

governance and sustainability principles for global economic growth and development. The Global Compact is not a regulatory instrument or code of conduct, but a value-based platform advocating sustainability as an integral element of corporate strategies. In

addition to France Telecom and the other main European telecoms operators, some fifty of the world's largest corporations have embraced the Global Compact's principles and it is hoped that their number will increase to one hundred in 2002.



### The Global Compact Principles

The Compact encompasses nine principles, drawn from the Universal Declaration of Human Rights, the ILO's Fundamental Principles on Rights at Work and the Rio Principles on Environment and Development.

**The three principles specifically relating to the environment exhort companies to:**

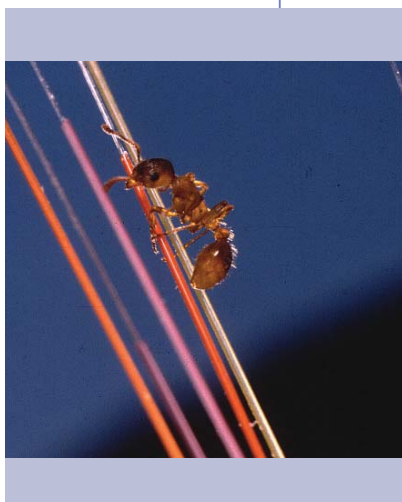
- Adopt a precautionary approach to environmental challenges;
- Undertake initiatives to promote greater environmental responsibility;
- Encourage the development and diffusion of environmentally friendly technologies





# Milestones in our commitment

As illustrated by its achievements over the last decade, France Telecom has succeeded in formulating and implementing an ambitious and comprehensive policy for environmental excellence.:



## 1993

- Setting up of an environment committee. First recycling programs for telephone directories and cabling systems are launched.
- Agreement with French government covering burying of overhead telecommunication lines.

## 1996

- France Telecom signs the environmental charter of the Association of European Telecommunications Network Operators (ETNO);

## 1998

- Establishment of an Environmental affairs office to spearhead France Telecom's policies and actions in the area of environmental responsibility.
- Pilot process for benchmarking environmental performance is tested by regional departments; a survey is conducted into the environmental impact of operating unit activities.
- Environmental management tools are developed.

## 1999

- France Telecom's Executive Committee endorses the Group's environmental commitment policy which outlines its targets for continuous improvement and sustainable development;
- France Telecom and two other mobile network operators sign a charter with the French government covering the environmental, quality-of-life and heritage conservation objectives for the deployment of wireless networks;

## 2000

- France Telecom endorses the United Nations' Global Compact initiative;
- France Telecom formulates guiding principles for the company's activities which integrate the goal of environmental excellence;

## 2001

- First ISO 14001 certifications received by business lines. Operating units begin certification efforts.



## Focused on continuous improvement

France Telecom's environmental commitment has helped to structure its approach to the environment by highlighting ways in which continuous improvement can be used to reduce the Group's environmental impact, and by leveraging IT and communications technologies to drive sustainable development.

France Telecom's environmental approach integrates the objectives of earlier action plans, i.e.:

- Energy and resource efficiency.
- Reusing or recycling redundant products.
- Diminishing the visual impact and noise levels of its network infrastructure.

- Reducing air pollution, in particular, greenhouse gas emissions.
- Integrating environmental principles into procurement processes and supplier programs.
- Incorporating the environment into our training programs and communications programs organized for staff and partners.
- Providing relevant data and

information on the environmental impact of activities, services and products for internal and external stakeholders.

- Supporting research and development into the contribution new telecommunications services can make to sustainable development.

## ISO 14 001 certification drive

### Champagne-Ardenne region

Staff in the Champagne-Ardenne region (eastern France) took up the ISO 14001 challenge enthusiastically. Many expressed a wish to go further in their environmental commitment and felt confident about the certification process after already having received ISO 9000 quality assurance certification. Steering committees were tasked with taking charge of the specific communications, supply chain, quality, safety and technical aspects of the certification process and drew up action plans for each of these five areas. The three priority areas identified for the certification effort: were energy usage, management of "take-back" and internal waste streams, reducing consumption of road fuels.

### Certification process for France Telecom's cable ships and maritime bases

France Telecom Marine, France Telecom's subsidiary specialized in laying and maintaining submarine cables, has implemented an ISO 14001 equivalent environmental management system for its operations in order to meet the most demanding international standards for environmental management. In May 2001, its cable ships and maritime bases in Brest and Seyne-sur-Mer were awarded ISO 14001 certification. The company has already obtained ISO 9002 quality assurance certification (in 1996) and was accredited under the International Safety Management code in 2000.



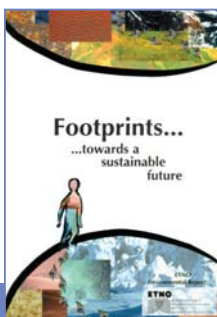
Raymond Croze, a cable-laying ship



# Partnerships

## Economic partnerships

France Telecom has teamed up with Electricité de France and the French railway operator SNCF under a partnership to evaluate potential waste recovery solutions for the 300,000 wooden poles containing mineral salts and creosote which have to be destroyed each year as dangerous waste. The results of a joint benchmarking survey performed in 2001 are being examined to identify appropriate waste management solutions and action plans in the area.



## Institutional relations

In 2001, France Telecom signed a framework agreement with the French energy efficiency agency ADEME covering joint actions in the areas of energy efficiency, greenhouse gas emissions, waste management, and environmental management systems. Under the agreement, the agency will assess the life-cycle implications of France Telecom's product, service and solutions portfolios in terms of their environmental and social sustainability. Similar partnerships have been forged in other areas of research. Thus, France Telecom is a partner in the European Commission's Information Society Technology program and assists APNEE in its efforts to raise awareness on air quality issues in France. In addition, it is also sharing its expertise on dosimetry for the French research project, COMOBIO.

## Trade associations

France Telecom has forged close working relations with a number of employer's representative bodies in Europe and in France with which it has common interests and opportunities for skills-sharing. Organizations in which it is an active member include: French Association of Environmental Engineers and Technicians (AFIE), Corporate and Municipal Partners for the Environment (OREE), Espaces pour demain, Entreprises pour l'Environnement, ETNO and the CSR Europe Network. As a member of these groups, France Telecom shares its experience and viewpoints, contributes to working groups and participates in projects aimed at applying telecommunications technologies in the field of sustainable development.

## ETNO, a network for Europe's operators

The **ETNO** (European Telecommunications Network Operators) is an employer's representative body which was established in May 1992 to defend the interests of European Telecommunications Operators within an increasingly competitive context. The Association's aims are to stimulate constructive dialogue between its 45 members and with other actors involved in developing the European Information Society, for the benefit of users. Members are also required to contribute to the development of a benchmark policy for environment management within the telecommunications industry. To support this effort, ETNO has identified six fields of relevance for future actions: awareness, regulatory compliance, research and development, procurement, providing information, implementing environmental management systems.

In 1998, ETNO published an environmental report for the entire telecommunications sector, which was the first initiative of its kind taken in any industry. It was followed by a second report in 2000. As a member of ETNO's working group on the environment, France Telecom has drafted six documents presenting common guidelines for ETNO members covering areas such as procurement, indicators and climate change and the telecommunications industry. In 2001, a working group was established to co-ordinate efforts among telecommunications operators in support of research into electromagnetic field exposure.





## "Eco-responsible partnerships"

France Telecom is a partner to a wide range of projects which reflect the increasing importance of environmental issues in all aspects of life. The Group's environmental commitment, coupled with its social commitment and sponsorship initiatives, are the mainstays in its social responsibility policy. France Telecom has been a nationwide partner to the French government's annual "In town without my car" day since 1998, providing a toll-free information service for the public and organizing free trials of Internet and wireless communications services in local areas.

The Group also plays an active role in projects to install overhead lines underground in scenic areas and in historic sites throughout France in association with the *Espaces pour*

*demain* organization. Sponsorship initiatives are also initiated directly by regional departments or other corporate departments. The Group's partnership with the public transport operator, RATP, for the "Roues libres" bicycle hire-and-ride scheme in Paris, is one such example. Similarly in the Cote d'Azur region, France Telecom has sponsored initiatives organized by local councils and schools to raise awareness for urban ecology as part of World Environment Day.

For other sponsorship projects, notably in the field of education, France Telecom has forged partnerships with education foundations. Thus, since 1998, it has worked with the European Foundation for Environmental Education (FEEE), which helps to promote school exchange programs using new technologies. In addition to providing technical facilities and



France Telecom sponsor to RATP's bicycle hire-and-ride scheme.





expertise, France Telecom delegates staff to work as educational "facilitators", helping pupils organize class projects on environmental themes in their communities and localities. This program, known as "Young Reporters for the Environment", gives participants a chance to acquire journalistic skills, and uses technologies and solutions developed by France Telecom. Pupils can even see their ideas translated into development projects both in France and other countries such as Morocco or Senegal, thanks to France Telecom's partnership with the **Nicolas Hulot Foundation** (cf. the "Fleur de Lampaul" and "Clubs environnement" projects), or into wildlife and habitat conservation projects in France, through the "Ecole de la nature" scheme in Brittany.



A telecommunications solutions developed by France Telecom for the "Fleur de Lampaul" project.

France Telecom's sponsorship initiatives in education are broadly focused on raising awareness for environmental issues. A summary of these projects is presented on France Telecom's portal for schools: [www.educavie.francetelecom.com](http://www.educavie.francetelecom.com).

Whether through its relations with business, trade and institutional partners, or through its sponsorship of community and educational outreach projects, all of France Telecom's partnerships leverage its unique

expertise, solutions and products. The know-how offered for their implementation is conceived in terms of the Group's involvement in the economic and social developments of the territories in which France Telecom is active. In addition, to contribute to sustainable progress, the Group's research and development entity – France Telecom Recherche & Développement – collaborates with the worlds of research and medicine by placing its expertise at their disposal.



## CEEP : Contributing to European environment policy

As a representative body for partially privatized companies and general economic interest enterprises in Europe, **CEEP** is recognized by the European Commission as a "social

partner" and defends the interests of its members before the European institutions. France Telecom is a member of CEEP whose roles including making advisory opinions

on draft directives, facilitating contacts between companies and EU institutions, and performing studies and drafting reports on behalf of members.



## Environmental management



France Telecom's organization promotes the company's strategic priorities and reflects its determination to meet its commitments. This is further evidenced by the management structures that were introduced by France Telecom in 1998 as a preliminary platform for its Environmental Management System.

## Global oversight...

France Telecom has created a specific structure which is dedicated to fulfilling its environmental commitment. The Environmental affairs office, which reports to the Public Affairs Department, defines the Group's key policy decisions in the fields of environmental protection and quality of life, with the aim of ensuring that they reinforce France Telecom's competitive strengths. To ensure that the environmental approach delivers on its objectives, Environmental department has been given oversight for **several core responsibilities**.

## ... driven by teamwork


Working in synergy with France Telecom's regional departments and operating units, the Environmental affairs office is a cross-functional, cross-company structure which addresses the individual concerns of business groups, divisions and subsidiaries on an ad hoc basis.

Working groups are appointed and meet at regular intervals. Their role is to apply global environmental policy to local contexts while ensuring the overall consistency of France Telecom's approach. Groups are staffed by cross-company teams in order to represent the full spectrum of corporate skills.

These *forums for ideas*, best practice sharing and continuous improvement support the global environmental approach and help to champion the Group's initiatives.

Other teamwork efforts concern initiatives such as:

- Monitoring of environmentally classified installations in conjunction with operating entities;
- Deploying the environmental management system and involving those responsible for setting certification targets;



### Compliance tasks

- . Monitoring compliance of France Telecom and its subsidiaries against current and impending requirements and track and interpret regulatory and legislative changes;
- . Define a methodology for deployment of an EMS system that is ISO 14001 - compliant or equivalent;
- . Ensure effective realization of all environmental commitments at national and international level;
- . Assume responsibility for internal and external information on environment issues;
- . Devise training and awareness initiatives for staff.

- Making provision for possible health effects, notably from electromagnetic field exposure by consulting with specialists in dosimetry and experts from within the Group whose activities, either in France or Europe, require particular vigilance in this area.
- Developing specialized training programs to meet the needs of actors in the field and functional entities and incorporating them in the company's training catalogue.
- Publishing environmental data and information via ordinary channels to highlight the objectives and progress achieved in implementing the environmental approach, and in

- promoting its initiatives, etc;
- Creation of a steering group bringing together process leaders at national and local level to deploy global recycling and waste disposal processes.
- Promoting energy-efficiency through a working group spearheaded by the network division in association with functional entities.



## Co-ordinating our efforts

### At national and regional levels and in functional and technical operations

Co-ordination in the field plays a vital role in the global approach to the environment being implemented by France Telecom's Environmental affairs office.

The thirty regional departments, which supervise more than one hundred operating units, regional network units and telecom shops are responsible for spearheading innovation and progress, play a leading role in this effort. The lessons from each initiative are systematically used to enrich France Telecom's knowledge base, thereby paving the way for larger and more complex projects.



Projects initiated to date include:

- A pilot environmental auditing process, which has been tested by four of France Telecom's regional departments;
- In the Lyons region: a benchmarking study of waste management contractors for electronic and electrical equipment and switching equipment, conducted in conjunction with the representative body, Electricité Environnement (ELEN); a new transport policy to take account of environmental concerns; and an agreement on the recycling of refuse from civil engineering works.
- In the Nantes region: consultation with local councils to develop a new transport policy;
- Various entities have initiated ISO 14001 certification efforts.

Thanks to the synergies being tapped by teams and the dedication of staff, France Telecom is making good progress towards its environmental goals. This highly coordinated, teamwork-based approach enables the Group to comprehensively address strategic objectives in each local area.





## Process leaders for the waste management stream

Pending legislation requires France Telecom to take responsibility for the waste products it generates right up to their end-of-life disposal, recovery or destruction. To meet its obligations in this area, the company has created ten steering groups which are led by a nationally-appointed process leaders. Process leaders are responsible

for the entire product lifecycle, from the design and procurement phases, through to end-of-life decommissioning and disposal. Their role is to set targets and objectives for each product group and supervise the work of local process coordinators.



*Inspection of energy installations  
(Champagne-Ardenne – eastern France)*

*Selective sorting of declassified office papers  
(Champagne-Ardenne – eastern France)*

## French overseas territories

A specific organizational approach has been adopted to support the Group's waste management and energy efficiency policies in France's overseas territories. A process leader is responsible for co-ordinating the projects currently underway which cover areas such as waste management auditing, benchmarking of external partners, and the development of appropriate processes to address the particular requirements of each waste stream.



*Installation powered by thermal solar energy.*





# Environmental management system

Effective environmental management requires a strong commitment from companies to minimize their environmental impact, ensure regulatory compliance, and integrate sustainability principles into all aspects of their development. Guided by this conviction, France Telecom is pressing ahead with the implementation of an ISO 14001-compliant Environmental Management System. It is now one of the many major corporations to have achieved a significant competitive advantage by providing a world-recognized assurance of responsible and transparent environmental management.

As the first concrete step towards this goal, France Telecom clearly outlined its commitment to the environment in a policy document published in 1999. This was to form the platform for its EMS.

## Nationwide policies for local applications

The Environmental affairs office assists the Group's entities in adopting the environmental management system. It sets the general framework for the EMS, drafts and distributes methodologies and tools and devises indicators for the real-time evaluation of initiatives in progress.

These actions are not only opportunities for cross-fertilization and best practice sharing but also contribute to environmental management at regional level and enable approaches to be adapted to local realities. In 2001, continuous improvement efforts initiated to support the EMS

deployment process focused on regulatory compliance, awareness and training in the following areas:

- Waste recovery
- Energy management
- Risk prevention
- ISO 14001 certification

## Tasks for EMS deployment

### • Benchmarking

The first step in the EMS deployment process consists of benchmarking the enterprise's environmental performance in order to precisely identify the impact of its operations, its risk factors and non-compliant processes.

### • Formalization

This ensures that future preventive and corrective actions are carried out to standards meeting the objectives required under the company's EMS. It is generally accompanied by continuous improvement initiatives that bring together all of the enterprise's employees.

### • Certification

To achieve certification, the enterprise must define the organizational structure, planning activities, responsibilities, processes, procedures, practices and resources required to formalize, implement, finalize and maintain its environmental policy.



# Awareness and support tools

Major company-wide projects have been initiated by the Environmental affairs office to implement and raise awareness for France Telecom's environmental management system. The prime aim of these efforts has been to develop supporting tools for environmental initiatives.

## Methodologies

Since its creation, the Environmental affairs office has worked to develop management tools to support implementation of its environmental management system by appointing project teams to devise replicable methodologies.

As of 1998, it began by completing a comprehensive survey of the

environmental impact of the company's operating activities. On the strength of the findings of the survey, project teams were put to work a year later to devise action plans in areas such as waste management, selective recovery and regulatory compliance. The lessons from these project teams' findings were summarized in a series of methodology handbooks.

## A complete EMS toolbox

- **Methodology handbooks** ,Handbooks developed to date include :
  - . Selective recovery procedures for office paper
  - . Performing inventories of waste materials
  - . Regulatory requirements for installations classified under environmental legislation
  - . Mitigating risks associated with fuel oil-burning equipment.
  - . ISO 14001 certification procedures for network management units
- **Regulatory database**
- **Reporting framework**
- **ETNO guidelines:**

The **ETNO** members have drafted guidelines on the following areas:

  - . Environmentally responsible procurement
  - . Environmental eco-rating
  - . Environmentally responsible life-cycle management of telegraph poles
  - . Environmental impact matrix
  - . Climate change & TLC services benefit
  - . Raising environmental awareness



## Environmental management intranet

An environment intranet has been developed as an information channel and awareness-raising tool for France Telecom's EMS deployment effort. It provides a clear outline of responsibilities and objectives and also designed as a didactic tool to explain the components of an environmental management system. Content is regrouped under three headings: environmental responsibility, everyday actions, and tools and methods. Whether staff are looking for news on sustainability efforts, contact details for EMS champions, or information on environmental ratings, corporate bodies and organizations in the field, they can find it on the new site which is called @ction Environnement.



Each month over 2,000 visitors connect to the network and some 120,000 individual sessions are logged. Many employees use the system to download documents and methodologies.

## Regulatory tracking

The Environmental affairs office is responsible for tracking legislative and regulatory changes in France and Europe and assessing their impact on the compliance of environmental processes in place. Staff also examine the text of draft directives and bills with a view to enabling France Telecom to play its role as a benchmark operator and made adequate provisions for future requirements. In accordance with the requirements for EMS systems, the Environmental affairs office maintains a database on behalf of France Telecom operating units which incorporates extracts of



More than 200 sessions a month.

legislation and interpretations. The objective is to make information available within the organization and give staff a clear visibility of pending regulatory and legislative requirements,

along with decisions made by local authorities, which enables them to evaluate the implications for their entities.



## The environmental key-performance indicators

Using the reporting framework and indicators defined under France Telecom's environmental approach, an environmental dashboard enables managers to accurately monitor the progress of continuous improvement efforts.

Data from these indicators is correlated against internal benchmarks to enable France Telecom to accurately report on its performance to external audiences such as environmental rating agencies.

## Publications and guides

Publications are produced for internal and external audiences to highlight aspects of France Telecom's environmental policy and outline the actions it has taken to preserve the environment and enhance quality of life. Standard media used includes brochures, fact sheets, FAQs, posters, and articles in the company's internal newsletters and journals.

In line with the objectives of each communications operation, these documents enable France Telecom to fulfill its commitments in terms of reporting on its performance and raising awareness about the environment.

Orange France recently published a brochure on mobile phones and health, reflecting France Telecom's ethical resolve and its determination to monitor the safety of the technologies it uses. The brochure provides comprehensive answers to consumers' queries about safety and outlines current knowledge on the possible health effects from exposure to electromagnetic fields. Guided by its concern for openness and responsible management, the company provides information on its funding and technical assistance for research in this area and reiterates the precautionary measures taken by it in compliance with European recommendations.



@ Publications may be downloaded at:  
[www.francetelecom.com](http://www.francetelecom.com)







# Coordinating our approach

## From global to local



harnessing information and communications technologies (ICTs) as tools for sustainable development.

France Telecom's environmental initiatives are implemented in the field on a day-to-day basis by all employees. This effort is powered by two main driving forces: continuous improvements aimed at controlling and reducing the company's environmental impact; and

# Controlling and reducing environmental impact

## Waste stewardship programs

Waste management has fundamental regulatory, environmental and economic implications for France Telecom. To this end, the Group's waste management program meets the critical objectives of transparency and traceability.

An audit conducted by the Bordeaux regional department in 1999 found around forty different types of waste stream to be treated. The Group has created specific management programs which are responsible for recovering and reclaiming or disposing of waste materials. To support its whole-life waste management efforts,

France Telecom has adopted the recommendations of the ETNO Environmental Charter on environmentally sustainable procurement. The company's procurement department has appointed an environmental champion who works in co-ordination with purchasing managers. Ten waste management programs have been

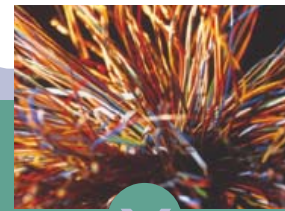
developed. Others are being set up to define procedures for the recycling of refuse from civil works and building as well as paper, packaging and office supplies waste. Owing to the large number of contracts for the recovery of office paper and packaging, statistics are not, as yet, compiled at national level.

## The transformation process: reuse or final disposal

Recycling and reuse of waste products are the primary aims for the waste management process. Certain recovered materials are handled by specialist contractors which are, for the most part, organizations involved in social insertion and back-to-work schemes, others are sent for final disposal to Class I waste disposal facilities.

Reused wastes include:

- . **Plastics:** plastics industry (pencil manufacture, health-care supplies, etc.)
- . **Ferrous metals:** iron and steel making industry (metallurgy, steel making, etc.)
- . **Nonferrous metals** (copper, brass and other): scrap metal recovery (pure metal bars)
- . **Printed circuit boards:** copper and precious metals.
- . **Batteries, display units, mercury contacts:** specialized waste management contractors are responsible for collecting, stabilizing and recovering materials, decommissioning dangerous wastes and disposal in Class I hazardous waste landfills.



*Plastics, rubber, metals and other materials are the principal waste products generated by France Telecom. Storage of retired telegraph poles prior to recycling.*



## Recycling directories: an an "eco-responsible" approach



Every year, France Telecom uses more than 60,000 metric tons of paper to publish its "Pages jaunes" and "Pages blanches" directories. Since 1993, regional departments have initiated a number of programs designed to recover and recycle used directories. These actions are used by France Telecom to reach out to local communities and promote awareness for recycling and the environment. Initiatives concern schools, local authorities, voluntary organizations and public charities.

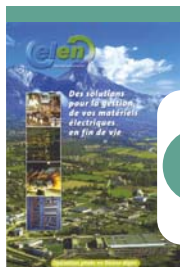
### Ten waste management programs already underway:

#### Wooden telegraph poles

Under its partnership agreement with Electricité de France and the French railway operator SNCF, France Telecom has been tasked with defining common procedures for the recycling of overhead works made from wood, such as cross ties and telegraph poles.



Storage of retired telegraph poles prior to recycling.



#### Waste from electronic and electrical equipment

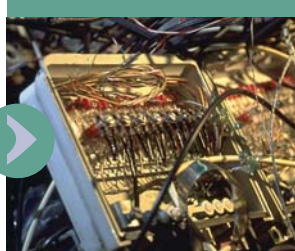
Two waste management programs have been created to recover waste from electronic and electrical equipment.

The first covers the recovery and disposal of more than 32,000 **office machines** (printers, servers, scanners, micro-computers, etc.) which are scrapped each year.

The second concerns end-of-life management of **phone-sets**.

At present, around 1.25 million phone-sets and 8,000 payphones are removed and recycled each year. As much as 95% of the raw materials used in a phone-set can be recycled. Recovered materials include copper, precious metals, plastics, electronic boards, etc. Older generations of equipment which cannot be reused, e.g. rotary-dial phone-sets and first-generation Minitel terminals, are decommissioned and crushed.

As part of its work for the ELEN project, France Telecom's signed an agreement with the representative body Electricité Environnement and with the regional authorities of the Rhône-Alpes region covering the implementation or evaluation of a waste management program for redundant electronic and electrical equipment in the Lyons region.



Decommissioning of waste from electronic and electrical equipment

The proceeds from paper sales are donated to humanitarian projects. The system of transportation for collected material is also being revised to ensure that collection can be organized in all parts of France. The new model being defined will also apply eco-design principles to reduce the negative environmental impact during production of directories, notably by switching to environment-friendly inks and adhesives.



After the exceptional storms which affected France in December 1999, this park near Paris was replanted with trees using the proceeds from France Telecom's directories recycling initiatives.

## Batteries and storage cells

France Telecom takes back old batteries up to 3 kg in size from customers at its 760 sales outlets in France. These batteries are collected in recovery bins and are sent for sorting and waste processing by external contractors. Larger batteries used by its functional and technical services are recovered directly at the point-of-use. Communications efforts have been organized to increase awareness about potential health, environmental and pollution risks where batteries are not collected and treated. Estimates of the potential resource savings achieved through the application of sound environmental management policies are also provided. Continuing to develop collection operations and raising awareness on environmental issues are the twin priorities for France Telecom's management program in this area.



Used battery recovery bin





## Payphone kiosks

Payphone kiosks offer a rich source of recyclable materials, notably glass, aluminum, steel and rubber along with polycarbon and methacrylate plastics. As part of France Telecom's current campaign of upgrades which runs through to the end of 2003, some 8,000 kiosks are being decommissioned each year out of a total base of 250,000 public payphones. Removals are organized to replace damaged and redundant kiosk housings or as part of conversions from triple or double-booth kiosk configurations to single booth configurations. New framework standards covering the end-of-life management of these waste materials have been drafted to take account of impending regulatory deadlines and are being ratified by external contractors. Payphones containing hazardous materials such as batteries, lightning arrestors and waste from electronic and electrical equipment are managed according to a specific process designed to optimize extraction of recoverable components.



*A specially designed payphone kiosk for people with reduced mobility.*

## Procurement policies and recovery measures for whole-life management

Payphone kiosks are recovered and recycled by external contractors according to stringent procedures which stipulate the decommissioning and disposal processes, materials traceability targets, and quantitative reporting standards to be followed.

## Switching equipment

Under the framework standards for the whole-life management of France Telecom's network apparatus, subcontractors are required to meet comprehensive quality objectives for the end-of-life disposal of switching equipment. Specialist contractors intervene directly at sites where disposed equipment is stored. After dismantling, component materials such as cabling, printed circuit boards, magnetic tape and masts containing mercury are reclaimed, recycled or stabilized by specially licensed contractors. Specific reporting procedures have also been introduced to enhance life-cycle monitoring and traceability of switching equipment.



*Gateway cabling at the Lille exchange (Northeastern France).*

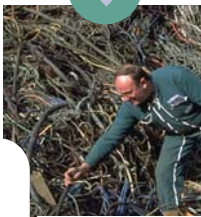






### Cabling

Since 1992, cabling has been recovered by pre-qualified contractors specialized in the recycling of ferrous and non-ferrous metals under standards defined by France Telecom. This was the first such recycling process to be formalized and implemented by the Group. Lead and plastic covered cooper-wire cables are crushed into tiny granules and undergo a series of separation operations before being recovered as raw metals. Recovered materials include metal and plastics feedstocks and waste for fuel.



Sorting of cables



Cables are separated into their constituent elements.

### Halon

Halon, a group of ozone-depleting chemicals used in certain types of fire suppression systems, will be eliminated from France Telecom sites by December 31, 2003 in line with EU legislation. The decommissioning plan developed for halon sets safety procedures for the handling of halon tanks and their transport to licensed contractors. Contractors are selected on the basis of a competitive tendering process and are required to meet stringent environmental standards for the transport and treatment of halon while also submitting to regular monitoring. This decommissioning plan was drawn up to prepare the company for this regulatory deadline which follows from the application of the recovery and elimination charter on halon to France Telecom.

### Lightning arrestors

In accordance with regulatory requirements, France Telecom chooses best available solutions to ensure optimal personal safety and end-of-life recovery and disposal of this equipment.

### Polychlorinated biphenyls (PCBs)

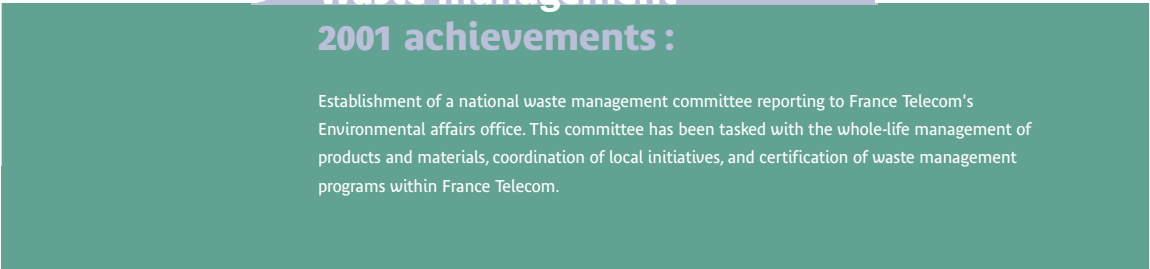
These substances primarily consist of pyralenes that were used in transformers and capacitors. Under the planned phase-out and disposal program which ends in 2010, this process will be coordinated by the "Fluids" steering group which will also include waste products from fixed-line network maintenance operations. Specific precautions and procedures applied to prevent leakage risks include the use of retention tanks and the systematic replacement of devices where infiltration is detected.



A power transformer incorporating PCB/PCTs

## Waste management 2001 achievements :

Establishment of a national waste management committee reporting to France Telecom's Environmental affairs office. This committee has been tasked with the whole-life management of products and materials, coordination of local initiatives, and certification of waste management programs within France Telecom.



## Energy efficiency

In the fight against greenhouse gas emissions, France Telecom has initiated wide-ranging efforts and projects to improve the efficiency and reduce consumption of its key energy-consuming activities.

### Electricity

Network facilities, including telephone exchange and associated equipment such as cooling units, account for 80% of France Telecom SA's electricity consumption.

France Telecom's total electricity consumption services more than 15,000 sites in France. In partnership with Electricité de France, France Telecom is performing a survey to identify energy savings in its annual electricity consumption of 1,633 GWh (network and service activities).

Despite the scale of the project and sophistication of the software used to model France Telecom's consumption, initial results should be ready in 2002.

### Road fuels

France Telecom's policy in this area aims to estimate total exhaust emissions produced by the company's vehicle fleet and implement steps to reduce pollutant emissions and particulate matter by adopting a multi-faceted approach:

- Development of enterprise transport plans, such as the one pioneered by France Telecom in Lyons.
- Use of abatement measures, e.g. installation of particulate filters;
- Inform drivers about energy efficient and environmentally benign driving techniques;
- Reduce the vehicle fleet through car-pooling efforts and the reorganization of travel plans. In the last three years, France Telecom has reduced its

vehicle fleet from 42,000 to 37,000.

- Establish methods for the estimation of total emissions of ozone depleting gases.
- Increase use of alternative vehicle technologies to reduce environmental impact.
- Road test electric vehicles, notably in the Champagne Ardenne region.



Electric vehicles operated by France Telecom



## Renewable energies

As part of its efforts to reduce energy consumption, France Telecom is turning to sustainable sources of energy as a means to enhance the performance of its sites and operations. To date, renewable sources of energy have been successfully adopted at a variety of installations:

- Thermal solar energy, though generation capacity is limited and

equipment is not state of the art;

- Photovoltaic solar energy, essentially in remote rural areas requiring limited power capacity;
- Wind turbines, used to power low-consumption digital radio systems (DRS) for the connection of subscribers in remote areas. Specific initiatives have been deployed in the French overseas territories, where France Telecom aims to tap the enormous opportunities

existing for renewable energy sources. While these territories boast exceptional geophysical and meteorological characteristics, they often present challenges from the standpoints of infrastructure or ease of access to certain sites. Nevertheless, overseas departments offer sufficient sunshine and exposure to the wind to neutralize these drawbacks.



*A photovoltaic generator*



*A combined solar energy and wind turbine in southeastern France.*

## HQE, an environmental quality label for France

France Telecom has adopted many of the key principles behind the HQE building standard in the course of refurbishments and renovations to its offices and sites to achieve the following benefits:

- Maintain current energy-efficiency by adopting appropriate insulation systems, materials and processes, and waste and water management procedures, etc;

- Ensure increased flexibility and open-endedness of building facilities;
- Deliver cost savings, quality enhancements, and minimal disruption from building work, by using industrial mass production techniques wherever possible;
- Adopting a global approach to refurbishment work in order to optimize performance and facilitate best practice sharing;
- Enhance quality of life and occupational health for employees by complying with applicable standards and providing high quality working facilities.



*The Grenelle office building in Paris, a site based on HQE specifications.*

## Energy-efficiency stream 2001 achievements :

Reducing energy consumption through the acquisition of environmentally friendly vehicles and promoting use of renewable energies. Measuring emissions of greenhouse gases caused by its commercial fleet, telephone exchange, cooling and other network equipment.

## Risk management

France Telecom applies a precautionary approach to its policies in this field. Risk management strategies are backed by comprehensive data and rigorous analysis in order to ensure complete transparency of disclosures to consumers and public authorities. Areas covered by this activity include: installations and equipment with potentially significant impacts on human health and/or the environment; and procedures for reporting and monitoring of environmental accidents.

## Classified industrial installations

In France, specific legislation applies to industrial installations which are classified as presenting potential environment risks. An inventory and audit of classified installations has been performed using a bespoke methodology (cf. Methodology for regulatory compliance of classified industrial installations) developed by the Environmental affairs office in collaboration with the Bordeaux regional department and France Telecom's property management structure for western France.

## Fuel oil burning equipment

Tanks, electric generators and waste disposal sites are covered by specific environmental projects. A methodology, which is based on the analysis of real-life incidents, is used as a tool for evaluating preventive strategies and risks and managing incidents and accidents



Combustion equipment (Champagne-Ardenne, eastern France)

## Electromagnetic fields

Over the past decade, France Telecom has devoted extensive energies to analyzing the possible health effects of electromagnetic field exposure. The company's R&D division has been working in conjunction with the European Committee for Electrotechnical Standardization (CENELEC) to develop a measurement protocol to ensure that subjects do not exceed safety thresholds for exposure. France Telecom is also a partner in the French program "COMOBIO" (Wireless Communication and Biology) which aims to enhance evaluation procedures for the testing of mobile phone conformity. France Telecom provides assistance to university research teams

by calculating the fields emitted by various radio-electric installations (radiotelephony and television and radio broadcasting) and by quantifying radiation absorbed by fabrics, etc., thereby contributing to breakthroughs in the research into possible health effects of electromagnetic waves. The findings from these studies and research will be used to translate the recommended exposure levels set by the European Council into recommended safety distances to be observed by users, and to ensure the compliance of products and/or installations. They will also enable France Telecom to evaluate the radiation levels emitted by mobile phones and verify the conformity of handsets with the European recom-



mendations. More generally, in synergy with its subsidiaries and with Orange in particular, France Telecom will continue to develop telecommunications solutions that address consumers' concerns and aspirations regarding environmental preservation and quality of life.



*Dosimetry: a SAR test bench in an anechoic room*



*Dosimetry: a phone positioner*

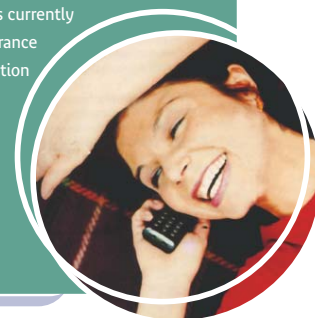


*Dosimetry: a bio-dosimetry display read-out:*



## “ Mobile phones and health ”

To meet its duty to inform the general public and ensure complete transparency on this subject, France Telecom has published a brochure and developed a specific section on mobile phones and health in its corporate website. Editorial content is written in a clear and straightforward style to facilitate comprehension: "There is currently considerable inquiry about the possible health effects of electromagnetic wave exposure. France Telecom shares your concerns and is keen to answer your queries". Thereafter follows a section featuring technical explanations, a summary of scientific knowledge on the subject, actions and precautions taken by France Telecom, and a glossary. In addition, each year, France Telecom's R&D division organizes a forum for experts specialized in the human health effects of wave exposure. This event which brings together operators, scientists and representatives of international and national organizations, reviews current scientific knowledge and outlines upcoming regulatory and legislative changes.



Further information is available at [www.francetelcom.com](http://www.francetelcom.com), "Téléphonie & Santé" section

## Risk management stream

### 2001 achievements :

- Ensuring regulatory compliance of sites.
- Tapping synergies within Group on electromagnetic field exposure issue and reinforcing France Telecom's contribution to research in this area.





## Preserving natural sites and visual amenity

In siting network infrastructure, consideration is given to the environment where installations are placed, particularly in areas of outstanding natural beauty, listed buildings and other protected areas. To ensure the efficient functioning of its networks and maintain good partnership with local communities, each new burying project is jointly examined by France Telecom, public authorities and local actors.

In the **wire-line network**, the company's policy of undergrounding overhead lines was originally developed in partnership with local partners and subsequently extended to more densely populated areas. Today, this policy chiefly concerns rural areas. In this way, the Group supports the work of the voluntary organization, Espaces pour demain, which has helped to fund burying operations for some of France's most

historic villages. Burying procedures and objectives are now managed using the Group's global approach to the environment.

In **wireless services**, Orange France systematically focuses on minimizing the visual impact of its mobile phone network while ensuring it complies with regulatory requirements, satisfies users' demands for high-quality services and meets the goals of the ETNO's Environment

Charter, mobile base stations and masts are sited in conjunction with architects and local public authorities. The company frequently uses existing vantage points, such as water towers, grain silos and high-rise buildings to accommodate cellular phone masts which are generally painted and made to the smallest possible size in order to improve antennae aesthetics.



## Protecting wildlife

France Telecom has, for many years, introduced the systematic practice of covering hollow metallic poles which can trap birds if left exposed. The installed base in France is inspected

once every six years and cover plates are installed as necessary. In the three years to 2001, France Telecom inspected 1,853,806 metallic poles. Of the 661,153 poles inspected in 2001, cover plates were installed on some 205,900 poles. The objective for this

inspection process which ends in 2005 is to inspect all of the poles in the installed base. In addition, France Telecom also conducts operations in conjunction with France's society for the protection of birds.



## ICTs, a tool for sustainable development

France Telecom is aware of the role it can play in promoting sustainable development through its advanced IT and communications solutions. As a key growth driver for the Group, ICTs are used in both innovative and socially responsible ways: firstly, as an information medium for environmental data; and secondly as a means to contribute directly to reducing environmental nuisances and emissions of greenhouse gases. As direct by-products of on-line connectivity and the digital age, the applications concerned by these initiatives include measurement and surveillance, communications, information, traffic flow management, on-line banking, e-commerce and distance learning.

### Spreading environmental data

France Telecom's satellite systems are capable of providing precise data on environmental conditions around the world, whether to help in the fight against pollution or to preserve natural resources. Telegis is a range of

solutions for remote display of public information, remote monitoring of sensor data, notably for air and water quality, etc. These systems can be used to tell bus passengers when the next bus is arriving or to synchronize traffic lights. They help contribute to improved traffic flow and thereby help to diminish pollution.



*This satellite-controlled system finds free parking spaces in the city.*

*A video conferencing studio*



*A video transmission session*

### Facilitating exchange

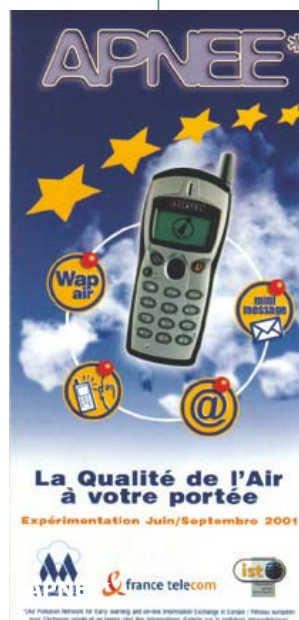
Successive waves of telecommunications technologies have reduced the need to move people between locations and thus help diminish transport use. Services such as video conferencing, conference calling, telecommuting and distance training (e.g. France Telecom's Scolagora offering) are just some of the services being developed by France Telecom which contribute to more efficient resource and energy usage and lower emissions from air and road transport. This trend towards dematerialization is also evident in sectors such as on-line banking or e-commerce.



## Raising awareness on air quality issues

APNEE\* is the only French environmental project that was chosen to take part in the European Commission's Information Society Technology program. It is designed to enhance awareness among Europeans on air pollution issues and challenges. Its purpose is to support implementation of an information system for the general public, patients with respiratory ailments, and environmental associations.

This European project brings together operators, manufacturers and institutions from five countries. France Telecom is the project's initiator in France in collaboration with Airmaraix, an organization monitoring air quality in southeastern France. Experiments conducted since 2000 have enabled the company to demonstrate the benefits of being able to access information on air quality via mobile phone (in SMS and WAP) and by a voice-operated server.



### \* APNEE

*Air pollution network for early-warning and on-line information exchange in Europe.*



## Enabling medical breakthroughs

ICTs are also paving the way for new tele-medicine and distance surgery applications, such as the recent "Lindbergh Operation" on September 19, 2001. For this world-first in tele-surgery, Professor Marescaux and his team from IRCAD (Institute for Research on Cancer of the Digestive system) performed an operation from New York on a patient at a hospital in Strasbourg, France. In less than 45 minutes, the team successfully performed an ablation of the patient's gallbladder. This breakthrough event was made possible by a number of advanced technologies which were

used to link participants on both sides of the Atlantic. Chief among them was the robotized system devised by Computer Motion, the world leader in high-precision robot-assisted surgery, and France Telecom, whose high-speed fiberoptic link achieved a transmission time delay of less than 200 milliseconds between each of the surgeon's hand movements and the display on screen. This groundbreaking success not only cuts across geographical boundaries, but also opens up unprecedented possibilities for surgeons and physicians.



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## Using ICTs to promote environmental sustainability

GeSI, the Global e-Sustainability Initiative, was set up to promote the use of information and communications technologies as an adjunct to sustainable development. The Initiative's activities include assistance for companies, developing appropriate environmental and social indicators, and selecting projects. As a

spin-off to the UN Global Compact [See page 16 of this report for more details], GeSi is an international initiative launched by the United Nations Program for the Environment (UNEP) in June 2001, in association with telecommunications operators and manufacturers. It aims to highlight the contributions of the

telecommunications sector and of operators in support of environmental preservation and sustainable development. France Telecom has been a partner to GeSI since its inception and has played an active role in its work thanks to its role as a member of ETNO.



### *Further reference*

OECD: <http://www.oecd.org>  
WHO: <http://www.who.int>  
UNEP: <http://www.unep.org>  
European Commission: <http://www.europa.eu.int>  
French Environment Ministry: <http://www.environnement.gouv.fr>  
French Health Ministry: <http://www.sante.gouv.fr>  
ANFR: <http://www.anfr.fr>  
Ademe (French energy efficiency agency): <http://www.ademe.fr>  
ETNO: <http://www.etno.be>  
Global Compact: <http://www.unglobalcompact.org>  
GeSI: <http://www.gesi.org>  
CEEP: <http://www.ceep.org>  
CSR France and Europe: <http://www.csrfrance.online.fr>  
GSM Europe: <http://www.gsmeurope.gsmworld.com>  
France Telecom: <http://www.francetelcom.com>  
Orange France: <http://www.orange.fr>  
Equant: <http://www.equant.com>  
Wanadoo: <http://www.wanadoo.com>







**Tell us what you think**

France Telecom welcomes your feedback on its environmental initiatives. If you would like to make a comment, request further information or order additional copies of this report, e-mail us at [action.environnement@francetelecom.com](mailto:action.environnement@francetelecom.com).

# Glossary

**Anechoic room :**

Anechoic rooms are specially constructed as acoustically echoless rooms used in scientific research to ensure a perfectly stable testing environment with perfect levels of sound absorption. They are notably used to test standards for devices emitting radiofrequency waves.

**Aspi Eurozone (Stoxx Limited) :**

A European stock market index developed by the independent social and environmental rating agency, Arese and customized by Stoxx Limited. Aspi Eurozone tracks the financial performance of those companies that lead the Eurozone in terms of corporate sustainability in five major areas: human resources, health, safety and the environment, clients and suppliers, shareholders and civil society.

**Cabling :**

Cabling refers to wire assemblies which are used to transmit telecommunications signals. Plastic covered, twisted-pair copper wire cables are commonly used to connect local loop subscribers to an access network switch while fiberoptic cable is used to interconnect switches.

**Decommissioning :**

separating toxic elements contained in composite materials for treatment prior to recycling or final disposal. Examples include separating mercury contacts from printed circuit boards or decommissioning fluorescent lights in payphone kiosks.

**Dosimetry :**

Science ayant pour but d'évaluer précisément l'exposition d'un être vivant, soit en terme de puissance absorbée (SAR-Specific Absorption Rate), soit en terme de champ électromagnétique incident (champ E, H ou densité de puissance).

**EBN (European Backbone Network) :** France Telecom's seamless, high-speed pan-European network. The backbone network is the central infrastructure which interconnects with the access network.

**ELEN (Electricité Environnement) :**

An employer's representative body established in France in 2000 to assist companies in the Electrical sector in collecting and managing post-life waste from electronic and electrical equipment.

**Electromagnetic wave :**

any frequency at which coherent electromagnetic radiation of energy occurs. Electromagnetic waves are measured by length (in meters) and by frequency (Hertz). The intensity of electromagnetic waves diminishes as a function of distance, frequency and signal power or by obstacles which impede their radiation.

**FTSE4Good :**

FTSE4Good is a stock market index series for socially responsible investment developed by FTSE Group, the jointly owned subsidiary of the London Stock Exchange and the Financial Times. Eligible companies must meet specific criteria relating to environmental sustainability, corporate citizenship, stakeholder relations, and support for human rights.

**GSME :**

As the European section of the worldwide industry grouping for GSM services, GSME is responsible for deploying and developing wireless digital communications using the GSM standard.

**HIW (Hazardous Industrial Waste) :**

Waste containing harmful or dangerous substances which must be: a) treated in compliance with regulations governing the collection, transport, storage and recovery of HIW; and b) isolated from other categories of waste during treatment and storage.

**ICTs :** Information and Communications Technologies.

**ILO :** International Labour Organization

**IP :** Internet Protocol

**ISM (International Safety Management Code) :**

An international safety management and pollution prevention system for maritime companies' onshore and onboard activities.

**ISO 14001 :**

An international standard for the continuous improvement of environmental performance published in 1996. It defines the requirements for environmental management systems which enable companies to measure and control the environmental impact of their activities.

**ITU :**

International Telecommunications Union.





**Lightning arrestors :**

Devices designed to protect apparatus from damage by lightning discharge or other unwanted voltages, notably from power transmission networks.

**LNG :** Liquefied Natural Gas

**LPG :** Liquefied Petroleum Gas

**NHIW (Non-hazardous waste) :**

There is no precise legal definition of non-hazardous waste. The term is generally understood to comprise waste produced by private and public sector organizations that is free from toxic or dangerous substances and which can be eliminated in the same way as household waste.

**OREE :** Companies and local governments in partnership for the environment

**PCB (Polychlorinated biphenyls) :** these essentially consist of pyralenes that were used in certain electric transformers and capacitors.

**PCT :** Polychlorinated terphenyls

**Phone positioner :**

A specially designed flexible object used in the testing of mobile phones. The positioner holds the handset in place against a head phantom and ensures positional accuracy and repeatability of testing. Positioners are connected to a testing bench which measures radio wave exposure (SAR).

**Radio-communication :**

any system of communication using radio waves

**SAR (Specific Absorption Rate) :**

A measure used in research into human exposure to radio waves.

**Switching equipment :**

Telecommunications switches are network devices used for the connection of subscribers which analyze incoming signals and select an outgoing circuit to carry the subscriber's call to its destination. Transport switches are another type of switch which is used to interconnect switches at the network node.

**Telephone exchange :**

A switching center (cf. switching equipment).

**UO :**

*Unité Opérationnelle* – French abbreviation for operating unit.

**URR :**

*Unité Régionale de Réseau* – Regional units specialized in network administration.

**WAP :**

A wireless telephony protocol enabling mobile users to access Internet and multimedia services.

**Waste disposal facilities :**

French legislation on the treatment of industrial waste distinguishes between three types of waste disposal facility: Class I landfill facilities which are used for ultimate storage of hazardous industrial waste (HIW) in sites with impermeable soil; Class II landfill facilities which store household refuse and non-hazardous industrial waste (NHIW) in semi-permeable site; Class III landfill facilities which are used to store inert waste materials and may be sited on permeable soils. As from 2002, class I landfill facilities will be replaced by ultimate waste disposal facilities.

**WEEE :**

Waste from Electronic and Electrical Equipment.



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