

Pirelli & C. S.p.A. Milan

Annual Report 2005
Sustainability Abstract

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- ▶ **Chairman's Letter**

Letter from the Chairman

To the Shareholders,

For the Pirelli & C. Group, 2005 was a very important year from many standpoints. Firstly, in terms of growth: a factor highlighted by the marked improvement in all the main operating indicators.

Secondly, from the point of view of the structural reorganization following the sale (last July) of the Cables Sector. This enabled the Group to concentrate on activities with higher added value – the Tyres Sector, Pirelli Real Estate and the stake held in Telecom Italia through Olimpia – and on its two promising start-ups (Pirelli Broadband Solutions and Pirelli Ambiente) and Pirelli Labs, the fulcrum of the technological excellence of our industrial sectors. Finally, further steps forward were made in terms of internationalization, particularly the creation of a tyre production center in China during the first months of this year, and the expansion of the activities of Pirelli Real Estate into the foreign domain, beginning in Poland.

This being so, the Group can enter the second half of this decade with high growth potential and a completely revised format, the main features of which are a greater emphasis on technological innovation and business models, a strong industrial vocation combined with goal-oriented diversification of its services, presence in sectors where the Group has already consolidated market leadership and in other newer markets with high development potential, and, last but not least, launching its business onto new markets with the highest growth potential. All of which is supported by a level governance recognized on an international scale, based on Pirelli's traditional values: fairness, transparency and honesty.

The results achieved in 2005 confirm the wisdom of the decision to orient our operations towards the business areas and markets with higher margins. Despite the persistently weak European economic situation, last year, the Group reported increases of double figures in terms of sales (+14.6%), operating profit (+32%), net income (+31.3%) and, with regard to the net financial position, a marked reduction in the level of net indebtedness, thanks partly to the positive effects of the sale of the Group's Cables and Systems operations. This transaction generated an improvement in the net financial position of approximately Euros 1.2 billion, of which Euros 490 million refer to the equity value of the transaction and approximately Euros 700 million to deconsolidated net indebtedness. It should also be added that it was a source of great satisfaction to the company that the sale was achieved keeping Cables and Systems Business Unit under the same management, so as to preserve not only the value built up over the years but also the high level of professional skills of people who had always shown great loyalty to the Company.

With regard to the performance of individual Sectors, Pirelli Tyres strengthened its leadership in the high-performance range in all the markets, achieving good results in every segment: Cars, Industrial Vehicles and Motorcycles. Growth in the United States was particularly significant, well above the market average. With profitability of 9% on sales, the Sector achieved the targets of the three-year plan one year early. With reference to the strategy of



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global growth, the most significant event – along with the construction of a new steelcord production plant at Slatina in Romania (a joint project with Continental) and the new plant to manufacture tyres for trucks and buses at Gravatai in Brazil – was the opening of the factory at Yanzhou City, in the Province of Shangdong. By creating this plant, Pirelli Tyres intends to extend its industrial presence to China, a market which is destined to become the most dynamic in the world. Of fundamental importance for the future of the Sector, the Chinese factory is the result of an agreement with the Roadone Tyre Co. (of the Yinhe Group), which holds a 40% stake in the project. The company started production of radial truck tyres with 750 employees and, when fully operational, will have a productive capacity of approximately 1.2 million pieces. The signs from the first few months of this new initiative are extremely encouraging.

The start-up Pirelli Broadband Solutions almost doubled its sales, thanks particularly to products for broadband access (especially ADSL) and sales of second-generation photonics products such as the CWDM (Coarse Wavelength Division Multiplexing) solution for metropolitan networks. This technology is proving to be extremely successful on the market. In fact, various collaboration agreements have been signed to supply telecommunications operators with transport solutions of the latest generation which make it possible to operate a whole telecommunications network remotely, thus increasing efficiency and reducing operating costs.

The results of Pirelli Real Estate also point to a brilliant trend of the economic and financial parameters. In particular, during the three-year period 2003-2005, the operating profit, including profits from shares, reported an average annual growth rate of 22%. In 2005 alone, aggregated sales increased by 29%, whereas the operating profit including profits from shares showed an increase of 40%. Expansion of the franchising network, which now has more than 1,000 affiliates, continued. At the beginning of this year, an important agreement was signed to create a joint venture with Merrill Lynch, which plans to invest Euros 1.5 billion in the Italian tourism and hotel sector by 2010. Another very important initiative was the beginning of the process of expansion into Central and Eastern Europe, with the creation of Pirelli Pekao Real Estate in Poland. The industrial plans for the Sector aim to increase the business acquired outside Italy to approximately 20% of the total by 2008.

Pirelli Ambiente was conceived early in 2005 to strengthen the Group's presence in the sector of the environment and sustainable development. Amongst other achievements, it began to market an innovative antismog filter system – using a technology based on filters of porous silicon carbide – which can reduce small particle emissions from exhaust fumes from diesel engines by approximately 90%. Furthermore, in Great Britain, a license agreement was signed with ReEnergy for the use of CDR-P (the quality fuel produced from municipal solid waste) in one of the European markets most interested in replacing at least some of the fossil fuels used to produce energy.

Behind these innovations of the Group lies the constant work of Pirelli Labs in the field of R&D, to which the Group devotes approximately 4% of the sales from its industrial operations. A vital part of this commitment to technological excellence is the Group's

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collaboration with important universities and research institutes world-wide. Last year Georgia Tech, a prestigious American university research institute specialized in electronics and optical technologies became one of our partners. A five-year agreement was signed to develop new broadband technologies – in particular, a new generation of integrated optical systems based on nanotechnologies and high-capacity home networking solutions – destined mainly for the American telecommunications market.

We should also emphasize the growing contribution of Olimpia to the result from the Group's investments, thanks to the marked improvement in the profitability of Telecom Italia and the increase in the stake held by Pirelli compared to 2004. Telecom Italia is benefiting considerably from its merger with TIM, the resulting synergies and the acceleration in network, services and product innovation.

Our confidence has been boosted by the fact that the Group is now focusing on business areas with higher added value and a high degree of research and innovation, by the development capacity resulting from this, and by the proven professional competence and qualities of our employees. As a result, we can look forward with reasonable optimism and, in particular, to even better results in 2006, unless there are unforeseen changes in the economic and market scenario.

The two measures recently adopted by the Board of Directors will help to further strengthen the economic and net financial position of the Group. The first is the decision to start the process leading to the listing on the Italian Stock Exchange of a minority share of Pirelli Pneumatici S.p.A., with the aim of exploiting the highest value existing within the Company; the second is the decision to sell financial investments worth about Euros 400 million at current value.

Finally, I would like to draw your attention to an important innovation to these financial statements. For the first time, they contain a new section devoted to topics relating to sustainability. Here, and in this particular context, not only the economic but also the social and environmental repercussions of our operations are considered. Such matters are beginning to play an increasingly important role in the assessment of companies by rating agencies and, indeed, public opinion. These pages confirm the Pirelli Group's steadfast conviction to promoting sustainable industrial growth, first documented in the "Environmental Report" which has been published since 2000. The decision to include a section on sustainability within the financial statements is an indication of the high priority of this topic and, at the same time, should encourage us to operate in a way that will satisfy all the stakeholders, based on healthy, lasting growth.

Sustainability Report

1. PIRELLI AND SUSTAINABLE DEVELOPMENT

The Pirelli & C. 2005 Sustainability Report is vitally important for the entire Pirelli community. It seeks to fully embody a corporate culture based on the integration of economic, environmental and social policies. For this reason a description of performance in the area of sustainability is included in the Annual Report, 2005.

The report is drawn up using the *Triple Bottom Line* approach as the basis for drawing together economic, environmental and social issues.

The Pirelli Group incorporates various different business areas, each of which addresses sustainability within the context of its respective areas of activity. This necessarily implies a relatively heterogeneous weave of relations with stakeholders, which translates into a positive variety of ways of listening to and involving all the parties concerned.

This report provides a virtual showcase for many of these experiences. Attention is focused on those deemed of greatest interest to the reader, providing a succinct picture of Pirelli's sense of Corporate Responsibility. The report avoids undue emphasis on the goals that have been achieved, while transparently illustrating critical issues that have emerged.

The publication of this document is crucially important for the Pirelli Group and all its stakeholders and should be seen as a starting point, a sort of initial analysis of sustainability within the Group.

As evidence of its firm intention to communicate with the utmost transparency, this report has drawn upon the *2002 Sustainability Reporting Guidelines* featured in the *Global Reporting Initiative* (GRI). In addressing economic and social issues use has also been made of the "Corporate Reporting Principles", drawn up by the "Study Group for Corporate Reporting" of the Italian Ministry of Employment and Social Policies. Environmental issues are analysed on the basis of the specific protocols set down in the GRI.

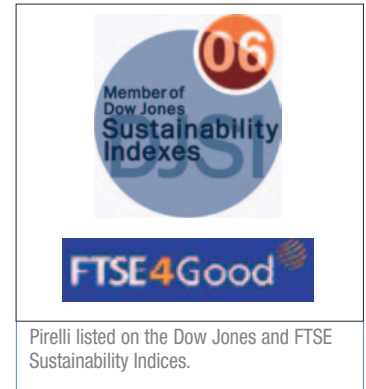
All the figures and information contained in this report refer to the Pirelli Group, as described in the previous sections of this report. More specifically, any significant variations in the limits and scope of the reporting are specified along with any aspects influenced thereby.

The path pursued by Pirelli in its approach to sustainability is illustrated below, followed by a collection of the main documents adopted by the company to enhance its economic, environmental and social assets.

Pirelli's Path towards Sustainable Development

- | | |
|------|---|
| 2005 | <ul style="list-style-type: none"> • Pirelli Group Values and Ethical Code communicated to all employees in local languages • The Pirelli Policy on Health, Safety, the Environment and Social Responsibility translated into all languages spoken in the Group and made available through intranet and internet sites • Group Equal Opportunities Project established • Establishment of an Equal Opportunities Steering Committee and appointment of Equal Opportunities Manager • My Time for Indonesia Project |
| 2004 | <ul style="list-style-type: none"> • A CSR Steering Committee is enforced by the Chairman • New "Policy for Health, Safety, Environment and Social Responsibility" • SA 8000 defined as reference standard for Pirelli Group Corporate Social Responsibility |

- 2000
 - First “Environmental Report”
 - “New website section dedicated to “Environment”
- 1995
 - Launch of “Pirelli Environmental Policy” and “Pirelli Policy for Safety at Work ”
- 1990
 - Pirelli signs the business “Charter for Sustainable Development” of the International Chamber of Commerce, the basis for the joint position taken by industrial delegates at the Rio Conference



Documents on Sustainability

| Document | Area of Sustainability Involved | Main Stakeholders Involved | Availability |
|---|-----------------------------------|---|---|
| Values and Ethical Code of the Pirelli Group | Economy Environment Society | Shareholders Customers - Community Human Resources Environment | Translated into 14 languages and available on Pirelli website |
| Policy on Health, Safety at Work, the Environment and Social Responsibility | Environment Society | Human Resources Community | Translated into 14 languages and available on Pirelli website |
| Shareholder's Handbook | Economy Society | Shareholders | Available on Pirelli website |
| Annual Report on Corporate Governance | Economy Society | Shareholders Community | Available on Pirelli website |
| Environmental Report (2000-2004) | Environment Society | Shareholders Customers - Community Human Resources Environment | Available on Pirelli website |

1.1. The Values and Ethical Code of the Pirelli Group

In order to provide even tighter and more uniform guidelines on professional practices within the company, a document entitled “*The Values and Ethical Code of the Pirelli Group*”, was drawn up and distributed to all group employees. The document was translated into 14 different languages.

1.2. Policy for Health, Safety, the Environment and Social Responsibility

Within an international context in which social, environmental and economic expectations are ever more demanding, the policy adopted by the Pirelli group in June 2004 (published in all the languages used by the group) has further reinforced the equilibrium between sustainability and the group’s industrial development. As well as referring to the principle of sustainable development, the Pirelli Policy for Health, Safety, the Environment and Social Responsibility brings together in a single document the earlier policies relating to the environment (first version published in July 1995 and updated in September 2000) and safety at work (September 1995).

The Pirelli group has always considered the safety, health and wellbeing of its employees and the environment as one of the primary needs that have to be respected in the organization of its activities. Pirelli adheres to the principle of Sustainable Development, committing itself to upholding – among others – the following principles:

- the government of its activities through the adoption of management systems relating to health and safety at work, the environment and social responsibility that conform to the international standards;

- the communication and diffusion of information regarding health and safety at work, the environment and social responsibility to the internal and external “stakeholders”, actively working with the national and international academic and legislative bodies;
- the promotion of the use of the most advanced technologies in order to achieve a degree of excellence with regards to the protection of workers’ health and safety at work and the safeguarding of the environment;
- the evaluation and reduction of the environmental impact of its processes/products through the LCA (Life Cycle Assessment) approach;
- the responsible use of resources with the objective of achieving sustainable development that respects the environment and the rights of future generations;
- the evaluation of the risks of professional injury or disease so as to eliminate or at least reduce them, observing as a minimum standard the existing legislation in the various countries;
- avoidance of the use of or giving support to the use of either child labour or forced labour;
- guaranteeing equal opportunities and freedom of association; promoting the development of each individual;
- establishing and actively maintaining the procedures necessary for the evaluation and selection of contractors and sub-contractors on the basis of their commitment in the field of social and environmental responsibility;
- the involvement of all the group’s organizational levels and employees, ensuring that operational responsibilities and procedures are precisely defined, appropriately communicated and clearly understood.

Pirelli is committed to the continuous improvement of its policies and programmes and to implementing procedures, regulations and directives aimed at ensuring that the values enshrined in this Code are reflected in their actions and in the behaviour of each individual company and all their employees and partners.

1.3. The Management Systems Approach

In applying the first principle of the policy, in 2005 Pirelli continued with an intensive programme of activities in the field of Management Systems, continuing to believe in the validity of these methods of improving the efficacy and efficiency of its processes while achieving further reductions of the impacts on the health of its employees, the conditions of safety at work and the external environment. In 1998, an environmental management system was inaugurated that conformed to the ISO 14001 standard. Subsequently, in 2001, this approach was extended to the management of safety, with the OHSAS 18001 standard being progressively introduced to the group’s operational units.

1.4. The Global Compact

At the international level, it is worth noting that Pirelli is a member of the Global Compact, an international network under the aegis of the United Nations agencies that is intended to promote responsible corporate citizenship in such a way as to permit the business world to contribute to finding solutions to the challenges of globalization.

Through a letter to the Secretary General of the United Nations, the Pirelli group has formalized its commitment to uphold the “ten principles” relating to human rights, labour, the environment and the fight against corruption.

These principles are universally shared in that they derive from the Universal Declaration of Human Rights, the International Labour Organization’s Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development and the United Nations Convention Against Corruption.

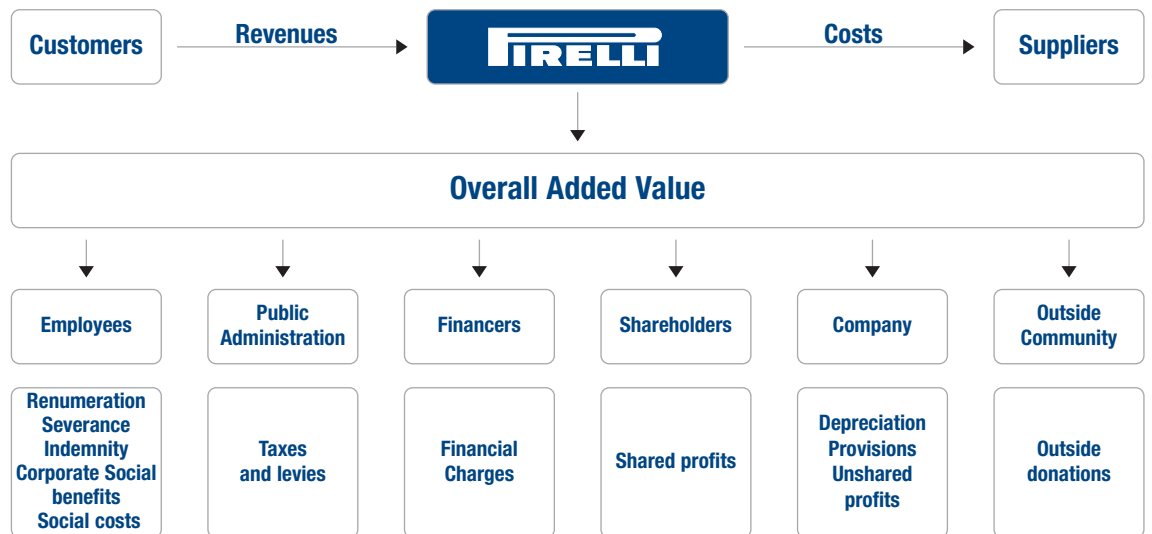
2. ECONOMIC DIMENSION

Group companies are committed to contributing to the economic well-being and growth of the community in which they operate by providing efficient and technologically advanced services. (Article 5 of the Ethical Code – Community).

2.1. Added Value

Added Value means the wealth created over a given period, calculated as the difference between the revenues generated and external costs sustained while doing business.

Sharing out added value between the stakeholders allows relations between Pirelli and its main stakeholders to be expressed in monetary terms, shifting the attention towards the socio-economic system in which the group operates (as outlined in the following diagram).

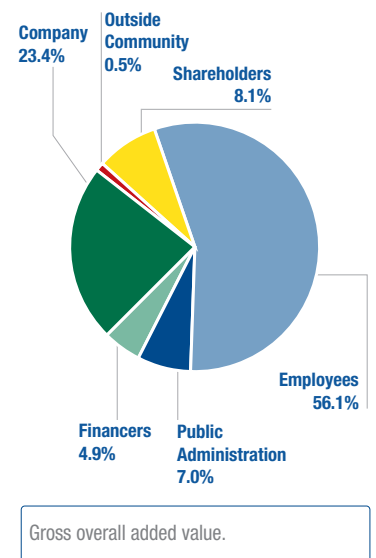


During the 2005 financial year, Pirelli & C. Group created gross added value for a total of 1,836,320 thousand Euros. 77% of the wealth created by the Group was distributed to employees, financers and the public administration sector, while the remaining 23% was allocated to the company itself.

More specifically, personnel received a total of 1,029,880 thousand Euros, tax and levies amounting to 128,484 thousand Euros were paid out to the public administration, and resources totalling 429,361 thousand Euros were allocated to the company itself.

The added value created by Pirelli & Co. Group was shared out as follows:

| Year 2005 | (in thousands of euros) | % |
|-------------------------------------|-------------------------|-------|
| Gross overall added value | 1,836,320 | |
| A Payments to personnel | (1,029,880) | 56.1% |
| B Payments to Public Administration | (128,484) | 7.0% |
| C Payments of credit capital | (90,672) | 4.9% |
| D Payments of venture capital | (149,492) | 8.1% |
| E Payments to the company | (429,361) | 23.4% |
| F Outside donations | (8,431) | 0.5% |



The following table shows Pirelli & C. Group contributions and donations in 2005 broken down into different categories.

| Operating Sector | (in thousands of euros) |
|------------------|-------------------------|
| Education | 799 |
| Culture | 5,533 |
| Sport | 450 |
| Research | 290 |
| Solidarity | 914 |
| Other | 445 |
| TOTAL | 8,431 |

Group companies do not contribute or confer advantages or other benefits upon political parties and trade union organizations or their representatives and candidates, without prejudice to compliance with the relevant prevailing legislation. *(from Article 5 of the Ethical Code – Community).*

2.2. Customers

Group companies pursue market excellence and competitiveness, offering customers a quality of service that effectively meets their requirements (from Article 2 of the Ethical Code – Aims and Values).

Sales broken down into different geographical areas

| Geographical Area | % of total value of sales |
|-------------------------|---------------------------|
| Italy | 32% |
| Rest of Europe | 36% |
| North America | 7% |
| Latin America | 17% |
| Australia, Africa, Asia | 8% |

2.3. Suppliers

The management of relations with suppliers is backed up by special procedures allowing a proper working relationship to be set up.

Supply procedures are centrally controlled by the Sector Purchasing Departments, which check suppliers meet the required standards ensuring omogeneous and coordinated operations and allowing at the same time the system to be as flexible as possible and can adapt to the characteristics of the various type of business the group is engaged in.

In 2006, the general supply terms will include special clauses referring to Corporate Social Responsibility.

Suppliers broken down into different geographical areas

| Economic Area | Geographical Area | % of total value of purchases |
|---------------------|---------------------|-------------------------------|
| OECD countries: | EUROPE | 67% |
| | NORTH AMERICA | 9% |
| | OTHERS ¹ | 2% |
| Non OECD countries: | LATIN AMERICA | 11% |
| | ASIA | 10% |
| | AFRICA | 1% |

Goods and services purchased broken down into different categories

| Category | €/000 |
|---------------|-----------|
| Raw Materials | 1,426,574 |
| Consumables | 135,332 |
| Services | 1,123,559 |

¹ Australia, New Zeland, Japan, Korea.

2.4. Shareholders

Group companies are committed to ensuring equal treatment for all categories of shareholders, avoiding any preferential treatment. The reciprocal benefits that derive from belonging to a group of companies are pursued in accordance with the relevant legislation and the autonomous interests of each Group Company as it seeks to create value. (Article 3 of the Ethical Code - Shareholders).

Over recent years the Pirelli Group has developed one of the most advanced governance systems in the world, making strenuous efforts to appoint independent administrators and minority groups onto its own board. Independents now account for fifty percent of the total (ten out of twenty), and a fifth of them (four) represent minority shareholders. Independents are also co-ordinated by a "Lead Independent Director" responsible for dealing with and co-ordinating all their demands. Specially appointed internal committees ensure all inside operations proceed smoothly.

Ordinary shares are the most common type of equity investment and confer full Shareholder status. Pirelli & C. also issues savings shares, which do not guarantee full voting rights, grant the holder privileges in the distribution of profits. In its Articles of Association, at the Art. 18, Pirelli & C. stipulates that the so called "preferential dividend" to draw must be 7% of the nominal share value (0.52 for Pirelli & C.). Furthermore, any profit remaining after this dividend has been allocated to the savings shares is divided between shares so that savings shares receive a higher dividend than ordinary shares (at least 2% of the nominal share value). Finally, if no profits are distributed by the Company (or if less than 7% of the nominal value is distributed), then holders of savings shares are entitled to collect the basic dividend for that period within two years.

Holders of savings shares have no voting rights or the right to attend general Meetings, whether ordinary or extraordinary. However, they may attend special Meetings of holders of savings shares organised for the purpose of electing (or dismissing) their common representative and discussing any prejudicial resolutions adopted by the Company's general Meetings or other relevant topics of interest.

The common representative for holders of savings shares is vested with the power to represent these Shareholders and has the right to attend Meetings of ordinary Shareholders of the Company, regardless of the nature or agenda of such Meetings, and to contest the resolutions adopted by the Meeting.

The majority shareholders are part of a business syndicate representing 46.68% of the share capital. Approximately 23% is formed by retail shareholders and the remaining 30.32% by institutional investors. At the end of May 2005 there were about 107,000 retail shareholders (about 27% being women). Foreign shareholders accounted for approximately 6% of the total share capital.

It is in Pirelli & C. S.p.A.'s own primary interest to set up and maintain constant interaction with its shareholders and institutional investors. To this end, it set up a department for managing relations with investors back in the early-1990s, which has the job of implementing a specific active reporting and information programme aimed at the financial community: institutional investors and financial analysts. In recent years, these operations have also been extended to small savers due to the considerable percentage of the capital they hold.

Relations with the financial community take the form of live or conference call presentations regularly reporting the company's economic-financial results and development strategies.

Details of the aforementioned work and presentation documents are available from the Pirelli website: www.pirelli.com in the Investor Relations section.

Finally, it is worth noting that both the Holding Company and the affiliate Pirelli & C. Real Estate (a listed company on the telematics shares market of the Italian Stock Exchange) have set up a dedicated means of information specially for retail shareholders: the Shareholder's Manual, drawn up based on experience with best international practice, is a benchmark for listed companies in Italy interested in communicating directly with their shareholders.

As an ideal continuation of the Shareholder's Manual, Pirelli & C. Real Estate regularly publishes a newsletter specially for retail shareholders on its own website, informing retail shareholders about corporate operations, projects and new enterprises, key facts, business trends and results over given periods, and industrial-financial strategies.

3. ENVIRONMENTAL DIMENSION

Group companies believe in sustainable international growth in the common interest of all stakeholders, both current and future. Their investment and business decisions therefore reflect respect for the environment and public health. Without prejudice to compliance with specific prevailing legislation, Group companies are aware of the importance of environmental issues when making choices, not least in the adoption of specific technologies and manufacturing methods (where this is technically feasible and economically viable) that allow for the reduction of the environmental impact of their operations, even beyond the minimum limits set down by regulatory requirements. (Article 7 of the Ethical Code).

In an international context in which social, environmental and economic expectations are increasingly high, the integrated Environment-Health-Safety-Social Responsibility policy adopted by the Pirelli Group ensures the right balance between sustainability and industrial development. By enforcing the principles contained in the policy, the group has achieved notable results in terms of:

- reducing the environmental impact of its own operations
- conserving and enhancing the territory
- making rational use of resources and energy.

3.1. Key Environmental Factors

As previously indicated, the Pirelli Group is characterized by a wide range of production operations, including tyre manufacturing, steel cord manufacturing, Research & Development carried out at Pirelli Labs (both in the field of new materials and opto-electronic components), business sectors involved in recovering energy from waste (Pirelli Ambiente Holding), technology for sustainable development (new fuels, innovative systems for reducing exhaust fumes,...), environmental remediations, up to the real-estate sector (Pirelli & C. Real Estate) and business in the field of photonics aimed at developing cutting-edge innovative solutions for the latest generation of telecom infrastructures (Pirelli Broadband Solutions).

A brief outline of all the aforementioned business areas, highlighting their main impacts on the environment will be showed in the following paragraphs.

3.2. The Environmental Management System

The Pirelli Group's *Environmental Management System* mainly concerns manufacturing operations (since, potentially, they have most impact on the environment), but, in certain cases, it also encompasses design work, research, logistics and services provided by Pirelli. The efforts made at a group level to introduce the Environmental Management System and appropriately maintain it over time have favoured the gradual increase in awareness of,

and expertise with regards to, environmental questions and, in many cases, have improved the group's environmental performance.

At the end of 2005, 19 (out of a total of 24) of the Operating Units in the Tyre Sector were certified to ISO 14001 international standard.

Not only the manufacturing plants, but also the Pirelli Centre for scientifically assessing tyre-vehicle performances located in Vizzola Ticino (in Lombardy-Italy) is ISO 14001 certified. This certification is particularly important because the centre, covering an area of about 26 hectares, is set in Parco Lombardo in Valle del Ticino, forming part of UNESCO's so-called Mab (Man and Biosphere) areas: a group of 425 biosphere reserves spread across 95 countries worldwide.

In 2005 there were no environmental accident at tyre manufacturing plants and no fines associated with environmental issues were imposed.



3.3. Tyres Sector

The main activities in this manufacturing sector cover a wide range of production operations for both tyres (for cars, industrial-commercial vehicles, buses and motor vehicles) and steel cord mainly used for making tyres.

The two main production operations in the Tyre Sector have been analysed separately, both in terms of production output and quantitative data concerning a list of environmental indicators.

3.3.1. Structure of a tyre

A tyre may be seen as a compound or, in other words, a solid assemblage of materials with very different properties, whose manufacture necessarily requires great precision.

To get a clearer insight into the environmental issues associated with this kind of production process, referring to the diagram in the next page, a tyre may be schematically represented as follows:

- **A perfectly airtight layer of synthetic rubber.** This layer is actually inside the tyre and acts like an inner-tube.
- **The carcass.**
This is the tyre's load-bearing structure. It is composed of thin threads of fabric set in a straight arc and glued to the rubber. These threads are a key part of the tyre structure and make it pressure resistant. The ply of a car tyre has about 1400 wires, each of which can withstand a force of 15 kg.
- **Padding in the bottom section,** which serves the purpose of transmitting the engine torque and braking torque from the rim to the area where the tyre touches the ground.
- **Bead wires** are metal rings with lots of parallel rubberised wires, which are wound – from the inside out – around the carcass plies, so that the said plies are firmly set in place and do not unwind under pressure.
- **Sidewalls** are the part of the tyre between the “bead” and shoulder of the “tread”. Sidewalls are usually made of rubber strips highly resistant to repeated bending and oxidation (ageing). They are designed to protect and reinforce the carcass, while absorbing some of the dynamic stress and strain to which the tyre is subjected.
- **Beads** are composed of a set of threaded steel rings obtained from one single thread wound

several times over various layers. They are designed to attach the tyre to the wheel rim, so that stress and strain are transmitted from the vehicle to the road and vice-versa.

- **The Belt** is made of plies which are usually strengthened by very thin but highly resistant steel threads, crossed over diagonally and glued to each other. The criss-crossing of these threads with the carcass threads creates un-deformable triangles.

This triangulation effect ensures they are stiffened and strengthened at the top.

The plies, totally enveloping the whole top of the tyre like a belt, play an important role and must specifically be:

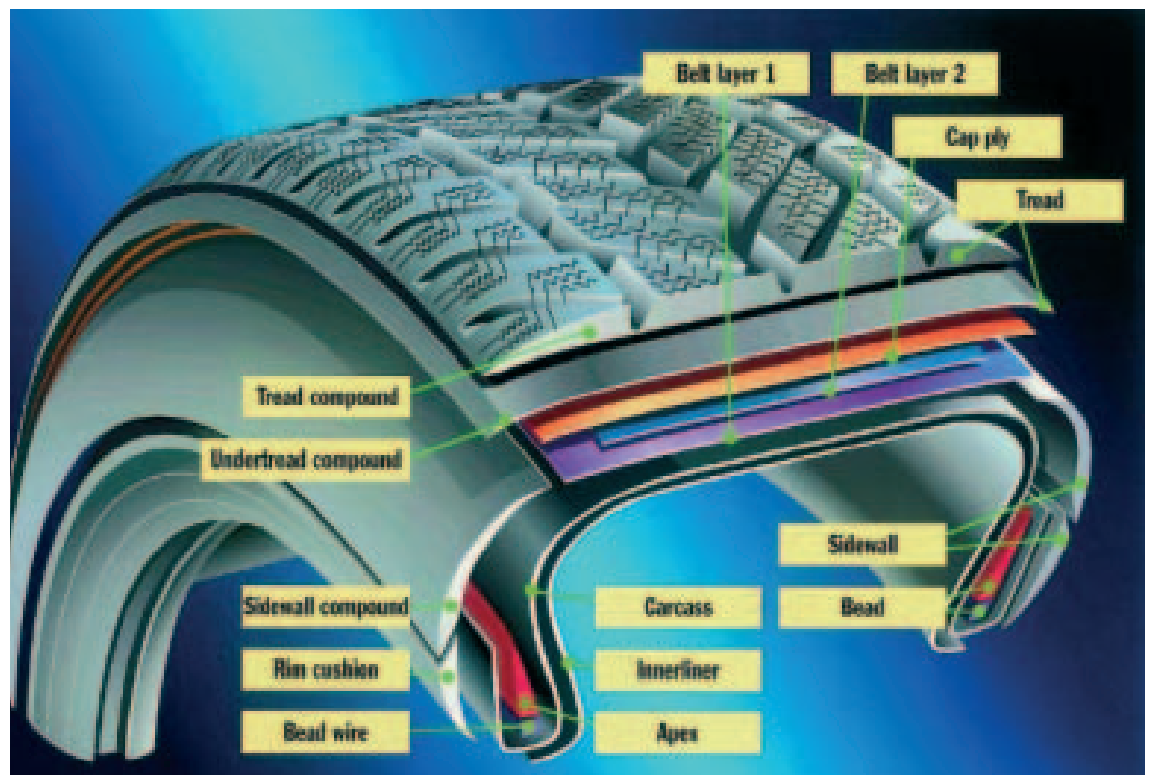
- rigid enough along the circumference of the tyre not to stretch under the effects of centrifugal force, so that the diameter of the tyre may be controlled whatever the operating conditions;
- rigid crossways in order to withstand drift thrust;
- vertically elastic to overcome obstacles.

These plies are obtained by gluing the steel to the rubber. It is vital but extremely difficult to bond these very dissimilar materials together perfectly.

- **Tread.**

Tread is placed over the top ply. This part of the tyre, fitted with suitable grooves, is where it comes into contact with the road. The tread must be able to withstand great forces at the point of contact with the road.

The compound out of which it is made must adhere to all kinds of surfaces, be hardwearing and abrasion resistant, and cope with a slight warming up.



Tyre structure (Source: "Life Cycle Assessment of an average European Car Tyre", PRè Consultants B.V., 2001)

3.3.2. Production

From a production viewpoint, the construction of a tyre may, at least initially, be broken down into two main stages:

- manufacture of the rubber part, tyre compound and sidewalls;
- manufacture of the basic structure, an authentic rubberised “frame” supporting all the components.

The rubbery part of the tyre (tread, sidewalls and plies) is a special mix referred to as a “compound”, mainly composed of rubber (both natural and synthetic), plasticizers (oil by-products) and fillers (mainly carbon black), each in a percentage of approximately 30%, although the exact amount depends on the type of compound required.

The remaining 10%, roughly, is formed of other mineral fillers and assorted binders (e.g. accelerating agents, antidegradants, vulcanising agents,...).

The plasticizers and carbon black are stored in special silos and conveyed into a closed mixer called **banbury**, where the compound is first processed. A computer controls and manages the quantities involved, either coming from the stores or sent through to the banbury.

The rubber (both natural and synthetic) is cut into pieces and inserted by hand, after checking its weight to ensure it is right for the composition required.

The strips of compound are then placed in an open mixer (**calender**) made of two big rollers used to even out the compound in terms of both its composition and thickness: in fact, this special process involves a constant torque coupled with elongation.

Special chemicals are added towards the end of the cycle, such as vulcanising and accelerating agents, required for the later stages.

The batch of compound is then cut into strips and dipped into a **batch-off** tank for final cooling.

At this point the compound is ready to be used for the tread or sidewalls and is next drawn into the shape, or rather cross-section, required for later operations. The plies form the heart of the tyre structure and are made of longitudinal (pattern) and cross (warp) threads, composed of various materials.

The plies are then cut at a certain angle to the longitudinal direction.

The sidewall is another key part of a tyre and actually positioned right by the metal rim known as the heal.

The base of the heal is supported by the bead, which is made of a set of brass-coated steel threads to strengthen the area in contact with the rim.

The next stage in completing the finished tyre is the **building** of the components described above, carried out using special assembly equipment.

The “green” tyre produced is then sent on to the next stage called **vulcanisation**, an authentic solid state chemical reaction.

Before vulcanisation, the green tyres undergo a painting process to prevent the tyre from sticking to either the mould or vulcanisation chamber inside the vulcanizer.

After this stage has been completed and enough time for cooling has been allowed, the vulcanised tyre is first trimmed to get rid of any imperfections affecting the way it looks and then given an initial visual inspection (both inside and outside to check no crude construction mistakes have been made), immediately followed (for truck tyres) by an X-ray check in special shielded areas.

3.3.3. Environmental impact

To carefully assess how manufacturing a tyre is related to the environment, studies must be extended to cover the entire lifecycle of the said tyre. Analysing the environmental impact throughout the entire life cycle (so-called Life Cycle Assessment) is advantageous in that it identifies the stages when the most significant impact is caused, actually quantifying it.

This approach – foreseen by ISO 14040 standards – was adopted in the life cycle assessment of an average European car tyre, jointly carried out by leading European tyre manufacturers².

The most striking result of the aforementioned study is the notable environmental impact associated with the tyre usage stage, which – in the case of a “conventional” tyre – accounts for 86% of the total impact.

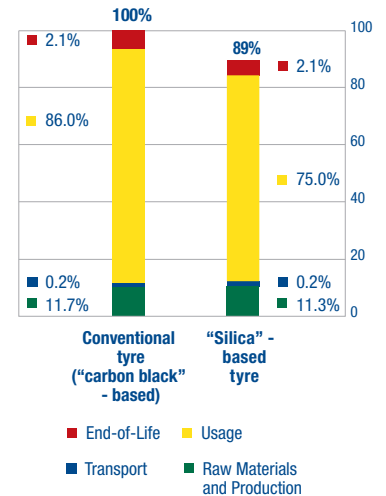
Examining the impact caused during the usage stage in greater detail, it may be seen that approximately 90% of it is due to fuel consumption owing to friction between the tyre and road surface, while the rest is due to the outcome of the friction: the so-called *tyre debris*.

The figure shown here also highlights the contribution from the raw materials supply and production stages (jointly accounting for approximately 12% of total impact), causing, respectively, about 10% and 2% of total impact.

On average, tyres are responsible for approximately 20% of overall vehicle consumption, and this partly explains the high environmental impact caused during usage.

A notable reduction in consumption (equal to 2.6%) is found in tyres containing silica compared to *traditional* models (which are mainly made of carbon black), resulting in an eleven percent reduction in overall environmental impact.

Since a number of years Pirelli has mainly been using silica rather than carbon black in the manufacture of compounds used for the tread, which is the part of the tyre responsible for the impact caused during usage.



Typical composition of a tyre

| Raw Materials | Percentages (in weight) |
|---------------------|-------------------------|
| Natural rubber | 20 ÷ 25 |
| Synthetic rubber | ≈ 25 |
| Carbon black | 20 ÷ 30 |
| Textile material | ≈ 5 |
| Vulcanising agents | 1 ÷ 2 |
| Solvents | = |
| Softening agents | 5 ÷ 10 |
| Other substances | |
| Accelerating agents | ≈ 1 |
| Zinc oxide | 1 ÷ 2 |
| Antidegradants | 1 ÷ 2 |
| Amorphous silica | 1 ÷ 10 |

² “Life Cycle Assessment of an average European Car Tyre”, PRè Consultants B.V. on behalf of BLIC, 2001. This study is significantly representative of the full range of car tyres, excluding so-called “snow” tyres.

In this context, although Pirelli is only directly responsible for the impact of production, the group has actually taken many steps to draw on technologies currently available to reduce any impact caused during those stages in a tyre's life cycle over which it has no direct control.

Activities on Raw Materials

With a view to reducing the impact summarised above, these activities work on two key fronts: on one hand, raw materials are chosen with a view to reducing, as far as possible, the use of hazardous substances for both people and the environment; on the other, action is taken which, from a cost-benefits viewpoint, exploit as few natural resources as possible during production. As regards problems related to raw materials, the following steps were taken in 2005:

- together with other tyre manufacturers, Pirelli took part in a working group on processed oils specially arranged by the BLIC (*“European Association of the Rubber Industry”*). The workshop helped set down the technical specifications of the European Directive 2005/69/EC, concerning restriction on the marketing and use of process oils due to their content of polycyclic aromatic hydrocarbons (PAHs), substances considered a hazard for both people's health and the environment.
- In accordance with the group's own corporate standards, work continued on assessing the eco-toxicological properties of certain new chemicals before incorporating them in manufacturing cycles. In particular, in light of recent European-wide regulations on classifying, labelling and packaging dangerous substances and compounds, the list of substances which cannot be used in manufacturing processes, or for which research programmes are under way to replace them, has been updated.
This has resulted in approximately 50 new raw materials being analysed and assessed in 2005.
- The use of a system for assessing suppliers (so-called *“Vendor Rating”*) based on synthetic quantitative standards for assessing the quality and standard of the services they provide, also including performance ratings on *Health, Safety and the Environment*.

Vendor Rating refers to the fact that suppliers are chosen and compared in terms of performance not only based on price, but also in terms of the “total costs” involved for the company. During the course of 2005, work on developing new corporate Vendor Rating guidelines was completed at sector level to meet real needs more effectively, also in terms of fitting in with other data processing systems already in use in the group.

This meant that, as far as the HSE area was specifically concerned, the opportunity was taken to integrate existing environmental factors with those concerning safety and health, taking into account:

- the use of HSE performance indicators and plans to improve them,
- the publication of an annual HSE report,
- the introduction of a certified management system (e.g. ISO 14001, OHSAS 18001 or their equivalent),
- the implementation of systems to reduce impact connected with packaging and logistics.

On an operating level:

- an initial list was drawn up of all suppliers of raw materials and other chemicals (approximately 110);
- the 27 main suppliers were screened and sent a questionnaire on the aforementioned matters;

| Environment & Safety | | | | | | | | |
|--|-----|----------|-----|------------|------|-----------|-----------|-------|
| | n/v | Very Bad | Bad | On Average | Good | Very Good | Excellent | Value |
| Environment | | | | | | | | |
| Partner companies involvement in the implementation of the Environmental requirements | ● | ● | ● | ● | ● | ● | ● | 95 |
| Plan to improve Environmental aspects | ● | ● | ● | ● | ● | ● | ● | 95 |
| Use of Performance Indicators to monitor Environmental aspects | ● | ● | ● | ● | ● | ● | ● | 95 |
| Compliance with all the necessary Environmental licenses and laws | ● | ● | ● | ● | ● | ● | ● | 95 |
| Editing of a Public Environmental annual report | ● | ● | ● | ● | ● | ● | ● | 50 |
| Achievement of Environmental Management System certificates (ISO 14001, EMAS or equivalent) | ● | ● | ● | ● | ● | ● | ● | 95 |
| Implementation of return systems to reuse and recycle materials | ● | ● | ● | ● | ● | ● | ● | 95 |
| Optimization of packaging and logistics to reduce environmental impact | ● | ● | ● | ● | ● | ● | ● | 95 |
| Safety | | | | | | | | |
| Imposition of Safety requirements to partner companies | ● | ● | ● | ● | ● | ● | ● | 95 |
| Plan to improve Safety aspects | ● | ● | ● | ● | ● | ● | ● | 95 |
| Use of Performance Indicators to monitor Safety aspects | ● | ● | ● | ● | ● | ● | ● | 95 |
| Compliance with all the necessary Safety licenses and laws | ● | ● | ● | ● | ● | ● | ● | 95 |
| Editing of a public Safety annual report | ● | ● | ● | ● | ● | ● | ● | 50 |
| Reliability to supply Material Safety Data Sheet in local language for raw materials supplied to Pirelli | ● | ● | ● | ● | ● | ● | ● | 20 |
| Achievement of Occupational Health and Safety Management System certificates (OHSAS18001 or equivalent) | ● | ● | ● | ● | ● | ● | ● | 95 |
| Example of replies to the questionnaire on HSE Vendor Rating. | | | | | | | | |

- suppliers are assessed – from a HSE viewpoint – based on their replies, as for example shown above;
- the HSE assessment is passed on to the Purchasing Department, which draws up the final Vendor Rating.

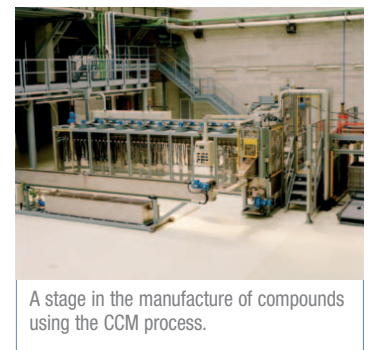
In 2006 these Vendor Rating guidelines will also be extended to incorporate issues related to Social Responsibility.

Activities on production processes

Work continued as usual in 2005, focusing mainly on optimising the manufacture of high-quality compounds (by means of the so-called “CCM” system, which stands for “Continuous Compounds Mixing”) and also boosting tyre production using the MIRS™ system (“Modular Integrated Robotized System”).

CCM Process

Based on two twin-screw extruders working continuously for the preparation of the compounds, the so-called CCM technology integrated in the MIRS™ plant is a computer-controlled pneumatic distribution system allowing ingredients to be transported directly from the storage silos to the extruders.



This kind of manufacturing technology is designed to handle the complexity associated with the total of over 40 components involved, resulting in improvements in the quality of the compound and, hence, the final result.

Moreover, from a hygiene-environmental viewpoint, as well as involving the use of systems for collecting and recycling dust, this system also ensures that dust and dirt levels in the department are kept at an extremely low level.

The *CCM* process also allows a notable reduction in the amount of space taken up, as well as an approximately 20% decrease in energy consumption per unit of product.

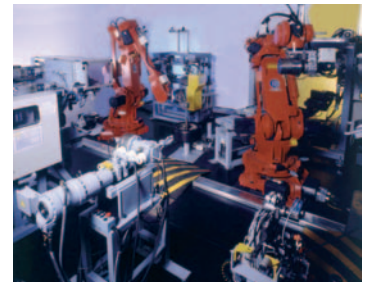
MIRS™

The MIRS™ process is outstanding for its high degree of flexibility, speed of transit time, reduced amount of work in progress, and optimisation of modularity and logistics. Unlike large-scale conventional plants with extremely high production rates (designed to supply car manufacturers in different geographical locations), these much smaller islands, flexible and easily programmed to adapt to the production of new models with a minimum of preparation time, are not just technologically updated, they are also undoubtedly a logistical step forward since they can easily be located close to the manufacturing process being served.

Tyres are constructed around a heated drum custom-designed for a specific model; the drum is constantly rotated by robots under an extrusion device spreading rubber all over the surface. The drum rotations and supply process are co-ordinated so that the material is distributed exactly as required for creating a specific tyre design.

This robotized process allows for improved product quality thanks to the smooth and even geometric distribution of rubber fibres over the tyre.

The island is extremely flexible and when a new model is brought into production, a specific drum is used and the robots are re-programmed; set-up time is reduced to a minimum, since the entire programming process is carried out off-line, while manufacturing continues.



View of a MIRS™ unit.



Part of the manufacturing process using the MIRS™.

Activities on tyre usage

To reduce the environmental impact associated with tyre usage, the Tyres Sector is constantly involved, first and foremost, in the design and development of new compounds and new product lines that, thanks to new materials, innovative internal structures and new tread patterns are capable of reducing rolling resistance without sacrificing the durability of the tyre itself.

As it has already been pointed out the tyre usage phase causes the most significant environmental effects.

The most striking aspect relates to safety: on one hand, a tyre must ensure vehicle controllability in all kinds of situations, but on the other, due to the inevitable friction, it is responsible for part of the vehicle's fuel consumption.

With this in mind, the Sector has focused on optimising rolling resistance or, in other words, the force that the tyre opposes to the advancement of the vehicle. Together with the resistance offered by the vehicle's mechanical organs and its resistance to the penetration of the air, it influences fuel consumption and, consequently, the emissions of exhaust gases per unit of distance travelled.

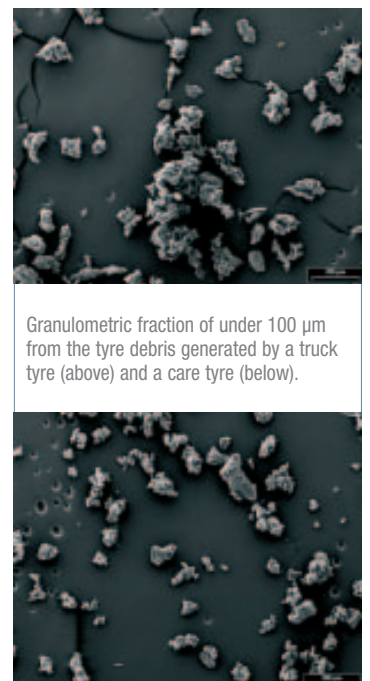
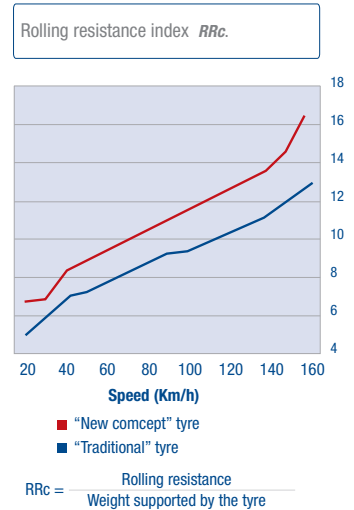
The rolling resistance value is naturally different for different types of tyre and depends on a series of factors such as the formulation of the tread compound, the tyre's inflation pressure, the speed and weight of the vehicle, the road surface characteristics, the ambient temperature, and how the tyre itself is used...

In this context the ELRR (*Extra Low Rolling Resistance*) package has been available for some years and influences every component of the tyre to obtain an improvement in general tyre performance ratings as well as a further reduction in rolling resistance.

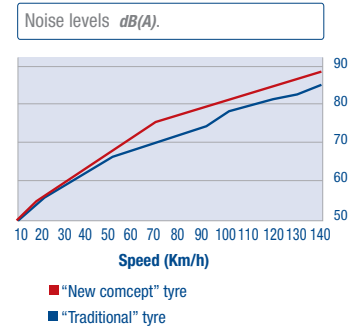
Another part of total impact is due to *tyre debris*, which refers to the particles of tyre rubber worn away as a result of the friction between the tread and the road surface: during its life cycle a tyre shreds a quantity of *tyre debris*, estimated at around 10-14% of its original weight.

Studies are currently being carried out across Europe into the impact of these particles on the environment: Pirelli constantly monitors this topic through a continuous exchange of information and experiences with other tyre manufacturers, through the BLIC mentioned earlier.

One final (but no less important) aspect associated with the use of tyres concerns a tyre's noise emissions, which are studied with the aid of special software and testing procedures, both in the field and through laboratory testing in appropriately equipped facilities (*anechoic chambers*).



Analysis of the graph presented here reveals that there is a significant difference in the noise level – at various speeds – generated by traditional and new generation tyres.



End-Of-Life tyres

Pirelli’s commitment to the disposal of End-of-Life Tyres (ELTs) has been one of the group’s research objectives for a number of years. As we have seen, the the End-of-Life scenario makes only a modest contribution to the overall impact of the entire lifecycle of the tyre and, among the various final disposal options, burial in landfill sites is without doubt the one that is least compatible from an environmental point of view. European Directive 1999/31/EC (which has prohibited the disposal of whole ELTs in landfill sites since 2003 and that of fragmented ELTs since July 2006) means that the quest for alternative means of disposal is an ever more pressing requirement.

End-of-life tyres may be recycled either to recover the materials of which they are composed (“*materials recovery*”) or using them as fuel (“*energy recovery*”), exploiting their high calorific power as a valid alternative to the use of solid fuels, above all in terms of improving atmospheric emissions.

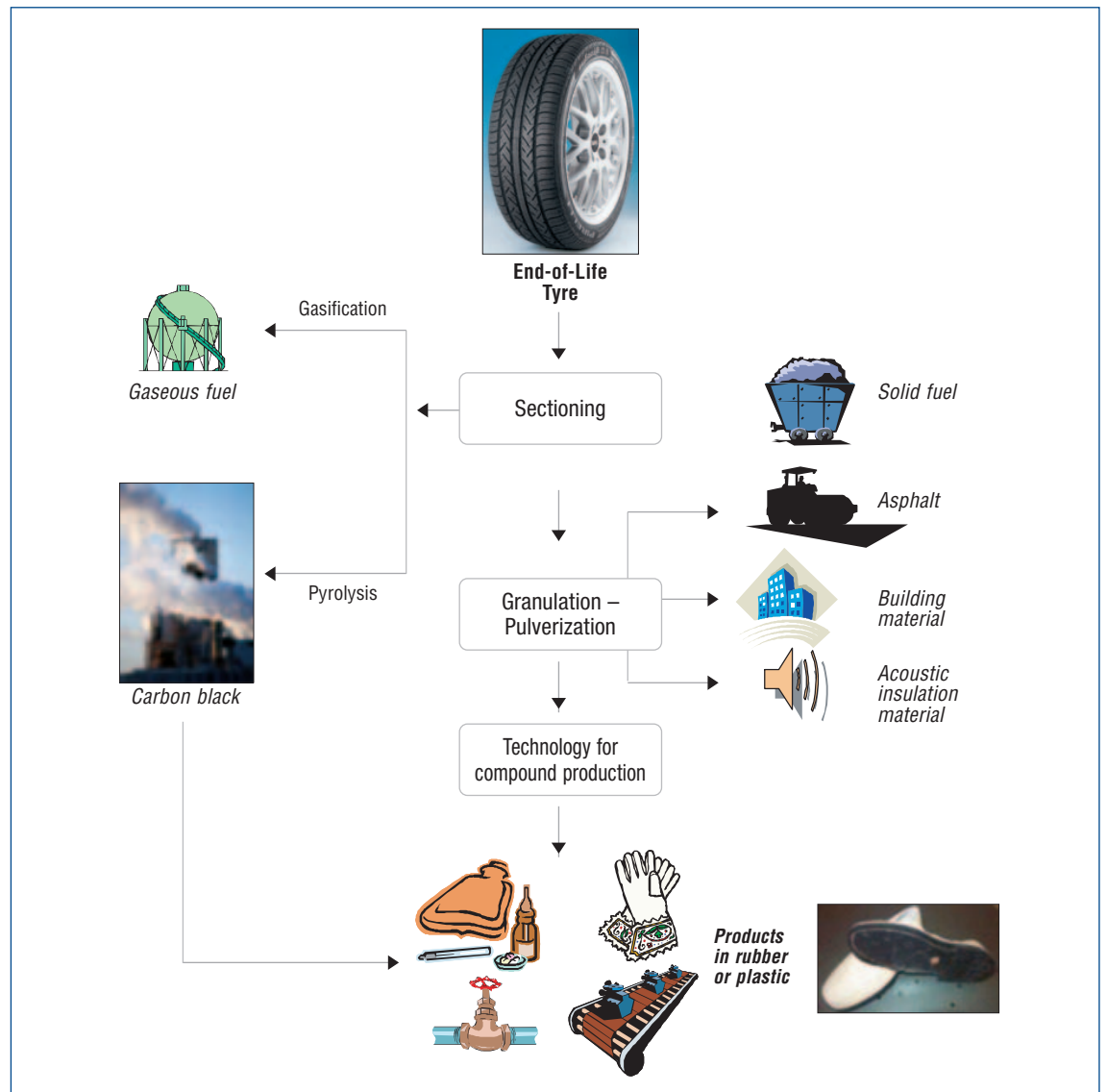
Average characteristics of End-of-life tyres¹

| | Average values |
|---|-----------------|
| Ferrous materials | 15% |
| Ashes | 2% |
| Fuel | 81.5% |
| Sulphur | 1.5% |
| Lowest calorific potential | > 7,400 Kcal/kg |
| Volatile materials (regarding the fuel component) | >70% |

¹ U. Ghezzi, M. Giugliano, M. gross, S. Pollo, G. Zerbo: “Tyres used as fuel within a cement work furnace” (Original title: “L’impiego di pneumatici come combustibile in un forno da cemento”).

Thanks also to collaboration with Pirelli Labs, a number of projects have have developed in the fields of recycling and energy recovery.

Diagram of tyre recycling



The activities in question are focussed on the recovery of materials, for example, through granulation that, once the “textile” and “metal” fractions are separated, provides a rubber granulate that may in turn be ground further to produce a finer powder. In this context can also be included the activities described in paragraph 3.7.1 hereafter.

In addition to the research and development operations described above, Pirelli is part of a specific work team set up at the BLIC to co-ordinate (on a European scale) operations in various European countries, fostering interaction with various national bodies and working through associations and companies set up by Pirelli, together with other leading tyre manufacturers, in order to promote and manage the recovery of ELTs.



Examples of associations and companies operating in Europe, which promote or manage the recovery of ELTs.

3.3.4. Environmental Database

In parallel with the customary analyses and processing of the data compiled by the operational units, in 2005 the database developed along WEB-based lines in the 'Intranet' area became fully operational. This allows the various operational units to insert data directly via computer, thus making the processes of data entry, verification and processing considerably more efficient while also allowing for a more dynamic management of improvement targets.

The evaluation of greenhouse-effect gas emissions is carried out using the following conversion coefficients:

| Energy conversion coefficients | | |
|--------------------------------|-------------|--|
| Type of energy | Source | Factor of Conversion |
| Natural gas | BUWAL 250 | 57.0 kg CO ₂ / GJ 0.06 kg NO _x / GJ |
| Diesel | Idemat 2001 | 2,983.3 kg CO ₂ / t diesel 9.7 kg NO _x / t diesel |
| LPG | Idemat 2001 | 2,703.6 kg CO ₂ / t LPG 13.2 kg NO _x / t LPG |
| Fuel oil | BUWAL 250 | 88.9 kg CO ₂ / GJ 0.23 kg NO _x / GJ |
| Electricity | BUWAL 250 | 119 kg CO ₂ / GJ 0.26 kg NO _x / GJ |

3.3.5. Quantitative data for tyre manufacturing

The following figures refer to 17 tyre production Units. The Yanzhou factory (China) manufacturing tyres for industrial vehicles is not included because it is not yet fully operational, also the Slatina factory for car tyre production (Romania), still under completion, is not included.

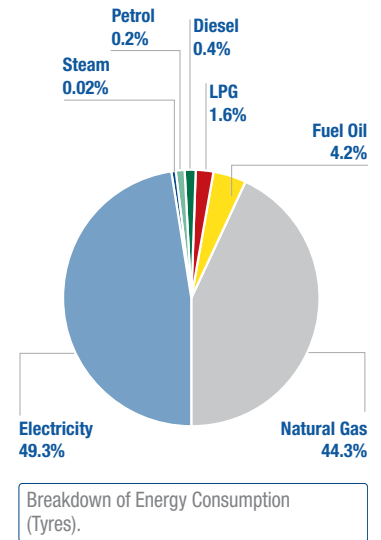
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|--|------------|------------|------------|------------|------------|------------|
| Water consumption (m ³) | 13,233,013 | 12,926,495 | 14,150,666 | 14,021,157 | 13,799,718 | 13,833,401 |
| Specific water consumption (m ³ /tonn _{PF}) | 21.25 | 21.18 | 21.51 | 19.55 | 18.60 | 16.72 |
| Energy consumption (GJ) | 6,992,750 | 7,031,007 | 7,447,103 | 7,855,546 | 6,817,907 | 6,820,991 |
| Specific energy consumption (GJ/tonn _{PF}) | 11.23 | 11.52 | 11.31 | 10.96 | 9.19 | 8.24 |
| Organic solvent consumption (tonn) | 2,899.34 | 2,780.66 | 2,076.32 | 2,233.45 | 2,525.76 | 2,499.00 |
| Specific organic solvent consumption (kg/tonn _{PF}) | 4.66 | 4.56 | 3.15 | 3.11 | 3.40 | 3.02 |
| Dielectric oils containing PCB/PCT (kg) ³ | NA | 32,003 | 27,333 | 27,333 | 21,455 | 17,517 |
| Ozone depleting substances (kg) | NA | 8,280.65 | 8,141.2 | 10,445.3 | 9,730.9 | 8,587.7 |
| Hazardous waste (tonn) ⁴ | 4,543.15 | 4,451.65 | 4,434.57 | 5,107.01 | 6,082.52 | 6,213.71 |
| Specific hazardous waste (kg/tonn _{PF}) | 7.30 | 7.29 | 6.74 | 7.12 | 8.20 | 7.51 |
| Non-hazardous waste (tonn) | 43,854.45 | 48,495.42 | 53,268.70 | 64,744.10 | 70,339.45 | 77,268.19 |
| Specific non-hazardous waste (kg/tonn _{PF}) | 70.42 | 79.45 | 80.91 | 90.29 | 94.80 | 93.39 |
| Recycled waste out of total waste (%) | NA | 22.7 | 39.2 | 60.6 | 71.9 | 68.8 |
| CO ₂ emissions (tonn) | NA | NA | 643,864 | 681,404 | 626,255 | 606,788 |
| Specific CO ₂ emissions (tonn/tonn _{PF}) | NA | NA | 0.98 | 0.95 | 0.84 | 0.73 |
| NO _x emissions (tonn) | NA | NA | 1,236 | 1,314 | 1,250 | 1,139 |
| Specific NO _x emissions (kg/tonn _{PF}) | NA | NA | 1.88 | 1.83 | 1.68 | 1.38 |

As the figures above show, faced with an increase in manufacturing output over 11% (rising from over 740,000 tons in 2004 to over 825,000 tons in 2005), almost all the indicators show significant improvements, due both to more efficient production management and also stemming from the contribution of the MIRSTM tyre production technology described earlier.

³ Quantities of dielectric oils with PCB/PCT concentrations of over 50 ppm.

⁴ In accordance with reports for previous years, the same breakdown – for the entire Group – into hazardous and non-hazardous waste was also used in 2005, as foreseen by the European regulations in force in this sector (notably, Ruling no. 532 by the European Commission dated 3rd May 2000 and later alterations and supplements).

The pie chart above shows that a little over 50% of energy requirements are met by primary energy sources (natural gas, LPG, fuel oil, diesel and petrol), whose use generates, respectively, 34% and 25% of total CO₂ and NO_x emissions.



3.3.6. Environmental targets for tyre production

Sector General Management have set the following environmental improvement targets for industrial tyre production:

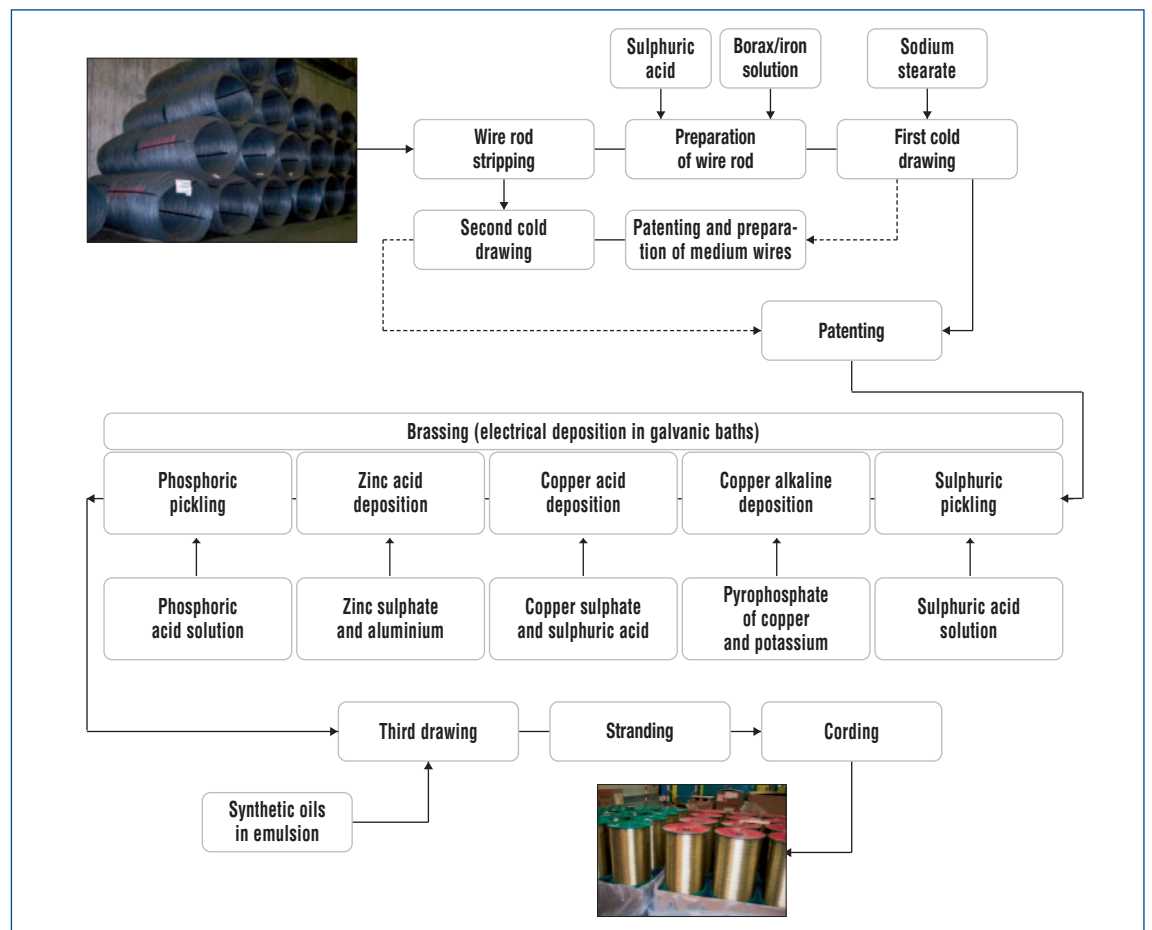
- 2% reduction in specific energy consumption
- 4% reduction in specific water consumption (average for the entire Sector, including the Steel Cord Business Unit).

3.4. Steel Cord Business Unit

Steel cord is a part-finished product used mainly in the production of tyres (particularly in metal fabrics and bead rings).

Within the group steel cord production takes place in 5 operational units in Brazil, Germany, Italy, Turkey and Romania (where a new plant has been built).

Diagram of Steel Cord Production



3.4.1. Technological cycle

As shown above, the end products from the technological cycle are basically of two types:

- Steel cord proper, composed of several drawn and brass-coated strands used for strengthening the structure of tyres;
- a drawn and brass-coated strand used for strengthening high-pressure rubber tubes and pipes.

The raw material used for both products is a wire rod – with a high carbon content – with a diameter of approximately 5.5 mm.

Bearing in mind tiny differences between the various operating units, manufacturing operations on the steel wire rod may be broken down into 8 main stages as follows:

- a) **stripping and preparation**, which involves removing flakes of oxide forming on the surface during the hot-rolling process carried out at steel works.
- b) **first drawing**, during which the previously prepared wire rod is reduced in diameter by cold drawing using special lubricants (mainly sodium stearate).
The products from this stage are divided into *thick wires* (diameter between 2.5-3 µm) and *medium wires* (diameter between 1-1.7 mm).
- c) **patenting for thick wires**, involving the heat treatment required to repair the wire structure and prepare it for further reduction by cold drawing.
The heat treatment usually takes place in a furnace at a temperature of approximately 1000°C, followed by cooling down in molten lead at approximately 550°C.
- d) **second drawing for thick wires**, involving a cold deformation process similar to that described in stage b).
- e) **patenting and brassing**, for both medium wires and those emerging from stage d).
The patenting during this stage is similar to that described in stage c), while the brassing procedure involves depositing a very thin layer (approximately 2 ÷ 4 µm) of brass (with a zinc content of approximately 30%) required to make the rubber compounds adhere to the cords.
Generally speaking, the production sequence is as shown in the diagram above:
 - electrolytic sulphuric pickling,
 - copper deposition in an alkaline bath,
 - copper deposition in an acid bath,
 - zinc deposition in an acid bath,
 - brass alloy obtained through heat diffusion,
 - phosphoric pickling.
- f) **third drawing**, required to obtain wires with the required working diameter (generally around 0.25 mm).
At this stage both the wire and dies are immersed in lubricating baths containing synthetic oils in water emulsion.
- g) **stranding**, involving the stranding together of between 2-10 wires, with the possibility of – in turn – further stranding.
- h) **cording**, during which both single wires and strands of wires are made into more or less intricate cords, whose number and arrangement varies according to their usage (tyres for *cars*, *trucks*, ...).
- i) **testing and packaging**, during which the product undergoes both general and statistical tests.

3.4.2. Quantitative data for steel cord production

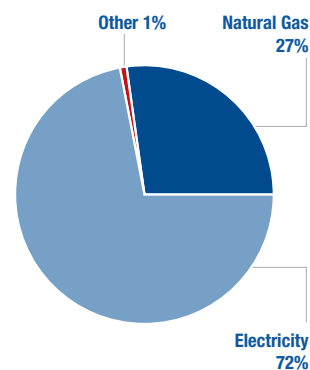
The following data refer to all the operational units in the Steel Cord Business Unit including the new plant in Slatina.

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|--|-----------|-----------|-----------|-----------|-----------|-----------|
| Water consumption (m ³) | 1,419,919 | 1,501,836 | 1,420,825 | 1,438,185 | 1,465,002 | 1,251,351 |
| Specific water consumption (m ³ /tonn _{PF}) | 13.10 | 13.50 | 12.50 | 11.60 | 11.10 | 9.1 |
| Energy Consumption (GJ) | 1,220,579 | 1,305,207 | 1,320,452 | 1,440,218 | 1,441,334 | 1,569,232 |
| Specific energy consumption (GJ/tonn _{PF}) | 11.30 | 11.76 | 11.65 | 11.62 | 10.94 | 11.43 |
| Ozone depleting substances (kg) ⁵ | NA | 83 | 76 | 70 | 120 | 130.0 |
| Hazardous waste (tonn) | 5,756.53 | 5,548.87 | 5,717.78 | 5,701.89 | 7,791.29 | 6,595.80 |
| Specific hazardous waste (kg/tonn _{PF}) | 53.28 | 50.01 | 50.44 | 46.02 | 59.15 | 48.02 |
| Non-hazardous waste (tonn) | 6,621.39 | 7,919.85 | 14,116.36 | 15,601.27 | 15,043.24 | 18,721.50 |
| Specific non-hazardous waste (kg/tonn _{PF}) | 61.28 | 71.37 | 124.54 | 125.91 | 114.20 | 133.03 |
| Recycled waste out of total waste (%) | NA | 23.2 | 54 | 60.6 | 60 | 60.3 |
| CO ₂ emissions (tonn) | NA | NA | 130,216 | 141,022 | 147,261 | 159,773 |
| Specific CO ₂ emissions (tonn/tonn _{PF}) | NA | NA | 1.15 | 1.14 | 1.12 | 1.16 |
| NO _x emissions (tonn) | NA | NA | 267 | 299 | 310 | 315 |
| Specific NO _x emissions (kg/tonn _{PF}) | NA | NA | 2.36 | 2.41 | 2.35 | 2.30 |

Significant improvements were also recorded in many of the indicators for the production of steel cord and similar products, as output of this part-finished product rose from approximately 131,000 tons in 2004 to approximately 137,000 tons in 2005.

Electricity consumption due to mechanical processing (drawing and cording) accounts for almost three-quarters of total consumption.

72 % of CO₂ emissions come from generating the electricity used, as does 92% of total NO_x emissions.



Breakdown of energy consumption (Steel Cord).

3.5. Pirelli Broadband Solutions

Pirelli Broadband Solutions was set up at the end of 2004 and is aimed at researching and developing innovative and advanced solutions for next-generation telecom infrastructures.

Supported by Pirelli Labs' ongoing technological breakthroughs - Pirelli Broadband Solutions bases its activities on integrated competences in the fields of Photonics, Nanotechnologies and Broadband Access Systems, both wired and wireless.

Pirelli Broadband Solutions develop competitive and innovative solutions, providing operators with voice, data and multi-media services through customised products and end-to-end platforms.

The products of Pirelli Broadband Solutions also enhance the growing and widespread use of videoconferencing and video calls, thus reducing the needs of personnel to travel and thereby having positive direct and indirect effects on the environment.

⁵ The increase in 2005 is due to the purchase of equipment containing hydrofluorocarbons (HCFCs), which deplete the ozone layer a lot less than is internationally acknowledged for the categories of bromofluorocarbons (Halons) and chlorofluorocarbons (CFCs). The danger is defined by the so-called ODP factor (*Ozone Depletion Potential*), which sets at one the ODP value of the substance conventionally taken for reference purposes (CFC-11): for HCFCs the value is between 0.014-0.1 (Source: *PRè Consultants B.V. "the Ecoindicator 99 - A Damage Oriented Method For Life Cycle Impact Assessment, The Netherlands, 1999*).

3.6. Pirelli & C. Real Estate

3.6.1. Territorial expansion

The Pirelli & C. Real Estate Group is a dynamic and constantly expanding enterprise, whose range of operations and assets is changing rapidly; variations significantly affecting relations with the stakeholders.

The company is implementing a full-scale reporting system to systematically manage and monitor, on a constant basis, its business dealings with people in the realms of: economics, the environment and society.

| | Total Consumption | Consumption per Employee |
|-------------|-------------------|--------------------------|
| Water | 12539 mc | 20.2 mc/emp |
| Heating | 2208 MWh | 3.6 MWh/emp |
| Electricity | 4036 MWh | 6.5 MWh/emp |

Example of monitoring consumption at the headquarters in Milano Bicocca.

Pirelli RE is one the leading Italian players in major urban development schemes – i.e. projects to redevelop abandoned areas – a field in which it has played a pioneering role, carrying out some of the most important urban transformation projects in Italy and setting new standards internationally.

These development projects are guided by a very definite theory of urban development, revolving around the idea of a “metropolitan” city and treating the modern-day city as a polycentric system. Each pole of the city has its own identity and independence while, at the same time, being perfectly knit into the surrounding territory, thereby moving beyond fragmentation and contrast between centre and suburbs.

In this light, the designing of the cityscape takes on crucial importance, calling for strategic thought about social trends and dynamics: phenomena like globalisation, technological progress, de-industrialisation and multi-culturism have brought about changes rapid and radical enough to call for a re-thinking of the very notion of the city and its functions.

A project must bring together all the potential of its location, incorporating all the studies and discussions carried out with the local community to cater for changes in lifestyle and the quality of living/life. In other words, a project must give meaning to the transformation of the cityscape and lay the foundations for sustainable development – social, economic and environmental – enhancing the territory’s identity and making it more attractive and competitive on the global scene.

The following is an outline of two projects drawing on the best practices internationally available.

3.6.2. “Malaspina Project”

The area in question is situated on Lake Malaspina, just outside Milan; the Pirelli RE project, developed as a joint venture with Aedes and Banca Antonveneta, has been devised with a special eye for well-being and quality of life, so that people can live and work in a lovely environmental setting. Housing and offices overlook Lake Malaspina in one of the biggest areas of greenery in Lombardy, as part of a regional project called “Ten big forests for the plain”, a breath of fresh air and nature extending over a total area of 720,000 square metres.

The project has been carried out with specific emphasis on:

Quality of Life

The Malaspina Project allocates plenty of room for pedestrian spaces, cycle paths and recreation areas. The services provided include sports facilities, retail spaces, eating places, a bank and post office.

Innovative High-Efficiency Systems

The project will supply heating-cooling energy to a residential-services neighbourhood encompassing a total of 400,000 cubic metres by means of co-generation. This technical solution will allow considerable energy savings in the consumption and emission of polluting substances compared to conventional systems.

Moreover, in order to increase the buildings' energy efficiency, a building shell was designed in conjunction with Milan Polytechnic, whose excellent insulation properties allow 35% energy savings compared to conventional designs.

Air Quality: Ecorivestimento

Ecorivestimento was used for the Malaspina Project. This is an eco-active building product, which exploits photo-catalysis to effectively reduce pollution, dirt attacking surfaces, bacteria and mould. This produces a notable reduction in toxic pollutants generated by cars, factories, home heating and other sources, and also gets rid of dirt, mould and bacteria attacking both indoor and outdoor surfaces.



Detail of the Malaspina project.

3.6.3. “International Design Competition – Former Ansaldo Area”

After obtaining approval for a Lotting Scheme for the former Ansaldo works area in Milano Bicocca (10-12-2004), a project to be developed by Pirelli & C. Real Estate in a joint-venture with Morgan Stanley, an international invitational design competition (preliminary and final) was set up for two lots inside the project area.

The criteria for judging the projects were aimed at assessing:

- town-planning quality of the proposed project;
- architectural quality of the proposed project;
- compliance with the client's functional requirements;
- compliance with the environmental sustainability requisites stipulated in the tender.

The methodology for assessing the buildings' sustainability (Green Building Challenge) is the result of Pirelli & C. Real Estate working with:

- iiSBE (International Initiative for a Sustainable Built Environment), an international organisation aimed at publicising policies, methods and tools for promoting the most sustainable built environment possible;
- ITC-CNR (National Research Council's Building Technology Institute), demonstrating the CNR's commitment to experimentation in the building industry. It works in the fields of research, services, training, and projects in conjunction with international technical-scientific networks.

The competition organised the design process along the lines of “Green Building”, offering competitive advantages in terms of low management costs, minimal environmental impact, high-comfort work environments, flexibility of use and optimal long-term performance ratings.

3.7. Pirelli & C. Ambiente Holding

Pirelli Ambiente Holding is the new company set up by the Pirelli Group to reinforce its presence in the environmental field.

Born out of the merger of the activities of Pirelli Ambient and Cam Technologie, Pirelli Ambiente Holding is actively involved in environmental and sustainable development projects.

Pirelli's presence in the environmental sector stems from the awareness that appropriate handling of environmental issues – in terms of the use of resources, the optimization of processes and products and the marketing of products with low environmental impacts – represents a factor of success and is one of the key elements in the sustainable development of the group.

Pirelli Ambiente Holding is active in particular in three business areas:

- the recovery of energy from waste,
- technology for sustainable development,
- environmental reclamation.

3.7.1. Recovery of energy from waste

With regard to the recovery of energy from waste, Pirelli Ambiente Holding has developed and patented – in collaboration with Pirelli Labs – a high quality WDF (Waste-Derived Fuel).

WDF-P Chart

The fuel is obtained by adding to the dry portion of solid urban waste (S.U.W.) a number of components with a high calorific power such as end-of-life tyres (ELTs) and non-chlorinated plastics.

It is mainly used for co-combustion as a partial replacement for conventional fossil fuels in existing energy generation and power stations, such as thermoelectric power stations and cement works.

The product, created using Pirelli Ambiente Tecnologie technology, is of a higher quality than fuels derived solely from urban waste. Its distinctive features are:

- the product's consistency and homogeneity;
- type of raw materials used;
- low humidity and chlorine content;
- high calorific rating;
- definition of the relations of mass;
- physical form of the fuel's components, designed to smoothly feed a combustion chamber.

In addition to its formula enriched with end-of-life tyres(ELTs) and non-chlorinated plastics and the calorific stability this entails, the fuel stands out for its contribution to improving emissions.

It is used to partially replace carbon in percentages varying between 10-25%.

The cost of generating electricity is a quarter of the cost of using biomasses.

All the projects promoted by Pirelli Ambiente Tecnologie based on the use of quality fuel quantify and analyse the environmental benefits involved by means of Life Cycle Assessment (LCA), which evaluates the entire manufacturing process and flows of materials and energy involved in each separate operation supporting the chosen technology.

Since 2001 this project has been an industrial reality through the constitution of I.D.E.A. Granda, a company out of Pirelli Ambiente and A.C.S.R. (the Cuneese Waste Disposal firm serving 54 municipalities) and the construction of the high quality waste-derived fuel plant at Roccavione in the province of Cuneo.

The WDF produced is then burnt together with fossil fuel in the largest Italian cement works, the property of Buzzi Unicem, located in the municipality of Robilante: the use of this mixed-fuel system in the cement works in question allowed a reduction in the atmospheric emission of CO₂ of around 25,000 tonnes in 2005.

As well as permitting a reduction in the amount of waste disposed of in land-fill sites, a problem faced by all industrialized nations, the use of this fuel represents a valid opportunity for energy-hungry industries (in particular cement production and thermoelectric power generation) called upon to increase the use of renewable sources of energy, while allowing them to perform a useful social function.

In 2005 Pirelli signed an agreement with the British company Britannica Re-Energy to produce and market WDF-P in the United Kingdom.

3.7.2. Technology for sustainable development

Low environmental impact fuels

Within the technology for sustainable development sector, Pirelli Ambiente is working successfully thanks to the years of experience accumulated by Cam Tecnologie in the field of low environmental impact fuels and through the new initiatives developed in collaboration with Pirelli Labs and important international research centres. The company's reference product is GECAM™, the so-called "white diesel™". GECAM™ is a low environmental impact fuel patented by the group that permits a reduction in the polluting emissions typical of diesel oil (fine particulates, nitrogen oxides, carbon monoxide). The product is an emulsion of diesel oil and water (10%) usable by diesel-powered vehicles and power stations.

Tests carried out in Italy at the laboratory belonging to the JRC European Community Research Centre and ENI Tecnologie labs have certified that these emulsions are highly effective at reducing the main polluting emissions from diesel oil. Particulates in particular are reduced by approximately 50%.

Gecam Chart

Initially offered to the **public transport sector**; subsequently, GECAM™ has swiftly been adopted by other sectors of the Italian extra-network market and is today also used by vehicles used for waste collection, goods transport, railway transport, earth moving and for heating systems.

Roughly 80 municipalities now use Gecam™ meaning that a total of over 400 million litres have been consumed and over 800 million km covered from 1999 to the present day. (The share in the public transport market is over 20% even reaching 40% in northern regions).

In the heating sector, over 400 heating systems use Gecam™ as a fuel, making a significant contribution to improved air quality in towns and cities.

White diesel™ has also gone beyond the Italian national borders, and is available commercially in France, the Czech Republic and China.

There are now **8 manufacturing facilities** across Italy, 1 in France and 1 in China.

Gecam™ is also available as a diesel fuel with a low sulphur content: Gecam™10 ppm .

Anti-particulate Filters

These systems are fitted on diesel-powered vehicles weighing over 2.5 tons already on the road and consist of three parts:

- Particulate filter: made of porous silicon carbide, material that offers unique characteristics of resistance to heat and thermal shock. Its honeycombed structure filters exhaust gases, reducing emissions and particulate by over 90%. The filter is fitted inside the exhaust silencer and can be combined with an oxidising catalyst to reduce CO to unburnt hydrocarbons.
- Additive: added to ordinary fuel, it allows for the complete combustion of the carbonaceous particulate previously trapped by the filter on reaching a temperature of approximately 250/280°C (filter regeneration process). Typical temperatures of exhaust gases emitted by vehicles on the road vary between 250/400°C.
- Control unit for monitoring the entire system.

Recent tests have shown reductions of over 90% in particulate, 89% in carbon monoxide and 69% in unburnt hydrocarbons.

In 2005 Pirelli Ambiente was awarded the *Premio all'Innovazione Amica dell'Ambiente (Eco-Friendly Innovation Prize)*⁶ by Legambiente and the Lombardy Regional Council.



3.7.3. Environmental remediation

In terms of environmental remediation, Pirelli Ambiente Holding intends to market the experience gained in the field in collaboration with Pirelli Real Estate and the Pirelli group's industrial divisions. The company is capable of providing comprehensive management of the remediation process: the activities proposed comprise all the solutions for the remediation of sites, from the preliminary quantification of the environmental liabilities through to complete redevelopment and valorization of the site with respect to the environment and its resources.

Broadly speaking, operations over recent years may be broken down as follows:

| | |
|--|---|
| Total surface area redeveloped or undergoing redevelopment | Approximately 2 million square metres |
| Buildings demolished | Approximately 2 and a half million cubic metres |
| Material salvaged from demolition work | Approximately half a million cubic metres |
| Earth dug up and processed for remediation | Approximately 1 million cubic metres |

⁶ <http://www.premioinnovazione.legambiente.org/>

3.8. Pirelli Labs

Founded in the May of 2001 with an overall investment of around 135 million Euros, Pirelli Labs represents the group's pole of technological excellence. The research centre, extending for around 13,000m² in the Milano Bicocca area, is active in the fields of photonics, optical fibres and new materials.

With its Optical Innovation and Materials Innovation divisions, Pirelli Labs represents the point of reference for all Pirelli research activities throughout the world and is directly linked to the group's other research centres and important private and university centres in the USA, Russia and Italy.

In 2005 Pirelli Labs continued its work on developing components for fuel cells, which are an optimal way of generating electricity at a time when fossil fuels are coming under increasing pressure and there is a growing demand for clean energy to reduce greenhouse-effect gas emissions.

Development work has mainly focused on the fields of SOFCs (*Solid Oxide Fuel Cells*) and PEMs (*Polymer Electrolyte Membrane*).

As regards SOFCs, the results attained in the field of ceramic materials have been applied as part of a joint-venture arranged with the prestigious Alberta Research Council (ARC) in Canada, which plans to combine fuel cell miniaturisation technology developed by ARC with innovative materials designed at Pirelli Labs.

Unlike marketed products made of fluorinated polymers, PEM-type membranes can work with high concentrations of methanol.

These traits have appealed to various companies operating on the world market for fuel cells, which have been sent samples of the material to be assessed as components in the main applications for portable electronics.

A special membrane has been developed in the field of hydrogen-powered fuel cells and a technical-economic study has been set under way to assess the possibility of scaling up production of this material.

With reference to the recovery of materials from end-of-life tyres (ELTs), work has begun on the industrial development of products obtained by mixing ELT granules with special binders, which turn out to be effective in reducing noise due to footsteps.

These products have been used in construct work on a residential building; sound tests, carried out by an accredited laboratory, in accordance with the ISO 140/7 standard, have produced better sound abatement readings than those recorded for products currently on the market.

In 2005 the joint-venture with Telecom Italia continued research into issues involving the study of innovative materials designed for being used in radio frequency devices applied to telecommunications.



Simulation of a view of the wind generator in the Cummersdale district (420 m from the plant).

In this particular field, it is worth mentioning the so-called *Telemedicine Project*, resulting in the first prototype of a high-resolution telecardiograph. This project, carried out in conjunction with important international partners, provides experts with an innovative means of checking key medical parameters of non-hospitalised patients, without requiring them to change their usual lifestyle.

Medium-term research work is also focusing on *Distributed Sensorial Networks* (DSN). A technological hardware and software platform has been developed for using and managing sensorial devices diffused through innovative customised wireless networks with advanced networking functions.

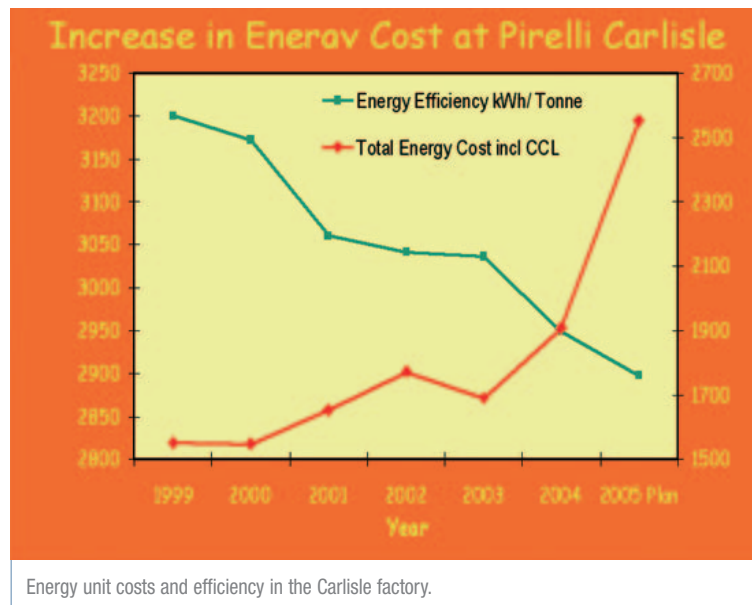
To assess potential applications of these systems, field tests have been carried out in the field of agro-meteorology, and the final touches are currently being made to developing innovative sensorial technology for monitoring air quality and road traffic, which, when suitably incorporated in these networks, will provide the means of creating new systems and services in the sustainable mobility sector in particular.

3.9. Pirelli and renewable energy

Group companies are committed to promoting the use of the most advanced technologies in order to achieve excellence in environmental protection; the company is likewise committed to the responsible use of resources with a view to achieving sustainable growth that respects the environment and the rights of future generations (from Pirelli Policy on Health, Safety, the Environment and Social Responsibility).

For several years now, the Carlisle plant in the north of England close to the Scottish border has been striving to reduce its energy consumption, and its efforts have been rewarded by official recognition by the National Energy Foundation.

Checks Pirelli commissioned independent bodies to carry out have confirmed that there are no further opportunities for improving energy efficiency. On the other hand, the cost of energy has really spiralled in 2004-2005 and is expected to continue to increase in 2006 (see graph).



This is the framework within which the plant has set about designing a wind-energy generator, which will be capable of supplying 23% of the power used in the plant itself.

The plant's main features are summed up in the following table

| | |
|---------------------|----------------------|
| Rated power output | 2.5 – 3.0 MWh |
| Max. rotor diameter | 95 m |
| Max. hub height | 80 m |
| Max. overall height | 120 m |
| Colour | Semi-matt light grey |

The project has undergone careful environmental impact assessment and been approved by local authorities.

The picture at page 122 shows the school near the village of Cummersdale just 420 metres from the wind-generator, one of numerous visual impact simulations already carried out.

4. SOCIAL DIMENSION

4.1. Internal Community

Group companies recognize the central importance of human resources in the belief that the key to the success of any business is the professional contribution of the people that work for it, in a climate of fairness and mutual trust. Group companies shall safeguard health and safety in the workplace and consider respect for workers' rights as fundamental to the business. Working relationships are managed with a view to guaranteeing equal opportunities and promoting the personal development of each employee. (Article 6 of the Ethical Code – Human Resources).

4.1.1. The Figures – Breakdown of Headcount

| Breakdown of employees on 12/31/2005 | Corporate ⁷ | Tyres | Real Estate | PBS | Ambiente | Total |
|--------------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|
| Executives | 105 | 188 | 166 | 11 | 8 | 478 |
| Staff (cadres included) | 1247 | 4700 | 1145 | 104 | 34 | 7230 |
| Blue-collar | 23 | 18785 | 303 | 7 | 1 | 19119 |
| Total | 1375 | 23673 | 1614 | 122 | 43 | 26827 |

| Geographical breakdown of employees on 12/31/2005 | Corporate | Tyres | Real Estate | PBS | Ambiente | Total |
|---|-----------|-------|-------------|-----|----------|-------|
| Europe | 1347 | 12661 | 1614 | 122 | 43 | 15787 |
| North America | 14 | 226 | / | / | / | 240 |
| Latin America | 13 | 9123 | / | / | / | 9136 |
| Asia, Africa and Oceania | 1 | 1663 | / | / | / | 1664 |

| Type of employment contract | | Employment flows on 12/31/2005 ⁹ | |
|-------------------------------|-------|---|------|
| Permanent | 88.4% | New Hirings | 3588 |
| Fixed term | 8.8% | Employee Leavings | 2511 |
| Agency workers | 2.8% | Average length of service (years): | |
| Part-time (% of total of FTE) | 0.7% | - Executives | 11 |
| Stage / Other ⁸ | 615 | - Staff (cadres included) | 10 |
| | | - Blue-collar | 9 |

As regards the turnover dimension, this is a phenomena mainly regarding the Tyre Sector and mainly referred to the blu-collar category. It has two main features: seasonal fluxes or, in other words,

⁷ (Pirelli & C. SpA, SSC, Pirelli Labs, PISEFI, CSAP, SAP, Polo Viaggi, Freign Corporate Companies).

⁸ Not included in total employees.

⁹ Not including people involved in corporate mergers or concessions or company branches.

temporary workers used every year instead of permanent workers during the summer months (approximately 700 people in Germany, UK and Turkey) and the hiring of workers in Brazil as a result of a change in the shift work pattern and of an increase in the production output.

The group does not employ anybody under the age of 14 years; the tyre sector employs 81 young workers aged 16-18 years (42 in Brazil, 14 in Venezuela, 11 in UK and 14 in Germany) and, as an exception, 10 young workers aged between 14-16 years in Brazil, as part of training and induction schemes in line with local laws.

4.1.2. HR Policies¹⁰

In order to control crucial stages in the process of placing and developing human resources, the Pirelli Group applies a wide range of policies on both a group (Corporate initiatives) and Sector/foreign affiliate Company level.

The policies defining and controlling staff Recruiting & Selection procedures are enforced by local affiliates in accordance with the practices and regulations in force.

In Italy the process of recruiting recent graduates is initially controlled and managed externally (search, screening and assessment procedures based on group dynamics and individual interviews by a specialist firm). The second stage is carried out internally based on cognitive and second interviews directly with the line manager in conjunction with HR. Candidates assessed favourably are introduced into the company through vocational training courses.

Salary Review policies apply locally in the various countries, except for procedures involving Executives worldwide, which is co-ordinated centrally along common lines at Corporate level, always complying with the needs of an international Management team.

Performance assessment/improvement policies are closely tied to salary reviews.

100% of Executives and 50% of Cadres take part in the Group's annual incentive scheme (MBO), which sets clear Group/Business and individual economic-financial targets and pays out bonuses varying according to assessment and the extent to which the said targets are achieved.

More or less structured performance assessment schemes exist in all countries.

A structured performance improvement/support scheme is currently being reviewed (with a view to extending it right across the board) for Cadres not included in the Group's incentive scheme and a part of white collars population. This involves joint targets with superiors set at the beginning of the year, objective and transparent assessment of whether they have been hit, and a final feedback meeting to point out strengths and weaknesses in annual performances (MPI = Management Performance Improvement).

For all the rest of the staff (the remaining white collars population and blue collars personnel, there are bonus schemes if they hit their targets (e.g. production bonuses).

The benefits policies are managed and enforced by local affiliates, which also offer a variety of other bonuses (the most common being company cars, grants, seniority bonuses etc.).

It is worth focusing on and highlighting the International Mobility policy, which emphasises the strategic value of an international approach to developing leadership within the Pirelli Group.

Over the last decade, each year an average of over 200 executives, senior management and staff from various countries and backgrounds have exchanged know-how, developed their professional skills, and taken advantage of managerial opportunities to help build a truly international group.

Many aspects of the new global job market have meant that a more flexible approach to the international nature of business needed to be thought out, in order to come up with timely solutions to the needs of the organisation and people working for it.

Our new policy provides flexible replies to needs/demands, which, in the past, were seen as obstacles to international mobility: dual careers (a partner's work/personal needs), family demands, different school systems, fear of permanent changes etc.

¹⁰ HR: Human Resources.

For instance, over the last 5 years the *maximum time working abroad* has been reduced *from 5 to 3 years*, thereby increasing the rotating of people around developmental/strategic posts in the group. At the same time family demands and the issue of dual careers have been catered for by introducing the possibility of *commuting* (popular in Europe, where the Monday-Friday work routine and relative closeness geographically speaking make it is easy to return to one's home country on a weekly basis). Overseas employment and missions are still the most popular policies.

If viewed as a chance to grow, international mobility may, to all extents and purposes, be considered a means of supporting the Equal Opportunities scheme. So far women account for 11% of the total number of workers abroad, but we feel this percentage will increase over coming years, thanks also to greater flexibility.

4.1.3. Training and Development

Training and Development Tools

The Group's main training and development tools are outlined below:

Skills Catalogue: the aim of the Skills Catalogue is to create shared guidelines for setting the organisational traits and skills required of staff working for the Pirelli Group.

The skills in question (grouped into 10 categories to make them easier to identify) were indicated by top management while certifying the Pirelli Values. In order to develop a shared vocabulary, the Skills Catalogue is used throughout the entire process of mapping out these skills and also for identifying and describing vacant posts.

Potential Assessment Manual: this handbook sets the group guidelines for operating-methodological aspects involved in assessing the potential of human resources.

The handbook works around three basic aspects: defining and actually carrying out staff assessment, the methodology of staff assessment and, lastly, a monitoring guide.

In addition to this document, there are performance assessment methods, so that performance may be assessed to both encourage and enhance the group's resources.

Global Grade System¹¹: this handbook provides guidelines for using the Global Grade System and how it is related to the Standard Positions. Each Standard Position may be broken down into: technical-professional skills, competencies/attitudes, background and organisational structure. Finally, it provides support in designating specific roles, recruiting, job posting, organisation charts, pay schemes, development schemes, and target-setting for the incentive scheme.

Talent Attraction Projects

The group organises the following projects as part of its Talent Attraction scheme:

- **Employer Branding** operations; selection of reference universities/faculties; management of brand and Pirelli presence through contacts, official presentations and dedicated testimonials given at leading universities by Line Managers working in various functions/businesses.
- **Career Days:** this international job meeting network is a cycle of events visiting some of the most important university cities each year and allowing direct contact with graduates, undergraduates and young professionals.

Taking part in these events is an important employer-branding tool for Pirelli.

¹¹ Pirelli's grading system for corporate roles/posts.

- **Career Books:** this is a career service providing job guidance, post-university training, recruitment and communication opportunities for undergraduates, recent graduates and young professionals. The guides, divided into three sections: career guidance for graduates, corporate profile (containing a description of the company, recruitment procedures, career prospects, and a short section devoted to HR addresses and how to send in a CV) and training, are handed out at university placement offices, careers offices, training facilities, graduate associations and book shops.

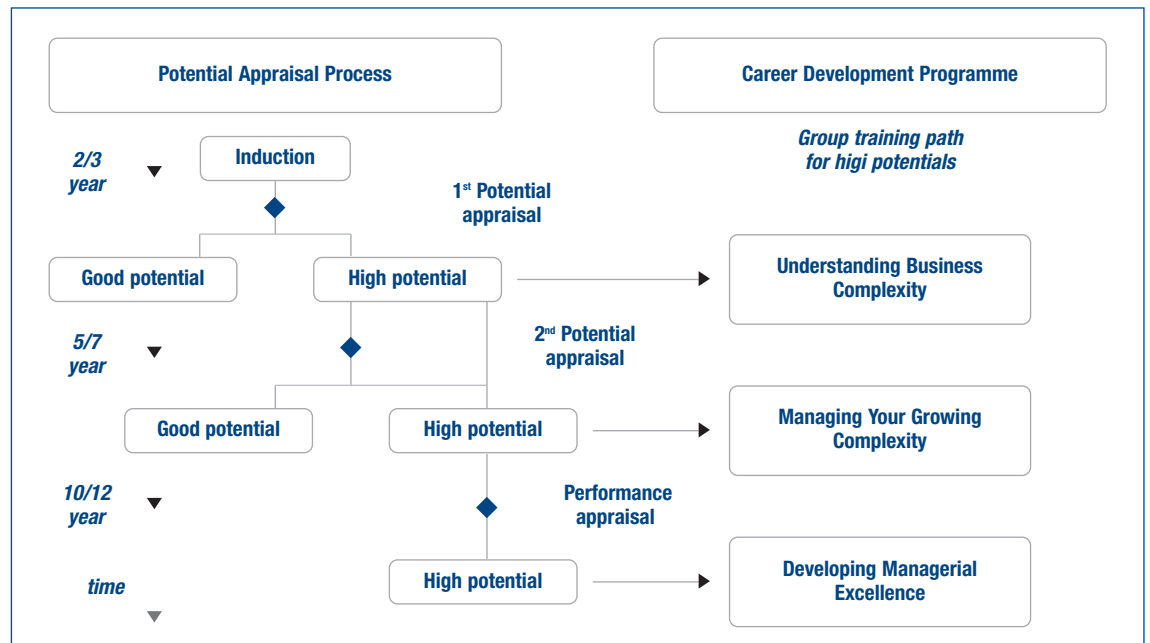
As part of this project, Pirelli Real Estate has set up a placement and job rotation scheme for twelve recent graduates (in Economics, Architecture and Engineering) called the **Campus Project**. The project involves rotation through 3 business areas or functions over a year, with a view to developing a 360° view of the real-estate sector. The on-the job training project is combined with classroom coaching aimed at developing and transferring both technical and managerial skills.

Talent Retention Projects

The Group's Talent Retention projects are as follows:

- **Career Development Programmes:** help develop the potential of High Potentials during various stages in their careers. They are organised, run and co-ordinated on a group level in conjunction with leading European Business Schools, ensuring candidates have solid skills and expertise and bringing their full potential to the fore.

The following diagram breaks down the entire process, outlining the course structure and programmes:



There now follows a brief outline of the areas covered in the 3 1-week seminars that make up the programme.

- 1) **Understanding Business Complexity:** providing a proper overview of the business, so as to be able to move in various directions; comparing personal experiences with those of colleagues from other group businesses, functions and cultural backgrounds; gaining a greater

awareness of professional aptitudes and values; assessing how the skills of those taking part match up to the high-potential profile and Pirelli Values; creating your own future development. In the case of Real Estate, the company is setting up a Development Center for this purpose.

- 2) ***Managing Your Growing Complexity***: developing support skills to cope with the increasing complexity of managerial roles; understanding the factors involved in decision-making; providing those taking part with feedback on their motivation, skills, and areas in which they can improve; providing support for working out a carefully structured development plan.
- 3) ***Developing Managerial Excellence***: understanding how the various operating areas are connected and what impact they have on managing business projects; developing complex managerial skills (analysing tricky contexts, problem-solving, multi-cultural teams, stress management).

Alongside the nurturing and development of potential high-flyers, other Talent Retention tools as part of the Training and Development scheme include *Developing Competencies by Professional Area* and *Developing Professional and Managerial Competencies*.

- *Developing Competencies by Professional Area*: this includes training schemes designed to improve, reinforce and spread know-how in specific business realms (e.g. Administration and Control; Sales and Marketing; Manufacturing and Quality; Personnel; R&D), focusing programmes on “hard” and “soft” business skills required for achieving professional excellence. Special attention is focused on Talents in various functions.
- *Developing Professional and Managerial Competencies*: this includes training schemes designed to improve, reinforce and spread the Pirelli Group’s professional and managerial skills, deemed necessary for covering positions of increasing complexity (e.g. integration schemes for entry positions; schemes for moving up from junior to senior positions; schemes for recently appointed managers). Here again, special attention is focused on group Talents.

Training & Development Projects

The following are an outline of the main Training & Development Projects:

- ***Executive Best Practices (designed for senior management in the Tyre Operations sector)***; project aims: to create shared goals, vision and interaction making it easier to implement effective changes, build “*teams of leaders and leaders of teams*”, and spread a managerial culture throughout the organisation; to provide the means and opportunities for personal development, bring support systems and management into line, so as to encourage and reinforce the ongoing development of management in the Tyre Business Operations area.
The project is broken down into the following units:
Managing People, Managing Relations, Managing Innovation and Managing the Unexpected.
- ***Intercultural Management in China***; project aims: to develop greater expertise in recognising differences in the “cultural frameworks” that stem from the meeting of European and Chinese cultures, to further the understanding of the value orientations of Chinese culture, and to gain in-depth knowledge and information about the macro-economic context in China, how it has evolved over the last 30 years and the current state of economic development, in order to learn how to interact effectively with the Chinese business community.
- ***On-line CSR; Training***; a means of raising the awareness of all employees on this issue using the Group’s Intranet.
- ***Start-up of Tyres Romania***; as part of start-up operations for the new tyre factory in Romania, following a number of predominantly “on-the-job” training procedures: approximately 170 workers have received theoretical and on-the-job training at group plants in Italy, Turkey and Germany.

White-collar staff, on the other hand, underwent lengthy training (around 3-4 months) according to their jobs. Issues examined included: group values and its Ethical Code, multi-cultural differences.

Pirelli Real Estate has also carried out the following projects: *Da agente a consulente immobiliare (From real estate agent to consultant)*, *Le operazioni di M&A (M&A operations)*, *Una squadra per l'inquilino (A team for the tenant)* and the outdoor projects: *L'azienda va in scena (The company goes on stage)* and *Creare valore attraverso l'HR (Creating value through HR)*.

These are training schemes aimed at meeting specific needs that have emerged in certain professional families. Their implementation has made it possible to work on the dual levels of technical and managerial skills, at the same time fostering integration.

In 2005 Pirelli RE in conjunction with SDA Bocconi was at the centre of a corporate case study revolving around the peculiar nature of its organisational structure and how it has evolved; this case has been drawn up for educational purposes and used on the Master's course in Real Estate set up in 2005 based on an arrangement between two of the most famous business schools in Milan: SDA Bocconi and MIP Politecnico.

Figures for Training & Development in 2005

| Training & Development 2005 (average no. of days per person) | EuropE | U.S.A. | Latin America | Others | Total |
|---|------------|------------|---------------|------------|------------|
| Executives | 1.6 | 0 | 17.4 | 0 | 2.7 |
| Staff (cadres included) | 2.2 | 0.3 | 7.8 | 3.7 | 3.1 |
| Blue-Collar | 3.0 | 0.1 | 2.7 | 0.7 | 2.7 |
| Total | 2.7 | 0.2 | 3.4 | 1.3 | 2.8 |

4.1.4. Equal Opportunities Project

The "Equal Opportunities Project" was set up in 2005 in line with Group principles and Pirelli's commitment to Corporate Social Responsibility, in order to guarantee equal opportunities for professional development in all company functions and environments, helping the company as a whole to manage the issue of "Diversities" in an advanced and effective way as it strives to achieve its business goals.

The importance Pirelli attaches to Diversities within its organisation, as a source of creativity and innovation, is explicitly referred to in the "Group Equal Opportunities Statement", which Top management will be promoting in 2006, together with the project contents, and will be publicised through an extensive communications campaign aimed at all personnel.

In order to ensure that the principles of fair treatment set down in the Statement are properly safeguarded, Pirelli also intends to bring into effect an **Internal Complaints Procedure** at all its Affiliates, in line with local regulations and practices.

To lend further substance to the project, **positive actions** will also be implemented in the management of Human Resources, mainly aimed at promoting/increasing the number of women working in the most poorly represented areas and in top managerial positions and raising awareness across the organisation as to the valorisation of differences.

The subdivision of headcount by gender shows that 17% of managers, 36% of white collars and 2% of blue collars are women. As regards blue collars, the figure is low due to objective problems in recruiting female staff in factories. This reflects the nature of factory work, with non-stop production cycles and night shifts.

One of the aspects of **equality of treatment** that the company seeks to ensure and monitor group-wide is that of **remuneration**.

Analysis of the figures shows that on the whole men and women receive **equal remuneration** within Pirelli; more specifically, as regards Executives, the difference is on average 7% in favour of women; in the case of Cadres the difference is again 7% but this time in favour of men, and the male/female gap among white collar personnel is around 12%, once more in favour of men.

A **Group Equal Opportunities Manager** has been appointed to **pursue greater organisational balance**, to **lead the operational implementation of Equal Opportunities** throughout the Group Affiliates, and to **monitor the evolution of Equal Opportunities** in the Affiliates. The aforementioned manager will have the backing of a **Steering Committee**, which will be responsible for the **guidance and supervision** of these company plans.

Trailbazer Award

Pirelli, which has been a leading player on the world motorsports scene for over a century now, believes that sporting competition is a value worth defending and promoting at race tracks worldwide. This also means the company is committed to concretely combating any form of discrimination preventing fair and open competition between drivers and teams of every race, sex and nationality.

As proof of this commitment, Pirelli has set up Team X in the USA, a new racing team which not only seeks to compete in and win races, but also aims to encourage black drivers and teams to get involved in motor racing. The first Team X members are two famous Afro-American stars, whose fame has significantly boosted publicity for the anti-discrimination campaign launched by the AFDIM (Association for Diversity in Motorsports): Tony Brakohiapa, a veteran driver and instructor with years of experience accumulated on a thousand tracks, and Tyson Beckford, a popular TV and film actor, as well as fashion model (who, amongst other things, starred with the beautiful Naomi Campbell in a famous advertising campaign for Pzero fashionwear). Together, driving two super fast, Saleen S281 Supercharged Mustangs fitted with Pirelli tyres, Tony and Tyson have already been involved in some breathtaking duels on some of America's most glorious race tracks in the Formula Drift Series Championship, showing they are by no means intimidated by their fellow competitors... of whatever race or sex.

For this truly innovative project, combining motor racing with a socio-cultural commitment against racial discrimination, the AFDIM awarded Pirelli the "Trailblazer Award" for "pioneers in innovation", who open up new paths of social commitment and solidarity worldwide. This prestigious award was awarded to Pirelli Tires North America in October, 2005, during a well-attended sports ceremony held at Loews Motor Speedway.

4.1.5. Employee Relations

Group Opinion Survey – November 2005

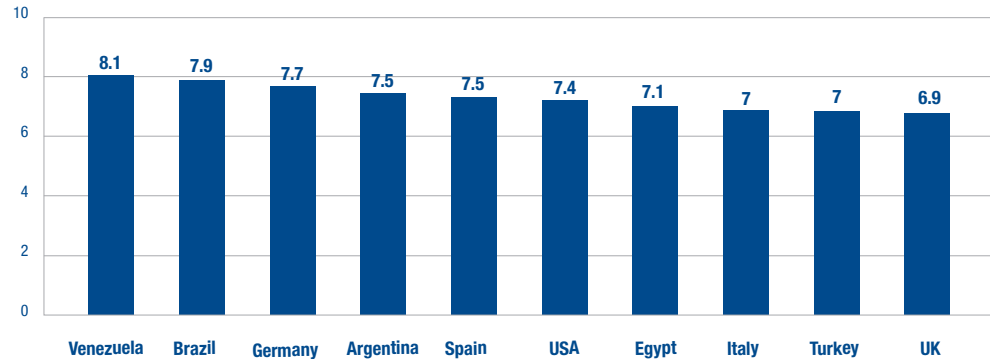
For the first time, in November 2005, Pirelli launched a survey to assess the quality of the workplace in all the Group's units.

The survey has two phases: one just completed, which involved Executives, Cadres and White collar workers, and a second phase which will involve blue collars from all over the world.

69% of the employees involved agreed to fill in the questionnaire. The high number of people taking part is a sign of people's involvement and of their desire to contribute to Pirelli's continuous improvement as a company.

An analysis of the results carried out by a multi-national consultancy firm specialising in this kind of survey, showed average **overall satisfaction ratings** of 7.4 (on an assessment scale of 1-10).

The following graph shows the average figures, in decreasing order, from the surveys carried out at the main Tyres Sector Affiliates (industrial Affiliates).



The main **strengths** emerging across the group are: the opportunity to express personal opinions and to be listened to, personal motivation (stemming from: a genuine passion for the contents of individual roles, a sense of belonging to the company, the power of attraction of the Pirelli brand), and the openness and transparency of relations between colleagues.

In contrast, **areas for improvement** are: the effectiveness of the internal communications process; development, training and career opportunities, attention to the work-life balance and to equal opportunities for men and women.

For HR Department at both Group and foreign Affiliate levels, the identification of the improvements opportunities emerged through the is the starting point for planning targeted actions in human resources management.

A summary of the results of the survey was published on the company Intranet during the first few months of 2006, so that all those who took part could see them. There were also opportunities for feedback and dedicated informative meetings.

4.1.6. Internal Communication

Knowledge Management Methods

The Pirelli Group is committed to the diffusion of knowledge within the company and to the subsequent generation of wealth starting from its own intellectual resources.

Pirelli draws on its wealth of knowledge to create increasingly efficient and effective processes, thereby helping to cut costs and to save time, in order to create value for customers and the people working at Pirelli.

Over the past twenty years, technology has certainly helped the diffusion of knowledge throughout the firm, particularly bearing in mind that Pirelli is an international company, but this has certainly not wholly supplanted means of sharing knowledge based on direct interaction between people in a physical rather than a virtual environment.

Pirelli's Knowledge Management activities may be divided into two macro-categories: on-line and off-line activities.

Many of these on-line activities are incorporated into the company intranet, the main means of diffusing information, tools and projects in real time in the countries where Pirelli operates. The intranet is the most common means of knowledge management used by Pirelli employees worldwide.

The following may be classed as on-line Knowledge Management activities:

- Forums: devoted to specific functional and business issues
- Learning community: sites dedicated to contents knowledge, broken down by business area
- “Knowledge at work” platforms: for exchanging information about the state of advancement of projects
- Electronic tableau de board: used within departments to share and assign activities
- Electronic notice boards: used as a means of diffusing company messages to all employees at company meeting points such as main entrances
- E-learning: contents for learning via computer
- Internal communication campaigns and social promotions through mailing lists and interactive boxes on the intranet
- Video conferences: remote meetings using video
- Manuals: available on the Intranet and providing information on technical matters

Off-line Knowledge Management activities promoted by Pirelli include:

- Role of Chief Knowledge Officer: the company person to be consulted for technical information about products and research
- Road shows: large-scale meetings for the diffusion of company strategies at every organisational level
- Workshops: intra and inter-functional meetings to improve work methods and processes
- Area meetings: at which people from the same department compare results and discuss future strategies
- Institutional and tailored training: major training projects covering a wide range of business and managerial issues
- Improvement Teams: in industrial areas for the improvement of processes

Pirelli’s Knowledge Management methods are constantly developing in support of the quest for a better balance between employee satisfaction and the excellence of the services it provides for its customers.

The use of company notice boards for communicating with factory workers is particularly important. Special courses are also organised for those workers who are not able to take part in on-line training (as with the implementation of the Ethical Code and as will be the case in 2006 for CSR Training).

4.1.7. Communication Channels:

Pirelli Corporate Press

As part of the Corporate function’s promotion of internal communications, corporate press media play a leading role. This is reflected in the large number (currently no fewer than 16 publications) and quality of the magazines published by group companies, and aimed at personnel, stakeholders and authoritative external institutions and opinion-makers. Such widespread distribution shows that the so-called corporate business press does not only inform and interact exclusively within the company, but also reaches out to a ‘community’ of business partners, suppliers, customers and, more generally speaking, all those associated with the group and the local communities in which Pirelli works in various countries.



The 16 full-colour magazines that the group publishes in Italy and around the world (details summarised below) are an extremely important and meaningful asset for Pirelli: for the information they provide, the way they bolster the corporate identity, and the visibility they promote.

| Country | Title | Language | Readership | Published | Circulation |
|-------------------------|-------------------------------|-----------------------|-----------------------------------|--------------------|-----------------------|
| Italy | Fatti e Notizie | Italian | Staff | Two-monthly | 13,500 |
| | Pirelli Flash | Italian | Staff and Outsiders | Monthly | 6,600 |
| | Pirelli World | English ¹² | Pirelli Management Worldwide | Quarterly | 13,500 |
| Germany | Pirelli News | Germany | Staff | Monthly | 2,000 |
| Great Britain | Pirelli News | English | Dealers and Customers | Six-monthly | 5,000 |
| | Inside Pirelli | English | Staff | Four-monthly | 1,300 |
| Spain | Pirelli In | Spanish (Castilian) | Staff | Weekly | Electronic Newsletter |
| | Pirelli Flash | Catalan | Staff | Quarterly | 1,000 |
| Turkey | Pirelli Radial | Turkish | Staff and Outsiders | Two-monthly | 7,500 |
| United State of America | Pirelli Newsletter | English | Dealers and Consumers | Quarterly | 7,000 ¹³ |
| Argentina | Pirelliando | Spanish | Staff and Outsiders | Two-monthly | 1,000 |
| | Mejorando | Spanish | Staff | Two-monthly | 1,000 |
| | mkt ³ | Spanish | Staff, Dealers and National Press | Six-monthly | 5,000 |
| Brazil | Pirelli Flash | Portuguese | Staff ¹⁴ | Monthly | 11,150 |
| | Pirelli Flash special edition | Portuguese | Staff | For special events | 7,000 |
| | PQT Ativo | Portuguese | Staff | Monthly | 4,000 |
| Venezuela | Mundo Pirelli | Spanish | Staff and Outsiders | Two-monthly | Internet Site |

As we have seen, there is a rich and varied variety of publications: a family of magazines related in terms of their aims and contents, in which each journal has its own distinctive traits according to the country in which it is created and published. Pirelli's Corporate Human Resources and Media Relations Departments, based in Milan, co-ordinate the magazines and check that their contents comply with the group's communications policies and ethical values. The three Italian magazines (all registered journals since they are of public interest and do not predominantly consist of advertising) are edited by a pool of editors and run by a professional journalist.

Apart from differences in terms of language, layout, frequency and circulation, all the publications examined for the purposes of this Sustainability Report are mainly of an informative nature (as reflected by their contents) and serve a dual purpose: to convey information as consistent, accurate and far-reaching as possible and also to help the Pirelli Group to exchange and share facts and values with business partners, stakeholders and the local communities in which they work.

4.1.8. Company Projects for its Employees

The company's projects in favour of its internal community vary from country to country according to the particular needs of the various social settings in which the affiliates operate.

In South America, for instance, Projects are aimed at **preventing** illnesses (vaccination campaigns against tetanus in Argentina, against hepatitis and yellow "Amarilla" fever in Venezuela, and against 'flu in Brazil, plus special anti-drug abuse days), providing **schooling** for the children of employees (scholarships, financial aid in buying books and school uniforms) and **social integration** (supervised holidays for the children of employees with educational programmes, Clubs where workers and their families can meet, special days for guided company visits company for the children of employees – e.g. "Where Dad Works").

¹² since 2002 also published in Chinese.

¹³ 10,000 for the SEMA Show in Las Vegas.

¹⁴ 5 versions: one for all employees, the other 4 specially for the factories in Campinas-Sumarè, Feira de Santana, Gravatai, Santo André.

Among the various projects organised at the various affiliate companies, the most popular are supervised holidays for employees' children, scholarships, Company Clubs organising sports and social events, vaccination campaigns against illnesses, conventions providing employees with discounts at shops and medical facilities.

4.1.9. Healthcare Assistance during Working Hours

For decades Pirelli has implemented infirmaries operating at manufacturing facilities, with nurses and doctors available to provide employees with medical care during working hours. These facilities provide first aid, consultancy on non work-related health problems and supervision for workers exposed to specific risks. Local health care campaigns are also carried out by mean of these facilities.

4.1.10. Industrial Relations

The group's Industrial Relations are based on constructive dialogue, fairness and respect for respective roles.

Relations and negotiations with Trade Unions are managed locally, in accordance with the laws, national and/or company level collective agreements, and customs and practices in force in each different country. This is supported by the guidance and supervision of central company functions. Industrial Relations activity was particularly intense in 2005 with reference to the matters linked to the sale of the Telecom and Energy Cables and Systems businesses to Goldman Sachs Capital Partners. This involved a widescale information and consultation activity with workers and their respective union representatives at both national and international levels.

European Works Council

Pirelli's European Works Council (EWC) was set up in 1998 based on a special union agreement signed by the company along with Representatives of the group's European workers, in accordance with the provisions of European Directive 94/45/EC.

The EWC has the purpose of furthering the dialogue between the Company and its workers, namely, the information and consultation by the parties on the progress of the European companies of the Pirelli Group as a whole and on its general direction.

A Select Committee was also been set up within the EWC to facilitate links between members and the head company.

The EWC routinely meets once a year upon the publication of company reports and for updates as to economic trends, financial-economic forecasts, investments made and planned, progress in research etc.

It may also meet with the company on an extraordinary basis whenever information and consultation are required in the light of transnational events involving major company changes, opening, restructuring or closure of legal seats, productive lines or productive sites, important and widespread innovations in the organisation of labour

All EWC delegates are suitably equipped with the IT tools required to perform their duties as well as having access to the company intranet for the real time communication of official company press releases.

Further to the sale of the Telecom and Energy Cables and Systems businesses, the number of EWC delegates to Pirelli & C. SpA was reduced in proportion to the notable reduction in the size of the workforce they represent. The Committee currently has 12 members.

Compliance with legal/contractual directives on overtime and time off

The Pirelli Group complies with legal and/or contractual directives on the application of overtime and the right to periodical days off, in accordance with existing differences between the various legislative contexts in which they apply.

The use of the full entitlement to time off, as is the right of all workers, is not subject to any restriction. The period of fruition is usually agreed between the worker and the company.

Union Representation

In certain countries the company knows the exact number of employees adhering to trade union, in accordance with the provisions providing for the respect of employee privacy. In other countries the company can only estimate the number of workers who are members of workers' representative organisations.

It is thus estimated that approximately 40% of group employees are adhering to a union.

Conversely, the percentage of employees covered by collective agreements is 83%. This depends on differences between various local contexts. In Italy, for instance, the employment contract for all employees (including executives) is governed by collective rules and regulations. Individual bargaining applies to the remaining 17% of employees. In this respect we shall recall for example, the categories of executives all over the world except Italy, the *Managers* in the UK, the *Non Tariffs* in Germany, the *Excluidos* in Spain, and the *Senior* and *Esecutivi* in Brazil.

Industrial Actions

Overall industrial unrest was generally limited in 2005.

During the year there was some unrest at the Gravatai factory in Brazil and at Figline Valdarno, Bollate, Settimo Veicoli Industriali and Settimo Vettura factories in Italy.

The strikes at the Gravatai plant in Brazil were over the renewal of the company contract.

Unrest at the Italian factories, on the other hand, were partly over the renewal of the labour contract and partly in support of political/union initiatives (e.g. unrest related to the government Budget).

All the above industrial disputes were satisfactorily settled by all parties, as far as company-related disputes were concerned.

Occupational Pension Plans

Most affiliates provide their employees with integrative, occupational pension plans.

Existing corporate pension plans are both defined benefit and defined contribution schemes.

The Group policy favours defined contribution schemes.

Defined benefit funds exist in the UK (covering employees hired up to a certain date, while those hired after that date are covered by a defined contribution fund) and in the USA (though this fund was closed a few years ago for employees employed at the time, who subsequently began joining a defined contribution scheme).

Alongside retirement pension, pension plans are generally supplemented by life and permanent disability insurances.

Integrative Healthcare Plans

Supplementary health care plans widespread exist among the Affiliates companies. These plans provide different levels and types of cover in the different countries, according to local needs, procedures and customs. Almost all the schemes are based on a defined contribution structure, where fixed contribution payments are made by the company into insurance policies or funds (as is, for instance, the case in Italy). In the USA, on the other hand, the rate of company contribution in favour of employees has a variable structure.

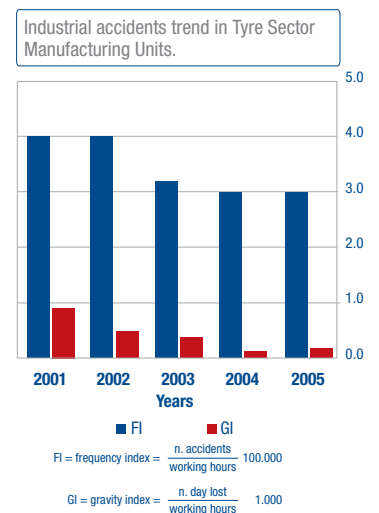
4.1.11. Health and Safety at Work – the Safety Management System

The Safety Management System was implemented within the Tyres Sector in line with the OHSAS 18001 standard, as part of a more extensive scheme (called Safety Focus), which, starting from an initial definition of the methods employed for meeting both the requirements set down in the aforementioned standard and the operational requirements of the Pirelli Group, sets down various tools and methods for safety and communications-related training in the Operating Units. This programme, co-ordinated by committees set up for the specific purpose of reducing the number and severity of injuries, was initially launched for those Operating Units where the trends indicated the most critical situations. The programme was given an added boost in 2005 with the launch of another project (new in terms of its contents but serving the same purpose) in a series of pilot factories.

At the end of 2005, over 80% of the Operating Units in the sector had obtained OHSAS 18001 standard certification. A further three Operating Units should obtain the same certification during 2006.

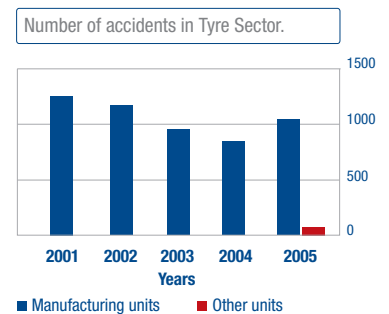
As regards the figures for injuries at work in terms of the increases recorded in the frequency index (FI) and the gravity index (GI), this is largely due to the new definitions introduced for calculating the number of injuries and the number of days lost, which have been adjusted for the entire Tyre Sector to come into line with the procedures adopted in the rest of Europe. There was a fatal accident in Turkey in 2005 involving a worker from an outside firm carrying out maintenance work.

For the first time, injuries in all non-manufacturing units in the Tyres Sector were also recorded and in 2006 action will be taken to reduce the number of injuries in these areas too. In 2005 the record of injuries also included group companies belonging to the other sectors and to Pirelli Corporate, where the frequency index is less than one.



4.1.12. No Smoking Company

A letter sent from top management to all the group's Chief Executive Officers announced the company's decision to become a "No Smoking Company" as of June 2003, in the interests of both smokers and non-smokers. This decision is part of Pirelli's long-standing policy of protecting the health of its workers in every country where the group operates.



Special educational/information campaigns about the damage caused by smoking have been carried out through the distribution of leaflets, conferences on tobacco addiction and the publication of questionnaires about smoking on the intranet.

Two and a half years later there are now smoking bans in most group locations, involving 96% of staff.

In most cases (78%), special smoking areas have been provided; elsewhere there is a complete ban in all areas inside buildings.

4.1.13. Group Influenza Vaccination Campaign

As is well known and as has been pointed out by the WHO, the nature, possible development and spread of the virus commonly known as "Avian 'Flu" is currently shrouded in uncertainty. Against this backdrop, although the trivalent 'flu vaccination used in the current vaccination campaign does not provide specific protection against the A strain (H5N1) of the virus, it does help prevent co-infection, i.e. simultaneous infection by human and avian 'flu viruses.

For this reason Pirelli has offered all personnel who wish to do so the opportunity of free seasonal vaccination.

The geographical location of Pirelli's operations has naturally been taken into account, and therefore personnel in the northern hemisphere were given a total of approximately 2,500 vaccination doses in the autumn of 2005.

The same procedure will be undertaken in the southern hemisphere at the appropriate time in relation to seasonal outbreaks of influenza.

Last, but by no means least, a company Intranet newsletter has been set up and is regularly updated to provide practical information about those countries where there have already been outbreaks of avian influenza. The information is aimed both at personnel staff resident in these countries and also at those who visit them for short business trips.

4.1.14. Pirelli Workers United in Solidarity: The Project "My Time for Indonesia"

In the wake of the tragedy that struck Asian countries at the end of 2004, the company has suggested that its personnel make donations of money to help rebuild the devastated areas. This resulted in the setting up of the "My Time for Indonesia" Project.

The Project's financial target was to collect € 500.000 to pay towards the reconstruction of 2 schools, one in the capital Banda Aceh (project for 1000 children) and one in the province of Aceh Besar (for 200 children), as stipulated in the agreement jointly signed by Pirelli and the Indonesian authorities on 28th April 2005.

It was decided to allocate the money collected to rebuilding schools in the belief that schools play a key role in society as the place where younger generations prepare to face the future and, at the same time, to provide reference points and landmarks for both the young and old during the process of reconstruction in the wake of this disaster.

Achievement of this target was based on voluntary donations by personnel agreeing to have a certain number of hours' pay docked from their wages, together with a contribution made by the company equal to the difference between the money collected and the overall amount pledged.

In total, staff donated 9,900 working hours, equivalent to € 166,713 and the company donated € 333,287, to reach the target of € 500.000.

As part of the Project, a Trust Committee for Italy (composed of Pirelli's top executives, the trades unions, and a representative from Price Waterhouse Coopers) and a Trust Committee for Indonesia (composed of Pirelli's executive management, the Indonesian Minister of National Education, and a representative from Deloitte) were set up. The committees were, and still are responsible for: verifying and ensuring the transparency of the fund collection procedures, approval of the projects proposed by the local work group, authorisation of the transfer of money to third parties for carrying out the projects, verification of the use of the funds for the proposed purposes and within the agreed deadlines. Updates on the state of the investments, and therefore on the progress of the reconstruction process (currently under way), are constantly published on the company intranet in a section dedicated to the project. This enables employees who wish to keep track of the project to do so.



4.2. External Community

Group companies encourage and, where necessary, provide support for social, cultural and educational initiatives geared towards promoting personal development and improving standards of living (Article 5 of the Ethical Code - Community).

The Pirelli group – an Italian business with a long-standing and important presence abroad – promotes and supports a number of enterprises of the highest level in the fields of culture, training, sustainable growth, solidarity and sport. These projects are carried out in numerous countries thanks to joint ventures with public and private institutions, local administrations, associations and bodies, in the awareness that the growth of the company and long-term success can only be achieved in a balanced and harmonious society, in which the company is a factor in civil and cultural progress.

This commitment goes above and beyond a principle of business ethics or solidarity to become a veritable business positioning strategy that makes Pirelli one of the most fully integrated and active international companies in the various local communities in which it operates. As company Chairman, Marco Tronchetti Provera put it in a recent interview: “This is a necessary and constant commitment, working at a business as well as at an ethical level. The business lives with its human and financial resources, with its suppliers, customers and competitors, and will only enjoy enduring growth and success if it is integrated within a balanced social setting. This has always been the policy of the Pirelli Group, one of Italy’s most international companies. We are Brazilians in Brazil, Argentineans in Argentina and Italians in Italy. In every country or market, our companies are actively involved in the life and development of society”.

The following paragraphs sum up in concrete terms the targets and results of Pirelli’s continuing commitment to promoting and supporting socio-cultural projects and non-profit activities. These are mainly operations freely undertaken based on the principle of intelligent divulgation and aid for the less protected social classes, inspired by criteria of quality and uniqueness. In each country, these activities have been undertaken drawing on the local artistic heritage, know-how, energy and resources, promoting a model of active co-operation that combines its partners’ skills with Pirelli’s expertise in the fields of technology, organisation, promotion and communication.

4.2.1. Theatre and Visual Arts

Pirelli has always been committed to supporting projects in the arts, culture and education. “Historical” examples of this commitment include the construction of a wing of the Louvre in Paris dedicated to Etruscan Art, after the group had contributed to its renovation, and the re-landscaping of the “Italian Gardens” at the Victoria and Albert Museum in London.

Pirelli has been active in the music world for many years through its work for the Scala Opera House Foundation and Opera House Museum, contributing to numerous projects. Other memorable examples include the “La Scena del Vate”, an exhibition of D’Annunzio’s works interpreted by painters and set designers, and of course the “Peace Concerts”, a series of extraordinarily successful musical events, which began in Beirut in 1998 and have since been held every year at the behest of Pirelli and the Maestro Riccardo Muti, in extraordinary locations like Jerusalem, Sarajevo, Erevan, Istanbul, Moscow and, more recently, Syria, Tunisia and Morocco.

The construction of the Teatro degli Arcimboldi as part of the redevelopment of the Bicocca industrial area in Milan was another particularly important project, as the theatre became the temporary home to the Scala Opera House, while the historical building designed by Piermarini was closed for a number of years. The Arcimboldi is now Milan’s second most important music venue and still hosts some events on the Scala’s calendar. Last year it staged 165 performances, including ballets, operas and concerts, attended by 320 thousand people, which is 90% of its full capacity.

Pirelli & C. Group invested 35.5 million Euros in building the new theatre (18 million for town-planning works associated with the Bicocca Project and 17.5 million as a sponsor) out of total of 55.5 million Euros. The theatre was built in the record time of 27 months by Pirelli Real Estate, which co-ordinated all the design and construction operations for the auditorium, now owned by Milan City Council.

Pirelli projects of note in the art world include the complete renovation of the Galleria Capitolina of Villa Torlonia in Rome, official support for Poldi Pezzoli Museum and the Brera Academy of Fine Arts in Milan, plus working partnerships with the Franco Parenti Theatre and Pierlombardo Foundation. The project in Caracas together with "Sofia Imber" Contemporary Art Museum in favour of "Jóvenes Artistas" is intended to support contemporary artists in Venezuela, helping them express their full potential.

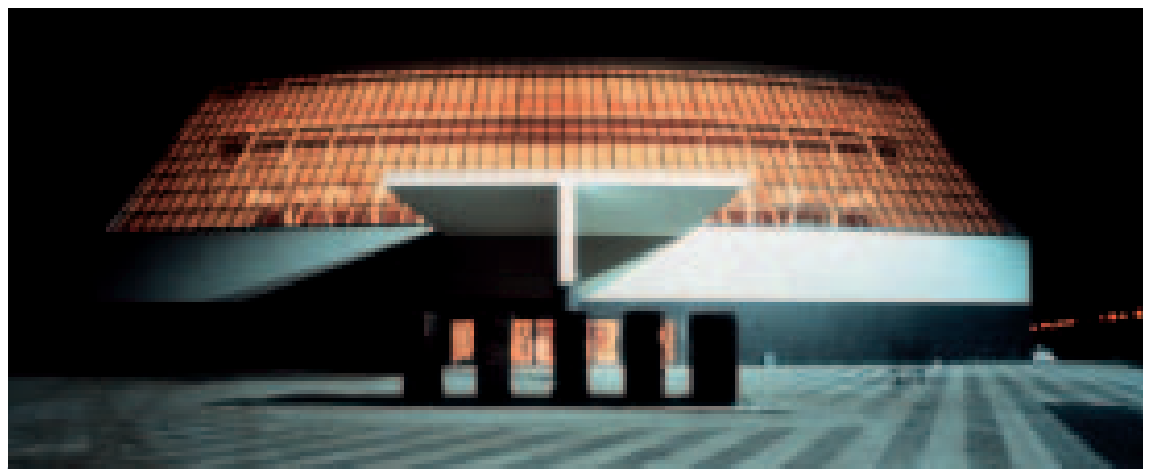
The art of photography is also very much to the fore: artists who have worked with and for Pirelli include names like Richard Avedon, Herb Ritts, Peter Lindbergh, Annie Leibowitz and Norman Parkinson, to mention just a few of the most celebrated creators of the Pirelli calendar.

An exhibition on "The Cal", a cult object for over forty years now, has been displayed in some of the world's leading museums, such as Palazzo Grassi in Venice, the Louvre, Palazzo Reale in Milan, the New Hermitage in Moscow, and the MASP in San Paolo in Brazil. In conjunction with the latter museum (which hosts Latin America's most important art collection) Pirelli's Brazilian subsidiary inaugurated in 1991 a photography competition, which adds to the Pirelli Collection every year and now boasts almost one thousand works by 109 highly talented photographers.

It is a short step from photography to film, and this step has been taken over recent months as the new Pirelli-Film production company shot a short film entitled "The Call" featuring stars of the calibre of John Malkovich and Naomi Campbell and directed by Antonie Fouqà. A breathtaking thriller, which can be seen on the www.pirellifilm.com website from 23rd March 2006.



Brera Academy: "Pala Pesaro" by G. Savoldo restored with Pirelli contribution.



Night view of the Arcimboldi Theatre in Milan Bicocca.

4.2.2. Culture and Education

Working for culture also means contributing to the heritage and education of the people. For years Pirelli has been a partner of the FAI-Fondo per l'Ambiente Italiano (Italian Environmental Fund), working together on various projects to restore and conserve monuments, as well as helping organise history of art courses. The two-year period from 2005/2007 saw Pirelli and FAI working on a new edition of the so-called "Art Mondays" (with the patronage of the Lombardy Regional Council and the Milan Province and City Councils), a series of 61 lectures during which 36 professors retrace 150 years of art history from the Impressionist revolution to the most recent experiences.

In 2005-2006 Pirelli made an important contribution to a major exhibition on "The Italian Motorcycle: a century on two wheels as seen through art, history and sport", organised in Milan by the Mazzotta Foundation under the patronage of the President of the Republic and with the support of the ministries of Foreign Affairs and Heritage & Culture. The exhibition on Italian motorbikes, seen not as "objects" but as a "phenomenon" with all its historical, artistic and sporting implications, has been a resounding success both with critics and the general public.

The Pirelli Group has also been at the very forefront in supporting science and technology by promoting – in partnership with the Silvio Tronchetti Provera Foundation, the Veronesi Foundation and Cini Foundation – the first World Conference on the Future of Science (Venice, 20th-23rd September 2005), which was attended by a number of Nobel Prize winners and eminent researchers. The event will take place again in Venice in 2006, with three days of conference and debates on the crucial issue of Evolution.

Pirelli is, in fact, one of the partners in the Silvio Tronchetti Provera Foundation, a non-profit foundation set up in 2001 to promote research into the fields of economics, the sciences, technology and management as well as into the training of talented youngsters in these fields. This work is carried out both directly and in conjunction with other Italian and foreign associations, notably drawing on the help of Milan's three universities (the Polytechnic, Bocconi University and Milan Bicocca University), whose rectors sit on the Foundation's board, which awards money, grants and study prizes to help improve the facilities (also providing equipment) of university and science chairs and institutes.

Finally, it is worth mentioning the Pirelli *International Award*, the first international multi-media competition for the dissemination of scientific culture, run entirely on the Internet (www.pirelliaaward.com) and set up in 1996. The tenth edition of the award is currently underway. The prize is awarded each year to the best multi-media presentation in the fields of physics, chemistry, mathematics, the biological sciences, and information and communication technology (ICT).

4.2.3. Sport and Solidarity

Pirelli's commitment to the spread of a sporting culture is borne out by its involvement in numerous major partnerships. First and foremost are motor sports, where a great many racing teams and car manufacturers have sponsorship deals for tyres in the World Rally Championship, FIA-GT and other famous track races (excluding the Formula 1 world championship). Pirelli also has an exclusive partnership deal with Maserati for all its sports activities, and it is the official supplier for Ferrari touring car competitions (the most famous being the Ferrari Challenge). In motorbike racing, Pirelli is the exclusive tyre supplier for the Superbike, Supersport and Superstock World Championships, as well as the partner of leading Motocross teams, with which it has been winning races for many years.

Other favourite Pirelli sports include football, with the sponsorship of Inter Milan F.C. in Italy and Club Palmeiras in Brazil (the team set up by Italian immigrants in that country), and also sailing, through a partnership for the Pirelli – Carlo Negri Cup Regattas. In these team sports Pirelli provides its backing for both competitions and special solidarity projects, including the highly successful "Matti per la Vela" ("Crazy About Sailing") project. Originally devised in 1998 by a group of Genovese health workers, volunteers and professional skippers with a real passion for sailing, the scheme sets out to exploit the sport of sailing as a therapeutic tool to treat and cure sufferers from various types of illness and psychic disorder.

Football is another sport that lends itself well to solidarity events. In Italy the Inter-Pirelli Campus mainly aims to bring young people together through football, encouraging talented youngsters. But in countries where economic problems and precarious living conditions directly affect children, a passion for sport turns into an invaluable aid in education and solidarity projects. In the summer of 1997, Pirelli set up the Inter-Pirelli Brazil Campus in the city of San Paolo, Brazil, in partnership with Inter Milan FC. The aim was to get children aged 8-14 years off the streets of the favelas and help integrate them into society, combining schooling with the chance to enjoy playing football. In Brazil, Pirelli was also the first foreign company to back the Government's widespread campaign against illiteracy, receiving widespread recognition for its efforts and support.

Building on this highly successful project in Brazil (over 4 thousand children, who would otherwise have dropped out, are encouraged to go to school), Inter Milan F.C. has launched other similar programmes, in the spirit of Corporate Social Responsibility scheme, in many other locations worldwide.

In Bosnia, 500 Serbian, Croatian and Muslim children are assisted by psychologists with expertise in treating war trauma. In Columbia 550 children have, with the help of football, been saved from drug-dealing and guerrilla warfare. In Israel and Palestine, too, almost 400 children have already taken part in this project of twinning through sport.

In Italy, Pirelli organises the annual "Derby del Cuore" ("The Derby of the Heart") at the San Siro Stadium in Milan, as celebrities from the world of sport and entertainment – supporters of either AC Milan or Inter Milan – play in a football match before a packed stadium. The match, which has been sponsored by Pirelli since it was first played in 1996, is marked by high social values, with all the proceeds going to charity.



As from 1997 the Inter-Pirelli Campus is active in Brazil.

4.2.4. Pirelli Real Estate: Values and Actions

Corporate culture and corporate values are at the very heart of Pirelli RE's elaborate strategy of interaction with the territory and operations in the social field. The guiding principles are contained in the Ethical Code, which guides its internal and external activities, translating them into specific strategic, organisation and managerial decisions. Pirelli RE has also adopted a document known as Lines of Conduct, which expresses in operational terms the principles set down in the Code.

Real estate operations are very closely tied to the territory in which Pirelli RE operates as a driving force for development, altering it, designing the environment and redesigning urban areas, adapting them to the needs of the community. While on the one hand "good corporate citizenship" translates into compliance with the principles of sustainability in business operations and a responsible approach to the territory where it operates, on the other it is embodied in a system of specific actions geared to the needs of the community. The common features of these actions are planning, long term consistency, attention to social well-being and to future generations, and selectivity in four main areas:

- Sport and society
- The environment and the territory
- Art and culture
- Education

The common denominator in Pirelli RE operations is their links with the world of property: properties are in some instances the direct object of an operation, in others they are the cause or origin of an issue to be tackled and resolved, and in yet others they are the source of some inconvenience that needs to be resolved.

Operations in the social arena take the form of home help or housing aid. In sport attention has focused on targeted projects to equip sports associations with new facilities or to improve those already in place. In the arts and culture, too, work is mainly concentrated on improving structures and buildings or supporting projects closely tied to their local settings. In education, Pirelli RE is committed to the promotion of an advanced culture and professionalism in the real estate sector.

4.2.5. Relations with Public Administrations

Group companies maintain relationships with local, national and supranational authorities in a spirit of full and active cooperation and transparency that does not compromise their independence, economic targets or the values enshrined in this Code (Article 5 of the Ethical Code – Community).

In order to further strengthen its own internal controls system, the group's Italian companies some time ago adopted an Organisational Model, which aims to develop a system geared to the specific requirements foreseen by local legislation (Law Decree 231/2001) regarding companies' administrative responsibilities for crimes committed by their employees and benefiting the companies in question. Special Supervisory and Monitoring Boards within each of the group's Italian companies have been designated and are responsible for monitoring the proper running of and compliance with the Organisational Model.

In 2005, the Internal Audit Department carried out 75 audits throughout the group, 35 of which were commissioned by the Supervisory and Monitoring Boards of Italian companies. The audits were aimed at verifying the extent of compliance of company processes with the internal control procedures set down by the Organisational Model adopted. With a view to seizing a further opportunity to improve the group's internal control system, certain control activities featured in the Organisational Models adopted by the group's Italian companies, designed to ensure a reasonable degree of prevention of the correlated risks of offences being committed, were also adopted by other group companies through the establishment of specific policies and operational regulations.

4.3. Customers

The excellence of the Group's products and services is based on customer service and the readiness to meet customer needs. The aim is to offer immediate, thoroughgoing and competent responses, tailored to the needs of customers, and in keeping with the spirit of legality, courtesy and co-operation. (Article 4 of the Ethical Code – Customers).

4.3.1. Actions for Customer Safety

National and International regulations are increasingly focused on the issue of a car's active and passive safety features, obliging car manufacturers to fit their vehicles with monitoring and reporting systems that also involve tyres. However, these regulations and devices are often too wide-ranging and potentially inadequate, partly because they are managed by indirect monitoring systems.

Pirelli Tyres meets these needs by keeping tyres at the centre of attention: confirming its confidence in Run Flat; investing in ever closer co-operation with the manufacturers; opting for reliance on "direct" control of tyre pressure to optimise it.

In the event of a change in this balance, a revolutionary reaction takes place: the new X-Pressure™ AcousticBlue device sends out a warning signal to both the conventional systems and also to the user's mobile phone; SWS™ activates an "auto-reinflation" system both in the event of a puncture, allowing more time (and hence greater space) to reach safety, and also in the event of a natural loss of pressure, ensuring optimum pressure for 9-12 months.

5. SUMMARY TABLES (TABLE OF CONTENTS OF GRI)

This section is designed to help readers to relate the issues addressed within the report to the international experience of the GRI and of the Global Compact. For each indicator the respective position within the text is listed¹⁵.

5.1. GRI Reporting Elements

| 1 | Vision and Strategy | Page |
|----------|---|---|
| 1.1 | Statement of the organisation's vision and strategy regarding its contribution to sustainable development | 8 |
| 1.2 | Statement from the CEO (or equivalent senior manager) describing key elements of the report | 6-8 |
| 2 | Profilo | |
| | Profilo Organizzativo | Page |
| 2.1 | Name of reporting organisation | 1 |
| 2.2 | Major products and/or services, including brands if appropriate | 27-48 |
| 2.3 | Operational structure of the organisation | 11-12 |
| 2.4 | Description of major divisions, operating companies, subsidiaries, and joint-ventures | 11-12 |
| 2.5 | Countries in which the organisation's operations are located | 11 |
| 2.6 | Nature of ownership; legal form | 4, 57, 83 |
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| 2.8 | Scale of the reporting organisation: (see headings below) | |
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| 2.9 | List of stakeholders, key attributes of each, and relationship to the reporting organisation | 99 |
| | Report Scope | |
| 2.10 | Contact person(s) for the report, including e-mail and web addresses | 66 |
| 2.11 | Reporting period (e.g., fiscal/calendar year) for information provided | 96 |
| 2.12 | Date of most recent previous report (if any) | 96 |
| 2.13 | Boundaries of report (countries/regions, products/services, divisions/facilities/joint ventures/subsidiaries) and any specific limitations on the scope | 96 |
| 2.14 | Significant changes in size, structure, ownership, or products/services that have occurred since the previous report | 9 |
| 2.15 | Basis for reporting on joint ventures, partially owned subsidiaries, leased facilities, outsourced operations, and other situations that can significantly affect comparability from period to period and/or between reporting organisations | 96 |
| 2.16 | Explanation of the nature and effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g., mergers/acquisitions, change of base years/periods, nature of business, measurement methods) | 96 |
| | Report Profile | |
| 2.17 | Decisions not to apply GRI principles or protocols in the preparation of the report | 96 |
| 2.18 | Criteria/definitions used in any accounting for economic, environmental, and social costs and benefits | 96 |
| 2.19 | Significant changes from previous years in the measurement methods applied to key economic, environmental, and social information | 96 |
| 2.22 | Means by which report users can obtain additional information and reports about economic, environmental, and social aspects of the organisation's activities, including facility-specific information (if available) | Pirelli.com/investor relations web site |

¹⁵ In some cases the value of the indicator is reported rather than the page reference.

| 3 Governance Structure and Management Systems | | |
|--|---|-----------------------|
| Structure and Governance | | Page |
| 3.1 | Governance structure of the organisation, including major committees under the board of directors that are responsible for setting strategy and for oversight of the organisation | 52-53, 61-66, 68 |
| 3.2 | Percentage of the board of directors that are independent, non-executive directors | 54-55 |
| 3.6 | Organisational structure and key individuals responsible for oversight, implementation, and audit of economic, environmental, social, and related policies | 64 |
| 3.7 | Mission and values statements, internally developed codes of conduct or principles, and policies relevant to economic, environmental, and social performance and the status of implementation | 97-98 |
| 3.8 | Mechanisms for shareholders to provide recommendations or direction to the board of directors | 55, 101 |
| Stakeholder Engagement | | |
| 3.9 | Basis for identification and selection of major stakeholders | 99, 106-112, 124-142 |
| 3.10 | Approaches to stakeholder consultation reported in terms of frequency of consultations by type and by stakeholder group | 65, 101, 130-131 |
| Overarching Policies and Management Systems | | |
| 3.13 | Explanation of whether and how the precautionary approach or principle is addressed by the organisation | 107 |
| 3.14 | Externally developed, voluntary economic, environmental, and social charters, sets of principles, or other initiatives to which the organisation subscribes or which it endorses. Include date of adoption and countries/operations where applied | 96-98 |
| 3.15 | Principal memberships in industry and business associations, and/or national/international advocacy organisations | 112 |
| 3.16 | Policies and/or systems for managing upstream and downstream impacts, including: - supply chain management as it pertains to outsourcing and supplier environmental and social performance; and - product and service stewardship initiatives | 117-119 |
| 3.17 | Reporting organisation's approach to managing indirect economic, environmental, and social impacts resulting from its activities | 106-112, 120-121 |
| 3.18 | Major decisions during the reporting period regarding the location of, or changes in, operations | 7, 96 |
| 3.19 | Programmes and procedures pertaining to economic, environmental, and social performance. Include discussion of: - priority and target setting; - major programmes to improve performance; - internal communication and training; - performance monitoring; - internal and external auditing; and - senior management review | 102-113, 117 |
| 3.20 | Status of certification pertaining to economic, environmental, and social management systems | 102-103, 117-119, 136 |

5.2. GRI Performance Indicators

5.2.1. Economic Performance Indicators

| ID | Aspect | Indicator | Page |
|-----------|----------------------|---|-------------|
| EC1 | Customers | Net sales | 5 |
| EC2 | Customers | Geographic breakdown of markets | 18, 100 |
| EC3 | Suppliers | Cost of all goods, materials, and services purchased | 100 |
| EC5 | Employees | Total payroll and benefits (including wages, pension, other benefits, and redundancy payments) broken down by country or region | 99 |
| EC6 | Providers of Capital | Distributions to providers of capital broken down by interest on debt and borrowings, and dividends on all classes of shares. This includes all forms of debt and borrowings, not only long-term debt | 99 |

| | | | |
|------|----------------------|--|------|
| EC7 | Providers of Capital | Increase/decrease in retained earnings at end of period | 88 |
| EC8 | Public Sector | Total sum of taxes of all types paid broken down by country | 99 |
| EC9 | Public Sector | Subsidies received broken down by country or region | None |
| EC10 | Public Sector | Donations to community, civil society, and other groups broken down in terms of cash and in-kind donations per type of group | 100 |
| EC11 | Suppliers | Supplier breakdown by organisation and country | 100 |

5.2.2. Environmental Performance Indicators¹⁶

| ID | Aspect | Indicator | Page |
|------|--------------------------------|---|--------------|
| EN1 | Materials | Total materials use other than water, by type | 106 |
| EN3 | Energy | Direct energy use segmented by primary source | 113-114, 116 |
| EN4 | Energy | Indirect energy use | 113, 116 |
| EN5 | Water | Total water use | 113, 116 |
| EN6 | Biodiversity | Location and size of land owned, leased, or managed in biodiversity-rich habitats | 103 |
| EN7 | Biodiversity | Description of the major impacts on biodiversity associated with activities and/or products and services in terrestrial, fresh-water, and marine environments | 103 |
| EN8 | Emissions, Effluents and Waste | Greenhouse gas emissions | 113, 116 |
| EN9 | Emissions, Effluents and Waste | Use and emissions of ozone-depleting substances | 113, 116 |
| EN10 | Emissions, Effluents and Waste | NOx, SOx, and other significant air emissions by type | 113, 116 |
| EN11 | Emissions, Effluents and Waste | Total amount of waste by type and destination | 113, 116 |
| EN13 | Emissions, Effluents and Waste | Significant spills of chemicals, oils, and fuels in terms of total number and total volume | 103 |
| EN14 | Products and Services | Significant environmental impacts of principal products and services | 106-113 |
| EN15 | Products and Services | Percentage of the weight of products sold that is reclaimable at the end of the products' useful life and percentage that is actually reclaimed | 111 |
| EN16 | Compliance | Incidents of and fines for non-compliance with all applicable international statements/conventions/treaties, and national, sub-national, regional, and local regulations associated with environmental issues | 103 |
| EN17 | Energy | Initiatives to use renewable energy sources and to increase energy efficiency | 123-124 |
| EN29 | Biodiversity | Business units currently operating or planning operations in or around protected or sensitive areas. | 103 |
| EN31 | Emissions, Effluents and Waste | All production, transport, import, or export of any waste deemed "hazardous" under the terms of the Basel Convention Annex I, II, III, and VIII. | 113, 116 |

5.2.3. Social Performance Indicators

| ID | Aspect | Indicator | Page |
|-------------------|------------------------------|--|------|
| LA1 ¹⁷ | Employment | Breakdown of workforce | 124 |
| LA2 | Employment | Net employment creation and average turnover segmented by region/country | 124 |
| LA3 | Labour/ Management Relations | Percentage of employees represented by independent trade union organisations or other bona fide employee representatives broken down geographically OR percentage of employees covered by collective bargaining agreements broken down by region/country | 135 |

¹⁶ Perimeter: the indicators refer to Tyres Sector manufacturing sites accounting for more than 99% of Tyre Sector sales.

¹⁷ LA : Labour.

| | | | |
|-------------------|---|---|------------------|
| LA4 | Labour/ Management Relations | Policy and procedures involving information, consultation, and negotiation with employees over changes in the reporting organisation's operations (e.g. restructuring) | 134 |
| LA5 | Health and Safety | Practices on recording and notification of occupational accidents and diseases, and how they relate to the ILO Code of Practice on Recording and Notification of Occupational Accidents and Diseases | 136 |
| LA6 | Health and Safety | Description of formal joint health and safety committees comprising management and worker representatives and proportion of workforce covered by any such committees | 136 |
| LA7 | Health and Safety | Standard injury, lost day, and absentee rates and number of work-related fatalities (including subcontracted workers) | 136 |
| LA9 | Training and Education | Average hours of training per year per employee by category of employee | 129 |
| LA10 | Diversity and Opportunity | Description of equal opportunity policies or programmes, as well as monitoring systems to ensure compliance and results of monitoring | 129-130 |
| LA11 | Diversity and Opportunity | Composition of senior management and corporate governance bodies (including the board of directors), including female/male ratio and other indicators of diversity as culturally appropriate | 3, 129-130 |
| LA12 | Employment | Employee benefits beyond those legally mandated | 133-135, 137 |
| LA17 | Training and Education | Specific policies and programmes for skills management or for lifelong learning | 126-129, 131-132 |
| HR1 ¹⁸ | Strategy and Management | Description of policies, guidelines, corporate structure, and procedures to deal with all aspects of human rights relevant to operations, including monitoring mechanisms and results | 124, 138 |
| HR2 | Strategy and Management | Evidence of consideration of human rights impacts as part of investment and procurement decisions, including selection of suppliers/contractors | 108 |
| HR3 | Strategy and Management | Description of policies and procedures to evaluate and address human rights performance within the supply chain and contractors, including monitoring systems and results of monitoring | 108 |
| HR4 | Non-discrimination | Description of global policy and procedures/programmes preventing all forms of discrimination in operations, including monitoring systems and results of monitoring | 125-130 |
| HR5 | Freedom of Association and Collective Bargaining | Description of freedom of association policy and extent to which this policy is universally applied independent of local laws, as well as description of procedures/programmes to address this issue | 135 |
| HR6 | Child Labour | Description of policy excluding child labour as defined by the ILO Convention 138 and extent to which this policy is visibly stated and applied, as well as description of procedures/ programmes to address this issue, including monitoring systems and results of monitoring | 125 |
| HR7 | Forced and Compulsory Labour | Description of policy to prevent forced and compulsory labour and extent to which this policy is visibly stated and applied as well as description of procedures/programmes to address this issue, including monitoring systems and results of monitoring | 134-135 |
| HR8 | Strategy and Management | Employee training on policies and practices concerning all aspects of human rights relevant to operations | 128-129 |
| SO1 ¹⁹ | Community | Description of policies to manage impacts on communities in areas affected by activities, as well as description of procedures/programmes to address this issue, including monitoring systems and results of monitoring. | 138-142 |

¹⁸ HR: Human Rights

¹⁹ SO: Society

| | | | |
|-------------------|----------------------------|---|-----|
| SO2 | Bribery and Corruption | Description of the policy, procedures/management systems, and compliance mechanisms for organisations and employees addressing bribery and corruption | 142 |
| SO3 | Political Contributions | Description of policy, procedures/management systems, and compliance mechanisms for managing political lobbying and contributions | 100 |
| SO4 | Community | Awards received relevant to social, ethical, and environmental performance | 121 |
| SO5 | Political Contributions | Amount of money paid to political parties and institutions whose prime function is to fund political parties or their candidates | 100 |
| PR1 ²⁰ | Customer Health and Safety | Description of policy for preserving customer health and safety during use of products and services, and extent to which this policy is visibly stated and applied, as well as description of procedures/programmes to address this issue, including monitoring systems and results of monitoring | 142 |

5.3. Global Compact Principles and GRI Indicators

| Global Compact Principles | | GRI Indicators |
|---------------------------|---|---|
| 1 | Businesses should support and respect the protection of internationally proclaimed human rights; and | HR1, HR2, HR3, HR4 |
| 2 | Make sure that they are not complicit in human rights abuses. | HR2, HR3 |
| 3 | Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining | HR5, LA3, LA4 |
| 4 | The elimination of all forms of forced and compulsory labour | HR7 |
| 5 | The effective abolition of child labour; and | HR6 |
| 6 | The elimination of discrimination in respect of employment and occupation | HR4, LA10, LA11 |
| 7 | Businesses should support a precautionary approach to environmental challenges | 3.13 |
| 8 | Businesses should undertake initiatives to promote greater environmental responsibility; and | EN1, EN3, EN4, EN5, EN6, EN7, EN8, EN9, EN10, EN11, EN13, EN14, EN15, EN15, 1.1 |
| 9 | Encourage the development and diffusion of environmentally friendly technologies | EN17 |
| 10 | Businesses should work against all forms of corruption, including extortion and bribery | S02 |

6. GLOSSARY

| | |
|-------------------------------------|--|
| <i>Abrasion</i> | The cause of tyre tread (see entry) wear. Determined by the phenomena of friction between the tread itself and the ground. Heavily influenced by temperature and abnormal tyre inflation pressures. |
| <i>Aromatic hydrocarbons</i> | organic compounds whose structures are characterized by the presence of at least benzene ring. |
| <i>Atmospheric emission</i> | Any solid, liquid or gaseous substance introduced to the atmosphere from an industrial plant or any other source that may produce atmospheric pollution. |
| <i>Banbury</i> | A machine for the preparation of polymeric compounds used as raw materials for the production of plastic or rubber-based components. In the Banbury, the various ingredients are introduced according to pre-determined quantities and timings, mixed at pre-determined conditions of temperature and pressure to form compound subsequently extruded in granules or strips. |
| <i>Body-ply</i> | Basic element on which the resistant structure of the tyre carcass is constructed. |
| <i>Brassing</i> | Deposition on the steel wire of a very thin layer of brass (around 0.002 – 0.004 mm), necessary for the adhesion of the rubber compound to the metal cords. |

²⁰ PR: Product

| | |
|---|---|
| <i>Building</i> | In the production of tyres, the assembly of the various (semi-finished) components to obtain a “green” tyre subsequently subjected to the vulcanizing process |
| <i>Calendering</i> | Operation that permits a sheet of rubber of a constant thickness to be obtained, or to cover one or both sides of a length of fabric with a constant thickness of rubber. |
| <i>Calorific power</i> | Quantity of thermal energy (or heat) released by a determined mass of fuel burning in standard conditions. Subdivided into Superior Calorific Power (SCP) representing all the energy developed in combustion, and Inferior Calorific Power (ICP) which instead represents the difference between the total heat released and that lost through the evaporation of the water produced during combustion. Usually expressed in Joules per kilogramme (J/kg) or kilocalories per kilogramme (Kcal/kg) for solid fuels and liquids and in Joules per cubic metre (J/m ³) or kilocalories per cubic metre (Kcal/m ³) for gases. |
| <i>Carbon dioxide (CO₂)</i> | Colourless, odourless and flavourless component of the atmosphere. One of the end products of the process of combustion of materials containing carbon. Contributes to the so-called “greenhouse effect” (see entry). |
| <i>Chlorofluorocarbons</i> | Also known as CFCs or Freon. Practically odourless and non-inflammable substances highly suitable for use as fluids in the cooling circuits of refrigerators and air conditioners and as propellants in aerosol canisters, as solvents in the electronics and mechanical industries and as reagents in the chemical industry. The widespread use of CFCs (in particular in the '60s and '70s) has led to their accumulation in the atmosphere and their diffusion towards the stratosphere where the action of ultraviolet radiation has provoked a progressive deterioration of the ozone layer (see entry) and the consequent drafting of a number of international agreements regarding the gradual outlawing of these substances. |
| <i>Corporate Social Responsibility</i> | The integration on a voluntary basis of the companies' social and ecological issues with their commercial operations and their relations with stakeholders. |
| <i>Dielectric oil</i> | Oil with a very low factor of conductivity used as insulation in electrical apparatus (transformers, capacitors...). |
| <i>Dipping</i> | The immersion of the bead cores in a solution composed of heptane and rubber designed to make it easier to then apply the bead. |
| <i>Dow Jones Sustainability Index</i> | Family of indices created in September, 1999 by the Swiss ethical rating agency, SAM Sustainability Group, together with the Dow Jones stock exchange of New York, in order to evaluate at a European and global level the share performance of those companies oriented towards sustainability. |
| <i>Employer Branding</i> | Defined as all the operations carried out by a business to create and communicate its own identity to a target group composed of candidates and employees, so that the brand attracts and holds onto these subjects in line with the corporate culture and values. |
| <i>Environmental Audit</i> | Systematic and documented verification process analysing and evaluating, with objective evidence, whether the methods of dealing with environmental questions and the procedures conform to the requisites established and accepted by an organization or parts of the same. |
| <i>Environmental Due Diligence</i> | Systematic verification of the environmental conditions of a site in order to establish the current or potential environmental liabilities. |

| | |
|---|--|
| <i>Environmental Impact</i> | Any modification to the environment, detrimental or beneficial, total or partial, as a consequence of the activities, products or services of an organization. |
| <i>Environmental Indicator</i> | A parameter or numerical value describing the impact of a human activity on the environment. |
| <i>Environmental Management System</i> | Part of the overall management system comprising the organizational structure, the planning activities, the liabilities, the practices, the procedures, the processes and the resources for developing, implementing, creating, verifying and maintaining the environmental policy. |
| <i>Extrusion</i> | The process of assembling the compounds on semi-finished components, through specific processes involving the fusion of the compounds themselves. |
| <i>FTE (Full-Time Equivalent)</i> | A way of counting part-time employees. It involves relating the working hours of a part-time employee to the working hours of a full-time employee on a unitary basis. A full-time employee corresponds to 1 FTE and a 50% part-time employee counts as 0.5 FTE. For example, two 50% part-time employees equal one full-time employee ($FTE = 0.5 \times 2 = 1$). |
| <i>FTSE4GOOD</i> | An index designed to monitor the ethical, environmental and social performance of individual companies. The selection of the firms included in this index is entrusted to an independent body, the Advisory Committee, which works on the basis of the data provided by a British research institute, the Ethical Investment Research Service (EIRIS). |
| <i>Fuel cell</i> | Electrochemical devices that convert chemical energy into electrical energy; they are classified according to the electrolyte used in the process. Various fuels may be used (natural gas, hydrogen...). |
| <i>Global Reporting Initiative (GRI)</i> | The Global Reporting Initiative is an international venture to develop and provide global Guidelines on Sustainability Reporting. GRI is promoted by CERES (Coalition for Environmentally Responsible Economies) and UNEP (United Nations Environmental Programme). |
| <i>Greenhouse effect</i> | The phenomenon of rising terrestrial temperatures due to the excessive atmospheric presence of certain gases (mainly carbon dioxide and a number of nitrogen and ozone oxides) that prevents the dispersion of heat. |
| <i>Halon</i> | Organic substances containing, along with carbon and hydrogen, fluorine, chlorine, bromine and iodine. As well as actively contributing to the so-called greenhouse effect (see entry), they are also considered to be powerful ozone depleting agents. |
| <i>Hazardous waste</i> | Categories of waste of actual or potential danger to human health or the environment, classified on the basis of specific European norms (see also <i>Non-hazardous waste</i>). |
| <i>Hydrofluorocarbons</i> | Known as HCFCs, these organic substances contain chlorine and fluorine, along with hydrogen and carbon. Although they are ozone depleting substances, they are far less damaging than CFCs and halons (see entry). They are generally used as alternatives to CFCs. |
| <i>Industrial accident</i> | Damaging event due to violent causes during work and leading to death or permanent invalidity (absolute or partial) or a temporary invalidity causing absence from work. |

| | |
|--|--|
| ISO 14001 | A standard drawn up by the International Organisation for Standardization (ISO), specifying the requisites of an Environmental Management System that permits an organization to formulate an environmental policy and to establish objectives, taking into account legislative factors and information concerning significant environmental impacts. |
| Intermediate energy sources | Energy sources deriving from the conversion of primary energy into other forms. The two most common examples are electricity and steam. |
| Kyoto Protocol | An international agreement on the reduction of the atmospheric emission of the greenhouse gases (see entry) responsible for global warming. |
| Life Cycle Analysis, LCA | A method of evaluating the overall environmental impact of a product, taking into consideration its entire life cycle, from the activities relating to the extraction and treatment of the raw materials, through to the manufacturing processes, transportation, distribution, use, recycling and re-use and disposal. |
| LPG | Liquid propane gas. |
| MBO | Management By Objectives – Yearly bonus scheme based on targets set at the beginning of the year. |
| Nanocomposite | A mixture of materials (ceramic, metals, etc.) with dimensions on the nanometric scale (10-9 m). |
| Nanomaterials/ Nanoparticles Nanotechnology | Materials/solid particles with dimensions on the nanometric scale. Technology with the aim of developing applications based on nanomaterials. |
| Newton | A unit of force in the International System (N), equal to the force required to produce acceleration of 1 m/s ² when exerted on a mass of 1 kg. |
| Nitric oxides | Gases produced by the combustion of fossil fuels. They contribute to the formation of ozone in the lower atmosphere and “acid” depositions during normal rainfall. |
| Non-hazardous waste | Categories of waste that are not dangerous to human health or the environment, classified on the basis of European Decision 2000/532/EC, modified by Decisions 2001/118/EC, 2001/119/EC and 2001/573/EC. |
| NOx | See <i>Nitric oxides</i> . |
| OECD | Organization for Economic Co-operation and Development. |
| OHSAS18001 | An international certification standard relating to safety at work and industrial hygiene. This standard establishes the requisites for a Health and Safety at work management system, in order to allow companies to manage its liabilities in this respect and improve its performance in the field. |
| Organic solvent | Any VOC (see entry) used alone or in combination with other agents in order to dissolve primary materials, products or waste materials, without being subject to chemical transformation, or used as cleaning agents to dissolve contaminants, or used as a solvent, a means of dispersion, a corrector of viscosity, as a corrector of surface tension, as a plasticizer or a preservative. |
| Ozone | An allotropic form of oxygen with the chemical symbol O ₃ . It is found in small quantities throughout the atmosphere and is formed by the action of electrical discharges and ultraviolet light that convert oxygen molecules into ozone. At around 25 km from the earth's surface there is a concentrated layer of ozone that absorbs ultraviolet rays and represents a |

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| | vital shield (the ozonosphere). The diminution of the thickness of and creation of holes in the ozone layer appears to be linked to human activities releasing nitric oxides (see entry) and chlorofluorocarbons (see entry) into the air. |
| <i>Painting</i> | A chemical treatment that prevents the adhesion of the non-vulcanized tyre (the so-called “green” tyre) to the moulds and/or the vulcanizing chamber. |
| <i>Pascal</i> | An international unit of pressure equal to 1 Newton per square metre (Pa = N/m ²). |
| <i>Patenting</i> | The thermal treatment necessary to restore the structure of steel wire so as to make it suitable for further deformation via cold drawing. |
| <i>PCB/PCT</i> | Acronyms for polychlorinated biphenyls and polychlorinated terphenyls, substances that are potentially dangerous, bioaccumulable, with insulating and fire-resistant characteristics, principally used in electrical equipment (transformers and/or capacitors – see entry). |
| <i>Photochemical</i> | Atmospheric pollution principally caused by the exhaust emissions of urban vehicular <i>smog</i> traffic; it is the result of a complex chain of photochemical oxidation reactions triggered by sunlight and favoured by particular meteorological conditions (inversion...). One of the consequences of photochemical smog is an increase in ozone in the troposphere (see entry), which thus becomes a secondary pollutant. Furthermore, the relatively non-volatile organic compounds that form may condense, creating a characteristic mist of tiny droplets. |
| <i>Photonics</i> | Science and technology relating to a class of devices using photons. The term photonics was introduced as an analogy with the term electronics in reference to the replacement of the electron with the photon in operations typical of electronics such as the processing, transmission and memorization of data. |
| <i>Pickling</i> | The elimination of the oxidization of metal surfaces (for example, copper and steel). The operation is generally conducted in baths containing solutions of phosphoric or sulphuric acid. |
| <i>Primary energy sources</i> | Energy sources consumed while supplying final energy services (e.g. heating and transport) or generating intermediate forms of energy, like for instance electricity and steam. Examples of primary energy are: coal, natural gas, liquid propane gas, fuel oil, biomasses. |
| <i>Pressure</i> | A physical measurement expressing the ratio between the intensity of a force (expressed in Newtons) exerted on a surface in the normal direction and the area of that surface (expressed in square metres). |
| <i>Rolling resistance</i> | The component of resistance to the advancement of a vehicle wholly attributable to the tyres. |
| <i>SA 8000</i> | An international standard developed by the CEPAA (Council of Economical Priorities Accreditation Agency) regarding respect for human rights, workers' rights, safeguarding against exploitation of minors and guarantees of health and safety at work. |
| <i>Safety and Health at Work Management System</i> | Part of the global management system facilitating the handling of risks relating to health and safety at work associated with company's activities. This includes the organizational structure, the planning activities, the responsibilities, the practices, the procedures, the processes and the resources for the development, actuation, realization, revision and maintenance of the policy for health and safety at work. |

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| Sipes | Thin grooves, generally of an angular and closely paced pattern, cut into the tread of a tyre. They are designed to improve grip especially on smooth or wet road surfaces. |
| Stakeholders | All those individuals or groups (literally holding a stake), who may have a significant interest in the organisation's operations, or whose actions may reasonably influence the organisation's ability to successfully implement its own strategies or reach its targets. |
| Steering Committee CSR (Corporate Social Responsibility) | It has the task of steering and co-ordinating group operations pertaining to Corporate Social Responsibility. It is composed of managers of: General Control and Administration Board, Public and Economic Business Management, Personnel Management, Health Safety and Environment Management (which also provides the Secretariat of the Committee). |
| Stranding Sustainable development | The mechanical process of assembling brassed wires. Development capable of satisfying the needs of current generations without compromising the capacity of future generations to satisfy their own. This type of development does not represent a state of pre-established harmony but rather a process of change in which the exploitation of resources, the pattern of investments and the institutional changes are rendered compatible with both the needs of the future and those of the present. |
| tep | Equivalent ton of petroleum. Conventional measuring unit of energy sources, equivalent to the thermal energy obtained from the combustion of one ton of petroleum. The conversion coefficients adopted by the Group are: 1 tep – 41.86 GJ Electricity: 1 kWh = 860 kcal = 0.000086 tep Fuel oil: 1 ton = 0.98 tep Diesel: 1 ton = 1.08 tep GPL: 1 ton = 1.10 tep Natural Gas: 1000 m ³ = 0.82 tep |
| Transformer | A static electrical device (with no moving parts) that transfers electrical energy from one <i>primary</i> circuit to another <i>secondary</i> circuit, modifying its voltage and current. In its simplest form it is composed of a closed magnetic circuit made with ferrosilicon blades and two coils made by helically winding two conductors onto an insulating support. |
| Troposphere | The lowest part of the atmosphere, between the ground and the stratosphere. This is the home of the most common meteorological phenomena. |
| Volatile Organic Compounds (VOC) | Any natural or anthropic organic compound that at a temperature of 20°C has a vapour tension of 10 Pascal or greater, or that has a corresponding volatility in particular conditions of use. They may contribute to the production of photochemical smog (see entry), with impacts on human health and the environment. |
| Vulcanization | An irreversible thermal process in the solid phase through which the elastomers present in a compound pass from a prevalently "plastic" state to one that is essentially "elastic". This is due to the formation of a series of bonds between the various polymeric chains that lead to the formation of three-dimensional molecular structures. |