

# **KEY FIGURES**

















# CLOSE TO CUSTOMERS RIGHT AROUND THE WORLD

Aside from its technical capabilities, Carbone Lorraine's pioneering spirit enables it to support its customers, wherever they go to develop their businesses. Capitalizing on its proximity to its business partners, the Group currently boasts a manufacturing base in over 40 countries, making it a global and local player at the same time. Intimate knowledge of its customers' industrial processes is one of the keys to Carbone Lorraine's success right around the world.



# **PROFILE**

Carbone Lorraine boasts **LEADERSHIP** positions in its principal businesses. In particular, it ranks as the world no. 1 in graphite anticorrosion equipment, brushes for electric motors and fuses for power semiconductors. It also ranks as the world no. 2 in industrial fuses and high-temperature applications of isostatic graphite. Positioned in highly buoyant markets, such as energy, electronics and fine chemicals/pharmaceuticals, Carbone Lorraine aims to turn itself into a growth company. The Group constantly listens to its customers and has a precise understanding of their business activities, needs and constraints. On these foundations, it has built an **INNOVATIVE** offering that is constantly renewed. Over the years, Carbone Lorraine has established itself as an international group committed both to developing its existing business activities and to winning new markets. Thanks to a determined policy of organic growth and selective acquisitions, the Group has reinforced its **GLOBAL POSITIONS** in each of its businesses, while considerably expanding its product ranges and its geographical presence. Over 85% of its sales come from outside France, and the Group is enjoying particularly brisk growth in **ASIA**. Carbone Lorraine was very quick to embrace **SUSTAINABLE DEVELOPMENT** that is socially responsible and environmentally-friendly. With these goals in mind, the Group manages its own activities and also makes a very tangible contri-

bution to **RENEWABLE ENERGIES**, a sector in which it provides a growing number of technologies and equipment.

# CHAIRMAN'S MESSAGE

# **GROWTH AND LEADERSHIP**

2007 was a year of strong sales growth for Carbone Lorraine, and a year in which we strengthened our **commitments to** future growth.

The previous year, our goal of transforming Carbone Lorraine into a growth company had already translated into a brisk increase in sales. Performance over the past year showed fresh acceleration in our business activities,

# "FOUR-YEAR TARGETS: SALES OF 1 BILLION AND A ROCE\* BEFORE TAX OF 17% BY 2011."

with an increase in our sales of 10% on a like-for-like basis. This represents a strong performance for an industrial group, driven by selective investments, a permanent innovation program and a positioning in extremely buoyant markets. Here I am notably thinking of the electronics, fine chemicals and pharmaceuticals sectors, as well as renewable energies, the prospects for which currently appear to be tremendous. All the Group's businesses made progress during 2007 and contributed to the improvement in our earnings (excluding non-recurring items).

As you know, Carbone Lorraine's expansion strategy is predicated on robust development in **Asia**. From this standpoint, a key milestone was reached during 2007 with the successful start-up of our new graphite block production facility

at Chongqing in China. This new plant will eventually enable us to double our isostatic graphite production capacity. It will significantly bolster our market positions in high-temperature applications and especially in equipment dedicated to the manufacture of solar cells, a sector that is currently booming. Also in the renewable energies sector, the year was marked by the entry into service in Shanghai of a new electrical applications workshop dedicated to wind energy and power generation markets.

With a strategy predicated on four effective growth drivers-rapid expansion in Asia, an innovative offering, a major contribution to renewable energies and an active strategy of selective acquisitions-Carbone Lorraine is firmly set on a course of continuous progress and expansion. That is why we decided to commit ourselves to achieving the following **four-vear targets**: sales of € 1 billion and a ROCE\* before tax of 17% by 2011, assuming economic conditions remain similar to those prevailing last year. Considering the charges linked to non-recurring events (i.e. start-up of the Chongging graphite plant, closure of the Farmville auto brush facility, and write-off of goodwill related to the automobile activity), the performances achieved in 2007 clearly represent a step in the right

Naturally, we intend to make progress towards our objectives during 2008, even though the economic environment will be

\*Return on capital employed.

#### **EXECUTIVE COMMITTEE**



Claude Cocozza
Chairman and Chief
Executive Officer

Ernest Totino Bernard Leduc
Executive Vice President Group Vice President,
Human Resources,

Improvement

Bernard Leduc
Group Vice President,
Human Resources,
Quality and Continuous

Marc Renart
Group Vice Presider
Electrical Protection

Marc RenartJean-ClaudeGroup Vice President,SuquetElectrical ProtectionGroup Vice President,Finance and

Administration

Luc Themelin
Group Vice President,
High Temperature
Applications and Braking

less supportive this year. The global financial crisis that took hold during summer 2007 will have knock-on effects on the real economy, the scale and duration of which cannot yet be fully gauged.

Nonetheless, we should be able to deliver a significant increase in our earnings during 2008 thanks to the ramp-up in the major projects we have launched in recent years and our positioning in markets, such as renewable energies, that will expand whatever happens.

The strategy of sustainable and profitable growth implemented by the Group also applies internally. During 2007, we increased our water and energy savings to contribute to the protection of the environment, and we introduced new human resources programs to plan ahead more effectively for the changes necessitated by our expansion strategy. Lastly, the corporate governance policy we have been pursuing for more than ten years was recognized with the award of a mid-cap governance prize.

Accordingly, we are well-positioned to execute successfully our strategy of profitable growth, and I am confident in our ability to reach our medium-term targets in spite of the ups and downs in economic conditions that may occur in the short term.

Claude Cocozza Chairman and Chief Executive Officer "CARBONE LORRAINE
IS FIRMLY SET ON A
COURSE OF CONTINUOUS
PROGRESS AND
EXPANSION."



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Carbone Lorraine, which first adopted the principles and methods of corporate governance over ten years ago, emphasizes the importance of transparency, quality of information and checks and balances.

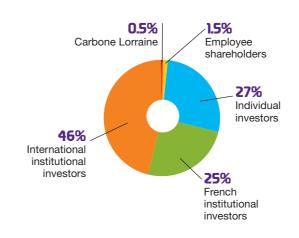
arbone Lorraine's ability to control and audit its business activities in all of their industrial, accounting and ethical aspects forms part of the quality and continuous improvement program introduced by the Group several years ago. Right around the world, Carbone Lorraine's teams take great care to abide by local and international regulations, while staying true to the Group's values and internal charters. Alongside the Executive Committee and Board of Directors, three committees help to promote good governance at the Group, namely the Audit and Accounts Committee, the Appointments and Remuneration Committee and the Strategy Committee. Risk mapping covering operational, financial, strategic and information-related risks is managed and updated by the Risk and Internal Audit department. This system helps to anticipate risks and to implement the requisite preventative measures.

Thanks to this policy, Carbone Lorraine received a Prize for the best corporate governance in the French mid-cap sector during November 2007. This prize, which was given out at the Trophées Midcaps, an event organized by Euronext, Ernst & Young, MiddleNext and Oddo Midcap, is awarded to

# Share price performance



#### Ownership structure at December 31st, 2007 General Meeting of the Sales reports



# Fourth-quarter 2007 sales

▶ January 31

First-quarter 2008 sales ▶ April 16

Second-quarter 2008 sales ▶ July 17

Third-quarter 2008 sales ▶ October 22

#### Earnings reports

Full-year 2007 results ► March 18

Interim 2008 results ▶ August 28

#### Meetings for institutional investors

In Europe and North America

► Throughout the year

#### Presentations for individual shareholders

Marseille ► March 26

Lille▶ April 29

Strasbourg ► October 7

Paris ► October 17

# 2008 diary dates for shareholders

Paris ► May 21

Shareholders

Technical presentation to investment analysts and iournalists

Subject: Carbone Lorraine in Asia ► November

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the company with the best corporate governance out of the over 200 companies listed on Euronext with market capitalization of between € 10 million and € 1 billion.

The governance prize went to Carbone Lorraine in particular for the quality of its organization in terms of the regulation of decision-making systems and for its internal control systems.

#### **CONSTANTLY IN TOUCH WITH SHAREHOLDERS**

Carbone Lorraine also makes sure that its relationships with shareholders are transparent and built on trust. It organizes presentations and seminars devoted to a particular topic, holds information meetings and communicates about the Group, its strategy and results. To stay close to its shareholders, Carbone Lorraine applies the same standards and methods as the world's leading companies.

6 I CARBONE LORRAINE CARBONE LORRAINE 17 Group sites have received ISO 14001 (environment) certification or OHSAS (safety) accreditation.



COMMITMENTAND ACCOUNTABILITY
Protecting the planet and valuing people

To achieve balanced, healthu and sustainable growth, Carbone Lorraine takes concrete steps to protect the environment, both directly, through its own operations, and through its production expertise and the technologies that it develops. From a human resources perspective, the Group's philosophy is also to share advances.

arbone Lorraine's commitment to sustainable develent carries two additional dimensions. Firstly, the Group endeavors to minimize the environmental impact of its own operations. During 2007, it made further strides towards reducing consumption of water, energy and raw materials at its plants. Making plant managers more accountable and securing ISO 14001 certification are important avenues of improvement, as is the systematic use of the "cleanest" technologies. Furthermore, the Group also makes a vital contribution to sustainable development through its expertise in renewable energies and energy efficiency. For instance, Carbone Lorraine boasts a large range of innovative products dedicated to the wind energy market, to which it supplies signal transmission systems and slip-



Employees in front of he Chongqing plant.

# FOCUS

#### **CHONGQING, A MODEL FACILITY**

In 2007, Carbone Lorraine began to produce isostatic graphite blocks at its new Chongqing plant, in central China. This facility will enable the Group to double its block production capacity within a few years and to establish ideal positions in the fastgrowing Asian markets, notably in fine chemicals, pharmaceuticals, electronics and solar energy. This new plant represents a considerable advantage for Carbone Lorraine. Aside from its industrial performance, the Group was able to rise successfully to this major challenge owing to the entrepreneurial spirit of its employees and its multicultural management

expertise. This project, which was coordinated by a French project leader and a Chinese project manager, illustrates the Group's ability to pool the expertise of divisions' technical experts and local teams. In line with its respect of people policy and its positioning as a good corporate citizen, Carbone Lorraine has undertaken to contribute to the region's economic and social development. In the longer term, more than 100 employees are likely to be hired, large-scale qualification and technical training programs have been set up, and almost all the employees will be able to take French or English language classes.

Designed to meet the most stringent environmental standards the Chongqing facility also ranks among the best in the world in terms of its energy consumption per kilogram of graphite produced, and it is the cleanest graphite plant in the world in terms of its gas emissions.

ring assemblies. In the solar energy segment, the Group markets advanced technology systems dedicated to the production of silicon, a critical ingredient in the manufacture of

#### **HUMAN RESOURCES FOCUSED** ON THE FUTURE

Carbone Lorraine's people-friendly human resources policy aims to provide effective support for the execution of the Group's expansion strategy. Managers' individual objectives, which are set annually, are always defined consistently with this approach. Likewise, to mobilize and motivate its teams, the Group informs, communicates internally and shares the benefits of its expansion with its workforce through an active policy of bonuses, profit-sharing and employee share ownership. Lastly, Carbone Lorraine has committed itself to an approach based on forward human resources planning. Initiated in 2007, this entails identifying the requisite resources for future growth, defining job descriptions based on key positions, and implementing specific initiatives to support expansion. In France, this approach has already led to the signature of an agreement with the unions on forward human resources and skills planning.

#### PERFORMANCE... IN COMPLETE SAFETY

The continuous development of safety-related managerial skills is another key area, and one in which Carbone Lorraine has been working for decades and is determined always to rank among the leading groups. During 2007, the Pagny-sur-Moselle plant (France) received the safety prize from the European association of carbon product companies for the second year in a row.

**B**ICARBONE LORRAINE CARBONE LORRAINE ! 9





- 1) Manufacture of fuses.
- **2)** Slip-ring assemblies for wind turbines.
- **3)** Ultra-pure graphite electrodes for silicon production.

Sales posted by Carbone Lorraine during 2007 in the wind energy market.

# HIGHLIGHTS

#### A NEW ADVANCED TECHNOLOGY WORKSHOP IN SHANGHAI...

In September 2007, Carbone Lorraine commissioned in Shanghai a new production facility dedicated principally to the wind energy and power generation market. This ultra-modern 4,000m² facility manufactures brushes, brush-holders, slip-ring assemblies and signal transmission

systems. To date, the plant is the only one in Asia capable of manufacturing high-power slip-ring assemblies and signal transmission systems for wind turbines.

#### ... AND PRODUCTION CAPACITY STRENGTHENED IN AUSTRIA

To contend with fastgrowing demand linked to the development of wind energy, Carbone Lorraine built a new
extension to its
Hittisau plant in
Austria during 2007. This
plant produces slip-ring
assemblies and brushholders

n the fast-expanding wind energy sector, Carbone Lorraine has built an extensive range of innovative high-performance products, encompassing brushes, brush-holders, slip-ring assemblies for power supply and signal transmission systems. Although demand is currently focused predominantly on the erection of new wind farms, service businesses active in the maintenance of existing installations have started to develop. Leveraging its world-wide network, its experience in replacement markets and its recognized ability to support its customers, Carbone Lorraine is also well-placed to establish itself in this burgeoning new market.

# OPPORTUNITIES FOR CARBONE LORRAINE IN PHOTOVOLTAIC SYSTEMS

The solar energy sector boasts exceptionally strong momentum, resulting in very strong demand for graphite equipment intended for the production and processing of silicon, the principal raw material required for the manufacture of photovoltaic cells. Carbone Lorraine is reaping the full benefit of these dynamics. The Group is capable of producing and machining ultra-pure graphite, and is also one of the few players offering very large graphite blocks satisfying growing demand in the sector. Carbone Lorraine also boasts

a high-performance range of fuses used to protect photovoltaic installations. Lastly, the Group has a strong presence in the regions of the world where production of solar energy is currently developing most rapidly, namely Europe, China and North America. The graphite production capacity available to the Group increased considerably during 2007 thanks to the opening of the plant in China, which is helping the Group to make the most of its partnership and joint developments with the leading players in the worldwide industry. Carbone Lorraine is also set to continue supporting the growth in conventional energy sources. Firmly positioned in the brushes and fuses markets for power plants, the Group is set to benefit from the very large programs to replace aging infrastructure planned over the next 10 years. Developments expected in the nuclear energy sector should also harbor attractive growth opportunities in the future, and new technologies consuming graphite are currently being developed. Carbone Lorraine is actively participating in research programs in this field.

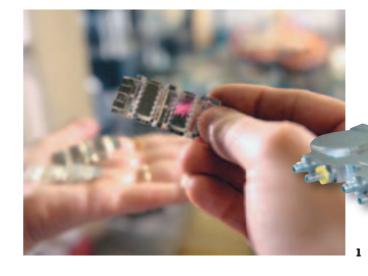
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# ELECTRONICS An ever-expanding market

Growth in the market for semiconductors, which are increasingly being added to everyday and industrial equipment, represents a fundamental trend in the global economy. Thanks to its technological excellence and its leadership positions in isostatic graphite, as well as in protection for power semiconductors, Carbone Lorraine is reaping the full benefit of this trend.

semiconductor market, which has seen brisk asion for many years, is currently riding high back of growing demand for light-emitting es (LEDs). Generating an energy saving of 20 owing to their low power consumption and their longer life, LEDs no longer only be used in indicator panels and mobile phones, flat-screen displays and automobile indicators, they will now be used to an increasing extent for lighting purposes in buildings. Carbone Lorraine is able to leverage its technological expertise because LED manufacturing processes, like those for silicon for conventional electronics applications, require high value-added machined graphite. In addition, in monocrystalline silicon, the Group boasts a technological lead deriving from its ability to produce very large graphite blocks, notably including at its new facility in Chongging,



1) Fuse elements.

2) Cooling devices protecting electronic equipment against heat.

**3)** Light-emitting diodes (LED) to generate energy savings.

# HIGHLIGHTS

# MORE RESILIENT GRAPHITE

In the very buoyant electronics sectors, Carbone Lorraine boasts technological expertise that gives it an edge over its competitors. The Group's Advanced Materials and Technologies division has particular know-how in the SiC deposition technique, which consists in coating graphite items with a layer of silicon carbide to give them an exceptionally long life.

#### INTEGRATION OF GES CROWNED WITH SUCCESS

The performance posted by US company Graphite Engineering and Sales (GES) following its acquisition by Carbone Lorraine in 2006 provides a highly telling example of the benefits of the Group's acquisition-led growth strategy. GES, which specializes in machining graphite equipment for high-temperature process industries (furnace equipment, metal processing, ceramic armours for military and aerospace applications, crucibles for the solar

energy industry, etc.), saw its sales increase by more than 15% between 2006 and 2007 thanks to its perfect integration with Carbone Lorraine's business model and the successful implementation of the anticipated synergies.



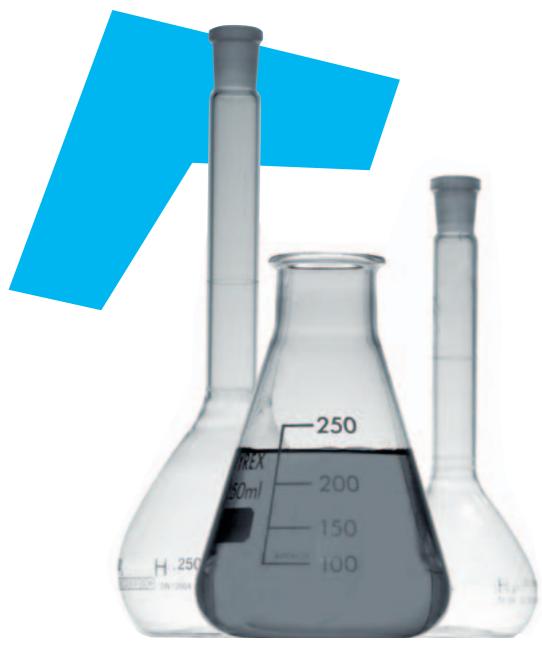
China. The machine shops recently set up by Carbone Lorraine in China, India and South Korea also represent a major strength.

# PROTECTION OF HIGH-POWER ELECTRICAL INSTALLATIONS

Carbone Lorraine is particularly well-placed and is recording rapid expansion in the protection of power semi-conductors used in major electrical and electronic industrial installations. Thanks to its innovative high-performance offering, the Group's Electrical Protection division supplies all the leading manufacturers with fuses and cooling devices protecting these items of equipment against voltage surges and heat.

Sales derived by the Group from the electronics sector.

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# CHEMICALS AND PHARMACEUTICALS

Promising outlook

Carbone Lorraine expects to achieve a CAGR of between 5% and 10% in anticorrosion equipment markets thanks to its positions in the particularly fast-growing sectors of fine chemicals and pharmaceuticals, as well as in Asian markets.

+20%
Yearly growth foreco

Yearly growth forecast out to 2010 in the anticorrosion equipment market dedicated to acetic acid applications.





# HIGHLIGHTS

#### KAPP MOVES INTO TOP GEAR

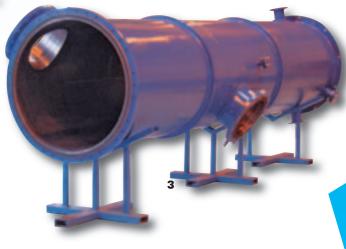
Acquired by Carbone
Lorraine in late 2006, this
business specializing in the
design and production of
welded plate heat
exchangers has seen its
sales grow by 60% in just
one year. This success,
which derives from the

technical and commercial synergies harnessed, is likely to go from strength to strength over the coming years. Together with Carbone Lorraine's CL Clad®, this welded plate heat exchanger technology has opened the door to new applications with great potential.



**2)** Plate heat exchanger.

3) Column
manufactured using
CL Clad®, the new
material patented
by Carbone Lorraine
(diameter: 1.10 meters).



he launch of CL Clad®, a new corrosion-resistant material developed and patented by Carbone Lorraine, has enabled the Group to bolster its positions in expanding markets. The process consists in coating steel with a thin layer of a noble metal with highly corrosion-resistant properties (e.g. tantalum, zirconium). Not only is CL Clad® more resilient to corrosion than rival materials, but it is cheaper to use and requires very little maintenance. The first items of equipment produced using CL Clad®, primarily for the pharmaceutical industry, were delivered to customers during 2007. Carbone Lorraine has also established strong positions in the fast-growing sectors of phosphate fertilizer production (increasingly used in major countries, such as China, India and Brazil) and in

acetic acid applications related to the manufacture of transparent plastic materials.

# AN OFFERING IN TUNE WITH THE MARKETS

Carbone Lorraine's other key assets in anticorrosion equipment include its ability to supply pre-assembled equipment meeting customer expectations and its unique 6m-long graphite tubes, which considerably reduce the risk of leaks. Lastly, thanks to the development of its graphite and noble metals production capacity in India and China, Carbone Lorraine is reaping the full benefit of expansion in the chemical and pharmaceutical industries in this very fast-growing region.

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# **MANUFACTURING IN ASIA**

Carbone Lorraine has already rolled out a major network of manufacturing plants in Asia. At year-end 2007, the Group had 17 production facilities covering the whole spectrum of its business activities. All these plants comply with the highest quality, safety and environmental protection standards. Further workshop extensions are also planned in Asia during 2008.



+27%
Organic growth recorded in Asia during 2007.

# A tremendous expansion driver

The growth recorded by Carbone Lorraine in 2007 in Asia was again very strong indeed. It provided further evidence that the strategy of the Group, which has invested a lot in recent years to develop its production facilities and its sales network across Asia, is remarkably effective.

ver the past five years, the proportion of Carbone Lorraine's sales deriving from Asia has soared from 9% in 2002 to 17.5% in 2007. It is expected to reach at least 25% by 2011, with more than one-third of 2006-11 growth coming from Asia. Although these developments depend on the dynamism of the Asian economy, they are primarily predicated on Carbone Lorraine's positioning in business segments that are expanding at a brisk pace in the region, including chemicals, electronics, solar energy, plastics. All the Group's divisions bolstered their sales force in the region during 2007.

#### MORE AND MORE PRODUCTION IN ASIA

Aside from its sales presence, Carbone Lorraine has systematically strengthened its production capacity in Asia. Fully operational since September 2007, the new plant in Chongqing is emblematic of this strategy. Complying with the world's highest standards in terms of both its industrial and environmental performance, the plant aims to achieve an annual production capacity of 5,000 tonnes of isostatic

graphite destined principally for high-temperature industrial applications. This plant saves several weeks in delivery times compared with shipments from the US, which represents a key advantage for the Group enabling it to be more responsive to the needs of its customers in Asia. During 2007, Carbone Lorraine commissioned two other manufacturing facilities in China. One produces advanced technology equipment for the wind energy sector (brushes, brush-holders, slip-ring assemblies and signal transmission systems), while the other manufactures semiconductor protection fuses, plus switching, isolation and current collection products.

In anticorrosion equipment, a segment for which China represents a larger and larger client market–particularly for fine chemicals, phosphate fertilizers and acetic acid–the workshop commissioned in 2006 had ramped up to achieve its peak production capacity as soon as by yearend 2007. New development projects are currently in progress. During 2007, China alone contributed 50% of the total anticorrosion division growth.

#### INDIA, SOUTH KOREA, JAPAN...

In India Carbone Lorraine trained and deployed during 2007 a sales team responsible for serving the Indian wind energy market and built a new graphite machine shop. In addition, production of small brushes for automobile auxiliary motors was transferred to India from the US and the Bangalore fuses plant now manufactures fuses to British standards, a key asset for the Electrical Protection activities. Also during 2007 Carbone Lorraine stepped up its production of machined graphite in South Korea, where the Group strengthened its market positions, notably with manufacturers in the photovoltaic segment.

Lastly, the Group's sales in Japan were also first-class in Electrical Protection as well as in High-Temperature applications.

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### KEY FIGURES

# EXPANSION PLANS OFF TO A FINE START

2007 saw another increase in the Group's sales. This strong performance was driven by selective investments, an unwavering emphasis on innovation and a positioning in extremely fast-growing markets. All the Group's businesses made progress during 2007 and contributed to the improvement in our earnings (excluding non-recurring items).

# Operating margin before non-recurring items

10.2 % 10.3 % 10.2 %



2005 2006 2007

The operating margin before non-recurring items held up at 10.2% of sales in 2007.

The IFRS operating margin (6.1% in 2007) was depressed by €7.8 million in non-recurring costs and income and through the write-off of the €20.2 million in automobile brush goodwill.

# Earnings PER SHARE IN EUROS — IFRS (continuing operations)

2.53 2.92 1.2



2005 2006 2007

Earnings per share were also affected by the write-off of the automobile brush goodwill. Even so, the Group will propose to pay out a dividend equivalent to that distributed in 2006 at the forthcoming Annual General Meeting, reflecting its confidence in the future.

# Debt-to-equity ratio\*

51 % 50 % 62 %

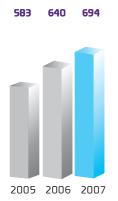


2005 2006 2007

The Group still has a healthy financial structure, even though it continues to finance a heavy program of expansion-related investments.

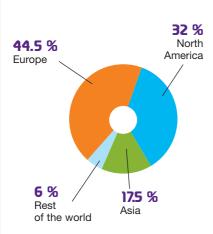
\*Ratio of net debt to equity.

# 2007 sales IN MILLIONS OF EUROS - IFRS (continuing operations)



Sales grew by 10% on a like-forlike basis during 2007. This performance was achieved through a positioning in fastexpanding markets, such as renewable energies, chemicals/pharmaceuticals and electronics, plus rapid development in Asia.

# Geographical analysis of 2007 sales



During 2007, Carbone Lorraine expanded across all its geographical regions. Its strongest growth of 27% was recorded in Asia. This region now generates 17% of the Group's sales.

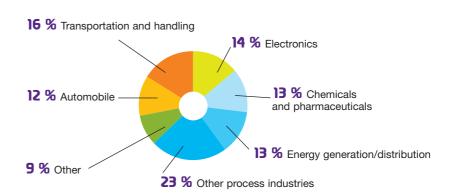
# Return on capital employed (ROCE)



At a time of more rapid strategic investments, the Group has maintained a healthy return on capital employed.

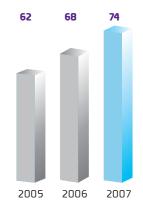
\*Restated for the exceptional write-off of automobile brush goodwill.

# 2007 Sales by market solutions for diversified industries



Carbone Lorraine is positionned on 7 main markets. 40% of sales derive from buyoant markets: energy, fine chemicals/pharmaceuticals and electronics. In 2007, the Group's sales on these markets grew by more than 12%.

# Cash generated by operating activities In MILLIONS OF EUROS



Cash generation remains a priority in Carbone Lorraine's financial strategy. During 2007, cash generated from operating activities recorded a significant increase.

\*After the working capital requirement.

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# AREAS OF EXCELLENCE

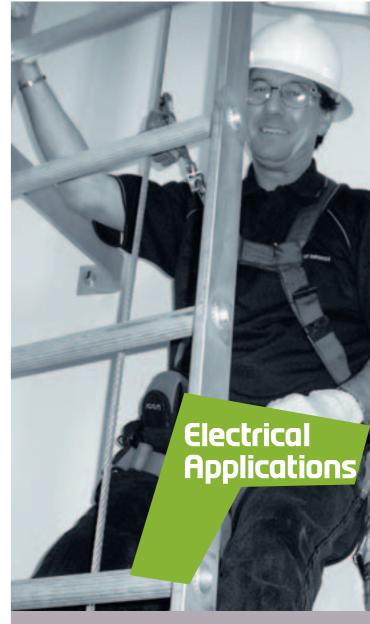
Thanks to its globally renowned expertise in advanced technology materials, such as isostatic graphite, Carbone Lorraine develops and implements innovative solutions for its industrial customers. In particular, it excels in designing solutions geared to extreme industrial environments, as well as in developing equipment that contributes to the energy efficiency of industrial installations.



arbone Lorraine is the world leader in equipment manufactured using graphite and other high-performance materials geared to highly demanding industrial environments. The Advanced Materials and Technologies division offers solutions based on isostatic graphite designed for high-temperature industrial processes (e.g. manufacture of silicon chips and solar cells, kiln linings, glass-making), as well as graphite and noble metals equipment used by the chemical and pharmaceutical industries that can be used to transport, mix and store hot and corrosive fluids. Carbone Lorraine is world no. 2 in isostatic graphite applications.



esigning, manufacturing and marketing innovative products and systems contributing to energy efficiency and the safety of equipment and electrical installations. This is the area of expertise of Ferraz Shawmut, Carbone Lorraine's subsidiary specializing in electrical protection. This division develops solutions based on fuses and fuseholders protecting low- and medium-voltage installations, very high-power switches, cooling devices enhancing the yield of power semiconductors, and current collectors for urban transportation systems, etc., meeting all the norms applicable around the world. Carbone Lorraine ranks as the world no. 2 in industrial fuses. A large proportion of sales derives from the division's extensive network of electrical equipment distributors.



arbone Lorraine's Electrical Applications division manufactures brushes and brushholders (key components in electric motors), slip-ring assemblies, slide contacts for current collection and signal transmission systems used in wind turbines. A world leader, Carbone Lorraine supplies the top global manufacturers and users of electric motors in all areas of industry, including rail, aerospace, automobiles, household electrical appliances, and power tools. There is also a growing demand for these products in the fast-expanding wind energy sector.

# BREAKDOWN OF 2007 SALES by business segment

