Science For A Better Life

Sustainable Development Report 2008

Sustainable Development Report 2008

Our Sustainable Development Report describes the economic, ecological and social challenges that are linked to our operations and shows the strategies and solutions that we are applying to meet them.

The goal of our report is to give our stakeholders comprehensive and candid information on how we as a company are promoting global sustainable development.

Our Sustainable Development Report is aimed at business partners, employees, stockholders, non-governmental organizations, suppliers, authorities and the general public. It was compiled on the basis of our dialogue with stakeholders and in particular addresses the issues which pose the sternest challenges and where our responsibility is greatest. We devote particular attention to topics that are highly relevant to our business and to which we can contribute efficient and effective solutions owing to our expertise.

The report therefore addresses several focus issues that, in line with the above criteria, currently form the centerpiece of our sustainability commitment owing to their urgency both for us and our stakeholders, namely climate protection, global access to medicines and responsible and efficient use of water. The latest developments regarding the focus issues of "Corporate Compliance" and "Procurement Management" that were featured in the 2007 report have been integrated, for example, into the "Strategy and Management" section.

The focus issue articles are followed by our Performance Report, which gives an overview of all other facts and figures that are relevant to the sustainability management of the Group, allowing the reader quick and easy access to data on our Group-wide sustainability performance.

In the portrayal of the information we have endeavored to ensure maximum transparency, clarity of layout and ease of verification. The statements provided here apply to all sites and activities of the Bayer Group. All data in the focus issue articles and in the Performance Report were subjected to an assurance process by Ernst & Young (see page 102 f.).

The report is published in German and English. The editorial deadline was April 30, 2009. Our next Sustainable Development Report is due to be published in 2010.

We value your opinion. Let us know what you think of the report by answering the questionnaire online at **www.survey.sustainability.bayer.com**.

An important orientation for our reporting is provided by the guidelines of the Global Reporting Initiative (GRI), with which, in this report, we comply fully (level A+). The GRI has checked and confirmed that level A+, the highest reporting level, has been maintained. An index at the end of the report lists the pages on which information is provided on the individual GRI indicators.

WWW Further information on the Internet

The report is supplemented by further information given on our website. The report contains references to enable easier access: At **www.sustainability2008.bayer.com** you will find a page entitled "Additional Info Links." Here, all references are listed with a corresponding code number. By clicking on these you will go to the desired information.

BAYER GROUP KEY DATA

	2007	2008	Change
	€ million	€ million	in %
Bayer Group			
Sales	32,385	32,918	+1.6
EBITDA[1]	5,866	6,266	+6.8
EBITDA before special items	6,777	6,931	+2.3
EBIT[2]	3,154	3,544	+12.4
EBIT before special items	4,287	4,342	+1.3
Income before income taxes	2,234	2,356	+5.5
Net income	4,711	1,719	-63.5
Earnings per share (€)[3]	5.84	2.22	-62.0
Core earnings per share (€)[4]	3.80	4.17	+9.7
Gross cash flow[5]	4,784	5,295	+10.7
Net cash flow[6]	4,281	3,608	-15.7
Capital expenditures	1,891	1,982	+4.8
Research and development expenses	2,578	2,653	+2.9
Dividend per Bayer AG share (€)	1.35	1.40	+3.7
Bayer HealthCare			
External sales	14,807	15,407	+4.1
EBITDA[1]	3,065	3,692	+20.5
EBITDA before special items	3,792	4,157	+9.6
EBIT[2]	1,564	2,181	+39.5
EBIT before special items	2,492	2,764	+10.9
Gross cash flow[5]	2,389	3,045	+27.5
Net cash flow[6]	2,010	2,259	+12.4
Capital expenditures	593	610	+2.9
Bayer CropScience			
External sales	5,826	6,382	+9.5
EBITDA[1]	1,204	1,450	+20.4
EBITDA before special items	1,324	1,603	+21.1
EBIT[2]	656	918	+39.9
EBIT before special items	786	1,084	+37.9
Gross cash flow[5]	961	1,192	+24.0
Net cash flow[6]	1,040	736	-29.2
Capital expenditures	223	314	+40.8
Bayer MaterialScience			
External sales	10,435	9,738	-6.7
EBITDA[1]	1,542	1,041	-32.5
EBITDA before special items	1,606	1,088	-32.3
EBIT[2]	1,042	537	-48.5
EBIT before special items	1,117	586	-47.5
Gross cash flow[5]	1,228	850	-30.8
Net cash flow[6]	1,147	782	-31.8
Capital expenditures	889	831	-6.5

[1] EBITDA: EBIT plus amortization of intangible assets and depreciation of property, plant and equipment. EBITDA, EBITDA before special items and EBITDA margin are not defined in the International Financial Reporting Standards and should therefore be regarded only as supplementary information. The company considers underlying EBITDA to be a more suitable indicator of operating performance since it is not affected by depreciation, amortization, write-downs/write-backs or special items. The company also believes that this indicator gives readers a clearer picture of the results of operations and ensures greater comparability of data over time.
The underlying EBITDA margin is calculated by dividing underlying EBITDA by sales.

[2] EBIT as shown in the income statement

[3] Earnings per share as defined in IAS 33 = net income divided by the average number of shares

[4] Core earnings per share is not defined in the International Financial Reporting Standards and should therefore be regarded only as supplementary information. The company believes that this indicator gives readers a clearer picture of the results of operations and ensures greater comparability of data over time.
The calculation of core earnings per share is explained on page 21 of the Annual Report 2008.

[5] Gross cash flow = income from continuing operations after taxes, plus income taxes, plus/minus non-operating result, minus income taxes paid or accrued, plus depreciation, amortization and write-downs, minus write-backs, plus/minus changes in pension provisions, minus gains/plus losses on retirements of noncurrent assets, plus non-cash effects of the remeasurement of acquired assets.
The change in pension provisions includes the elimination of non-cash components of the operating result. It also contains benefit payments during the year.

[6] Net cash flow = cash flow from operating activities according to IAS 7

Bayer

Bayer AG defines common values, goals and strategies for the entire Group. The subgroups and service companies operate independently, led by the management holding company. The Corporate Center supports the Group Management Board in its task of strategic leadership.

Bayer HealthCare

Bayer HealthCare is among the world's foremost innovators in the field of pharmaceutical and medical products. This subgroup's mission is to research, develop, manufacture and market innovative products that improve the health of people and animals throughout the world.

Bayer CropScience

Bayer CropScience, with its highly effective products, pioneering innovations and keen customer focus, holds global leadership positions in crop protection and non-agricultural pest control. The company also has major activities in seeds and crop plants with genetically optimized properties.

Bayer MaterialScience

Bayer MaterialScience is a renowned supplier of high-performance materials such as polycarbonates and polyurethanes, and innovative system solutions such as polyurethane, coating and adhesive raw materials, for a wide range of everyday uses. Products holding leading positions on the world market account for a large proportion of its sales.

Bayer Business Services

Bayer Business Services is the Bayer Group's international competence center for IT-based services. The focus of this company's offering is on integrated services in the core areas of IT infrastructure and applications, procurement and logistics, human resources and management services, and finance and accounting.

Bayer Technology Services

Bayer Technology Services, the global technological backbone and a major innovation driver of the Bayer Group, is engaged in process development and in process and plant enginiering, construction and optimization.

CURRENTA

CURRENTA offers services for the chemical industry including utility supply, waste management, infrastructure, safety, security, analytics and vocational training.

Working to create value through innovation and growth

Bayer is a global enterprise with core competencies in the fields of health care, nutrition and high-tech materials. Our products and services are designed to benefit people and improve their quality of life. At the same time we want to create value through innovation, growth and high earning power.

We are firmly aligned to our mission statement "Bayer: Science For A Better Life" and continue to optimize our portfolio, concentrating our activities in three high-potential, efficient subgroups with largely independent operations: HealthCare, CropScience and MaterialScience. These provide us with access to major global growth markets and are supported by our service companies.

As an inventor company, we plan to continue setting trends in research-intensive areas. Innovation is the foundation for competitiveness and growth, and thus for our company's success in the future.

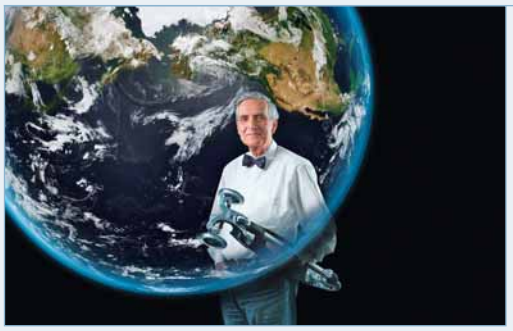
Our knowledge and our products are helping to diagnose, alleviate or cure diseases, improving the quality and adequacy of the global food supply, and contributing significantly to an active, modern lifestyle. Our expertise and innovative capability also enable us to offer solutions for protecting the climate and addressing the consequences of climate change.

We are committed to the principles of sustainable development, and to our role as a socially and ethically responsible corporate citizen. For us, there is a clear link between technical and economic expertise and corporate social responsibility. This, in turn, we define as our responsibility to work for the benefit of humankind, become socially involved and make a lasting contribution to sustainable development. At Bayer, we regard economy, ecology and social commitment as objectives of equal rank.

We seek to retain society's confidence through performance, flexibility and open communication as we work in pursuit of our overriding goals: to steadily create corporate value and generate high value-added for the benefit of our stockholders, our employees and the community in every country in which we operate.

reviewed by an independent auditor

Innovations for climate protection



Bayer is taking an active and integrated approach to the challenges posed by climate change by making substantial investments in climate protection and specifically developed products and processes. In addition to fulfilling the company's global commitment, the Bayer Climate Program also unlocks new economic potential.
Read more starting on page 30

Global access to medicines

Bayer is involved in a broad alliance of international organizations, governments, companies and non-governmental organizations that is committed worldwide to enabling universal access to health care. With our strategy of "Social Health Care Programs," we would like to ensure that as many people as possible can benefit from our medical products and innovations. For more information see page 36

Responsible and efficient use of water

Water is essential for sustaining life. However, this valuable resource is distributed unevenly throughout the world and is also often used wastefully and polluted. This is resulting in severe ecological damage, disease, food shortages and violent conflicts. By developing and promoting solutions to support more efficient and responsible consumption of water, Bayer is doing its utmost to conserve one of the most crucial of all raw materials. Find out more starting on page 42

Werner Wenning,
Chairman of the Board of Management
of Bayer AG

We are aiming for sustainability in everything we do.

Dear readers,

The global financial and economic crisis has clearly shown that short-term thinking and actions can have dramatic consequences. Aligning business to sustainable success has been top priority at Bayer for a long time, and this strategy is proving effective even in a difficult environment.

Our overriding goal is to operate both successfully and sustainably. To achieve this, we want to achieve commercial success on the basis of solid business models in a way that is compatible with meeting the needs of our employees and society and protecting the environment and natural resources. We are thus committed to the tenets of sustainable development and to the 10 principles of the United Nations Global Compact. In short, we are aiming for sustainability in everything we do.

We are looking to tackle this broad challenge on three levels. Firstly, with our products and services: These are designed to be innovative, benefit people and improve their quality of life. Secondly, we want to act responsibly across the entire value-added chain – in relation to all our interest groups, especially our employees, customers, suppliers and stockholders. Thirdly, we also want to meet our responsibility to society by becoming socially involved as a good corporate citizen.

In essence, sustainability means future viability. For that reason we are investing specifically in a sustainable future – both through our social and through our business activities. Despite the economic crisis, we plan to increase research and development spending in 2009 to the record level for Bayer of approximately €2.9 billion, which is the third-highest ratio of R&D expenditures to revenue generated of any German company. That is how we safeguard growth, jobs and prosperity. Success tomorrow demands investment today. The time to compete for tomorrow's best products and technologies is now.

In this connection, we are focusing clearly on the global megatrends – including in particular the development of the world population and the associated issues of safeguarding food supplies, health care provision, energy efficiency and effective climate protection. We are aligning our portfolio and our sustainability management to these challenges. And we offer innovative strategies, products and solutions across the entire spectrum of these issues of the future.

The climate program we initiated at the end of 2007 clearly signalizes that Bayer wants to be a world leader in climate protection. In the Bayer Climate Check, for example, we have introduced an innovative tool for the comprehensive analysis of energy efficiency that helps us to achieve our ambitious global goals with respect to achieving further reductions in greenhouse gas emissions. We have since already analyzed more than half of our facilities worldwide that are of relevance from an emissions standpoint.

Safeguarding the future also involves investing more heavily in education. Society at large needs to pay special attention to this task. Bayer for many years has trained more young people than it needs for its own operations, and supports numerous school projects through the Bayer Science & Education Foundation. Particularly as regards young people, it is important to us that we live the principle of sustainability as an integral element of our mission statement. Only in this way can we impart enthusiasm in tomorrow's top performers. After all, for increasing numbers of talented young people, value-based corporate governance is a key criterion when choosing a job.

Also at the top of our agenda last year was the issue of legal compliance and corporate responsibility. We revised our Corporate Compliance Policy and introduced it to all Group employees through a global communication campaign. We want to steadily improve in this area, too, so as to maintain our company's good reputation.

The success of our business and sustainability strategy has been confirmed for many years by international sustainability indices and funds. For example, Bayer was once again included in the Dow Jones Sustainability World Index (DJSI World) for the 2008/2009 period – the company's tenth consecutive listing in the world's most important sustainability index. Bayer is also the first European chemical and pharmaceutical company to be listed for the fourth consecutive time in the Carbon Disclosure Leadership Index – the world's first climate protection index.

We are very pleased to receive such recognition. It serves as an incentive for us to continue coming up with the right answers to address the long-term global challenges with solution-oriented products and services, and thus exploit the associated business opportunities for our company – fully in keeping with our mission statement "Bayer: Science For A Better Life."

Sincerely,

Xarelto on the way to worldwide registration

The novel anticoagulant Xarelto® (rivaroxaban) can already be used for the prevention of venous thromboembolism in adults following elective hip or knee replacement surgery in more than 20 countries, including the countries in the European Union, China, Canada, Mexico, Australia and Singapore. Further applications for regulatory approval are currently being reviewed by the responsible authorities worldwide, including in the United States. Studies in this indication have shown that rivaroxaban is more effective than the current standard therapy. This drug is currently the most intensively investigated oral Factor Xa inhibitor in clinical development. More than 60,000 patients in total are scheduled to take part in this trial program to investigate the substance's potential in the prevention and treatment of a broad spectrum of acute and chronic thromboembolic disorders. The oral administration form of Xarelto® makes it easier for the patient to take the drug and leads to treatment adherence. Experts estimate the product's sales potential at more than €2 billion per year.

Hopeful candidate: Bayer chemists Dr. Susanne Roehrig and Dr. Alexander Straub use a computer simulation to examine the molecular contours of rivaroxaban.

New pilot plant for carbon nanotubes

Bayer MaterialScience started work on the construction of a new pilot facility for carbon nanotubes (CNTs) in January 2009. The new plant in Leverkusen will have a capacity of 200 metric tons per year, making it one of the largest of its kind in the world. CNTs marketed by Bayer MaterialScience under the trade name Baytubes® are already being used to produce materials that are extremely strong and resilient, but at the same time very light in weight. They help to make rotor blades for wind turbines more energy-efficient, transport vessels lighter and sporting equipment stronger. Baytubes® are many times stronger than steel, but have only a fraction of its weight.

Innovation alliance: Bayer Management Board member Dr. Wolfgang Plischke (left) and Secretary of State Thomas Rachel of the German Federal Ministry for Education and Research pictured with a carbon nanotube model at the official construction launch of the plant

Renewed inclusion in important sustainability indices

Bayer appeared for the tenth time in a row in 2008/2009 in the Dow Jones Sustainability Index World (DJSI World). The world's most important sustainability index is based on a Corporate Sustainability Assessment by the well-known Swiss rating agency SAM Research. In September 2008, Bayer was once again listed in the Carbon Disclosure Leadership Index, the first global climate protection index. Through this inclusion, the investor group of the Carbon Disclosure Project (CDP) in New York has highlighted that Bayer is one of the leading international companies in the field of climate protection.

Explosion in Institute

An explosion and fire occurred at a Bayer CropScience plant in Institute, West Virginia on August 28, 2008. Two employees died as a result of the incident. Air samples taken at the site boundaries did not reveal any elevated concentrations of hazardous substances in the environment (see also page 72).

Innovation award for photovoltaic module

Modern solar technology is in demand all over the world. At the "Symposium on Photovoltaic Solar Energy" held in Bad Staffelstein, Germany, in March 2009, the new Solon Black 160/05 in-roof module, a joint project between the Berlin-based company Solon SE and Bayer MaterialScience, was awarded a prestigious innovation award. The novel feature of this solar module is an innovative frame with an integrated mounting system based on the polyurethane foam Bayflex®, which replaces the conventional installation system. This design makes an expensive substructure unnecessary. A further advantage is the wide range of possible design options. In contrast to the conspicuous box-like structure of solar systems with aluminum frames, a network of several solar modules with polyurethane frames gives the appearance of a continuous surface. BaySystems is the umbrella brand for the global polyurethane systems business of Bayer MaterialScience and is built on close cooperation with customers – an approach that has yet again proven successful with this innovation. The project is the latest example of Bayer MaterialScience's outstanding commitment to climate protection.

Bayer endows Chair of Sustainable Development

With an endowment of US$1 million, Bayer CropScience enabled a Chair of Sustainable Development to be established at the North Carolina State University (NCSU), United States, in January 2009. With this collaboration, Bayer has found a partner in its research efforts to find solutions to the complex problems that issues like global climate change, population growth, and food and water shortages present.

New pipeline for the CO network

Bayer MaterialScience (BMS) is extending the existing integrated carbon monoxide system between Dormagen and Leverkusen by constructing a new CO supply pipeline between the chemical facilities at Dormagen and Uerdingen. The North Rhine-Westphalia (NRW) state parliament established repeatedly that the project serves the public good. In addition, in April 2009, BMS and the state of NRW concluded an agreement safeguarding the benefit of the public good of the pipeline. In October 2008, the Düsseldorf district authorities issued a plan supplement order in addition to the original plan approval order. The commissioning of the pipeline is also dependent on legal proceedings, since nearby residents are worried about health risks. Bayer is very much aware of its responsibility to its neighbors and the region. The safety of the pipeline takes top priority and has been attested in several expert reports. Bayer is keen to maintain close contact with the local community and provides comprehensive information about the project, for example in a brochure entitled "Your Questions Answered," which has been available since October 2008.

Bayer receives BDI Environmental Award

Bayer has driven forward the development and application of the energy-saving oxygen depolarized cathode technology for chlorine production as part of the Bayer Climate Program. As a result, in June 2008, Bayer was presented with two prizes – the Environmental Award of the Federation of German Industries (BDI) in the category "Environmentally Friendly Technologies" and a European Business Award for the Environment. Oxygen depolarized cathode technology reduces electricity consumption and levels of CO_2 emissions by 30 percent compared with conventional methods. Since 2003, Bayer has been using the technology at its Brunsbüttel site in Germany and since 2008 on a major industrial scale in a facility in Shanghai, China. Among other applications, chlorine is used to produce high-grade polyurethanes. The innovative technology makes targeted use of oxygen in the electrolysis of hydrochloric acid to reduce the electrical energy required.

Potential savings: Bayer employee Jörg Bäther checks the oxygen inlet pipes of an oxygen depolarized cathode.

Rice activities in the Asia/Pacific region strengthened

In November 2008, Bayer CropScience opened a rice development center in Thailand in order to make possible a second green revolution in Asia. The center will considerably extend the company's activities for breeding and marketing commercial rice seed in the region. Some 90 percent of the global rice harvest is produced in Asia and also consumed there. The introduction of high-quality seed tailor-made for the local weather and growing conditions will help to safeguard the global food supply in the 21st century. To this end, Bayer CropScience is concentrating on high-yield varieties like Arize®. The scientists at the new facility will develop hybrid rice with innovative traits with crop-growing relevance, such as resistance to certain diseases or pests. Bayer CropScience previously opened a rice research laboratory in Singapore in June 2008.

Safeguarding food: According to the latest estimates, rice production will have to increase by up to 40 percent by 2030 to meet the demand of a rapidly growing population.

Influence on pharmaceutical prices

In May 2008, the German Federal Cartel Office (Bundeskartellamt) imposed a €10.34 million fine on Bayer Vital, the German marketing subsidiary of Bayer HealthCare. The Office believes that it has evidence to show that employees of the company influenced the retail prices of non-prescription (OTC) drug products in pharmacies in violation of antitrust law. Bayer Vital does not share the legal position of the Bundeskartellamt. However, in order to avoid a protracted legal conflict and the associated negative repercussions on its business activities, Bayer Vital GmbH decided to accept the fine. In addition, Bayer Vital has reviewed the marketing measures for its OTC medicines in pharmacies in their entirety and made changes where this was appropriate and necessary.

New research center in China

Bayer HealthCare and Tsinghua University in Beijing, China entered into a comprehensive strategic partnership in March 2009. They plan to establish a joint research center: the Bayer-Tsinghua (Institute of Biomedicine) Research Center of Innovative Drug Discovery. The research center is part of an initiative of Bayer HealthCare's new Research and Development Center in Beijing, in which scientists from the Global Drug Discovery Innovation Center will drive forward innovative approaches for the discovery of new therapies in the context of research collaborations. Bayer HealthCare plans to invest some €100 million in this project in the coming five years.

Bayer sponsors first Chair for Apparatus Engineering at Dortmund's Technical University

In February 2009, Bayer sponsored the first Chair for Apparatus Engineering at the Technical University (TU) of Dortmund, Germany. The professorship will be financed by Bayer with a donation of €750,000 for the first five years, after which its costs will be borne by the TU. Apparatus engineering will in future play an even more important role in the planning and construction of chemical production plants. Modularized facilities, a main topic for the new Chair, are designed to provide greater flexibility and economic efficiency. Another area of focus is micro-process engineering, which is used to help with the building of ultra-small production plants.

Environmentally conscious employer

In April 2009 Bayer Inc. was selected as one of Canada's 30 Greenest Employers for 2009 by Maclean's Magazine. Together with Toronto-based publisher Mediacorp. Canada Inc., the magazine assessed companies with respect to their level of environmental awareness. The jury assessed not only specific climate initiatives and programs, but also the extent to which the workforce was involved in these activities.
Bayer Inc. was praised in particular for its Green Matters initiative, one of the main projects of which is "Operation Zero Waste." This has the goal of diverting 80 percent of Bayer head office waste from landfills by 2010.

Cooperation for sustainably safeguarding the food supply

In March 2009, Bayer CropScience and the French National Center for Scientific Research (CNRS) in Paris renewed a framework agreement signed in 2005. The new joint research projects pursued under this agreement are intended to contribute to ensuring a sustainable food supply for a growing world population against the background of climate change. Over the next four years, Bayer CropScience will invest some €4 million in joint research projects. This funding will support basic research projects at a number of CNRS institutions throughout France. One of them is the "mixed laboratory" with a team of about 20 researchers at the La Dargoire research campus operated by Bayer CropScience in Lyon. A multidisciplinary approach will be adopted to improve the stress tolerance of plants and find ways to increase yields – areas in which several CNRS research teams are among the global leaders.

Signing the agreement (left to right): Professor Friedrich Berschauer, CEO of Bayer CropScience, Arnold Migus, General Director of the CNRS, and Dr. Alexander Klausener, Head of Research at Bayer CropScience, put the seal on the agreement.

Young Environmental Envoys visit Bayer

At the beginning of November 2008, 50 Young Environmental Envoys from 18 countries on four continents spent a week in Leverkusen, Germany, to find out about developments in and prospects for environmental protection and sustainable development. The young people on the field trip were selected from around 1,200 participants on the basis of the environmental projects they presented in special competitions organized by Bayer in their home countries. Their schedule included tours of various Bayer sites, discussions with sustainability experts on site and visits to communal institutions and other companies. The Young Environmental Envoy Program is one of the key elements in an alliance between Bayer and the United Nations Environment Programme (UNEP) for youth and the environment. When the Environmental Envoys return home, they are able to raise awareness of sustainable development by passing on the impressions, experience and insights they have gained. Many former participants in this Bayer initiative now have jobs where they play a key role in environmental protection in their home countries.

Excursion: Young Environmental Envoys from various countries learn at Bayer what is important for conserving nature. Here, Emah Madegwa and Fernando Zetrialdi (from right) are shown together with Dr. Annemarie Simons in Bayer CropScience's student lab in Monheim. The Envoys can spread the knowledge they have gained during the trip on their return home.

Cooperation in the battle against cancer

In November 2008, the German Cancer Research Center and Bayer HealthCare formed a strategic research alliance scheduled to run for an initial period of two years. The collaboration is aimed at enabling more rapid exploitation of research findings for the development of new cancer drugs and enhancing the evaluation of innovative therapeutic approaches for tumor diseases. To this end, the partners will each invest €1.75 million in joint cancer research through 2010. The cooperation will focus on joint application-oriented research into molecules, mechanisms and models that could provide the impetus for the development of new anticancer therapies.

Innovative collaboration: Bayer employee Gary Davis contributes to the cooperation by, for example, investigating potential biomarker proteins in the mass spectrometer.

Awards for company

Bayer is recognized as Brazil's best chemical and pharmaceutical company. This was the result of a survey conducted in November 2008 by Época Negocios Magazine, one of the country's leading business news magazines. Respondents were asked to rank over 200 local and international companies on several criteria, including trust, quality, social and environmental responsibility, and innovation. The Group is also a top performer when it comes to online recruitment. Bayer's career website for its German operations is rated one of the best in Europe. Swedish consultants Potentialpark awarded Bayer first place among German companies in its "Top Employer Web Benchmark 2009." Bayer's career website is now permitted to display the logo "Top Career Website 2009."

UNEP-Bayer painting competition

The United Nations Environment Programme (UNEP), which Bayer teams up with to organize the annual International Children's Painting Competition on the Environment, auctioned selected pictures in New York in October 2008, raising a total of US$ 21,000. The proceeds will be donated to an aid fund administered for children in a position of need following climate-related disasters. UNEP and Bayer arrange a children's painting competition every year on a major environmental theme. More than 15,000 children from 90 countries took part in 2008. The exhibition of paintings from last year's competition on the subject of climate change has also been shown in Italy, Poland, Hungary, Germany and Malta.

Handing over the check: UNEP Executive Director Achim Steiner (right) with the young artists and guests in New York

Marketing authorization suspended

In spring 2008, incorrectly dressed corn seed led to large-scale bee mortality in the Oberrhein region of Germany. As the seed treatment product Poncho® had been used to protect the crop against the dreaded western corn rootworm, the German Federal Office for Consumer Protection and Food Safety (Bundesamt für Lebensmittelsicherheit und Verbraucherschutz, BVL) suspended the marketing authorization for this corn seed dressing in May 2008. Bayer CropScience has since submitted documentation verifying the safety of the product when used correctly. Bayer CropScience also agreed to pay a settlement of €2 million to support the beekeepers affected by the population losses. Further information on the topic of bee safety can be found on page 101.

Settlement with the U.S. Department of Justice

Investigations by the U.S. Department of Justice into certain marketing programs conducted by Bayer HealthCare's Diabetes Care Division between 1998 and 2003 ended with a settlement in November 2008. Bayer HealthCare agreed to make a one-off payment of US$97.5 million and the case was closed to avoid further time-consuming and expensive disputes and the associated legal uncertainties. The settlement does not, however, amount to an admission of guilt on the part of Bayer HealthCare. The company has cooperated in full with the authorities since the start of the investigation in 2003.

New project to support women: start of the Women's Leadership Initiative

In January 2009, Bayer HealthCare (BHC) launched the Women's Leadership Initiative (WLI). The initiative is aimed at further strengthening diversity in the workforce. The event was attended by 120 female Bayer HealthCare managers working in the United States. In his presentation, Arthur J. Higgins, Chairman of the BHC Executive Committee, said, "We have a lot of diversity to offer in our portfolio, our products and from a geographical point of view, but when it comes to our employees there is still a need for action. The Women's Leadership Initiative is an important step towards fully utilizing our workforce's potential." With the WLI, BHC is pursuing two objectives at the same time: to be perceived as an attractive company by women in top management positions and also to further develop female managers.

Woman power: The participants at the conference discussed ways of increasing the number of women in managerial positions at Bayer HealthCare.

Support for the earthquake region of Sichuan

New hope: The donations made by Bayer and its employees helped to provide rapid and sustainable aid, e.g. in the form of emergency accommodation and health care provision. Bayer employee Brenda Gong is one of more than 100 staff who are helping out in the earthquake zone.

In response to the devastating earthquake in Sichuan, China, in May 2008, the Bayer Cares Foundation provided the Sichuan Technology and Business College with 20 classrooms, 50 apartments and a mobile health center in the form of modern containers. Teams of experts from the three Bayer subgroups under the project management of Bayer Technology Services worked closely together on developing, constructing and delivering the containers. The total cost of the project, which amounted to €825,000, was borne by the Bayer Cares Foundation. This brings the total amount of aid donated by Bayer to the earthquake victims in China in the form of medicines and material and monetary donations to more than €2.2 million by the end of 2008. Providing rapid, unbureaucratic help for people affected by natural catastrophes is one of the main objectives of the Bayer Cares Foundation.

Creating value for the future

Health care, nutrition and high-tech materials are our core competencies. In all three areas Bayer pursues a clear objective: to offer innovative products and services that help people and improve their quality of life, to provide society with high value-added and to create corporate value – for the benefit of our stockholders, our employees, and the community in every country in which we operate.

Our commercial success

2008 was a successful year for Bayer in an increasingly difficult economic environment. Our diversified product portfolio generated sales of €32.9 billion, an increase of 1.6 percent compared with 2007. After taxes and income attributable to non-controlling interests, Group net income was €1.7 billion (see page 53 ff.).

Our stock

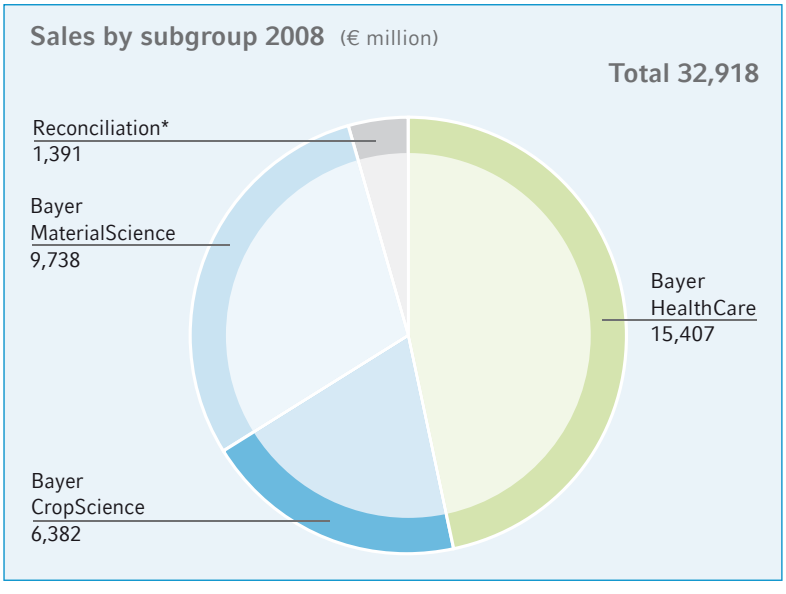
Caught up in the global market turbulence in 2008, Bayer stock dropped 33.6 percent over the year. Including the dividend of €1.35 per share paid in May, its performance in 2008 amounted to minus 31.9 percent. Despite the drop in the share price, Bayer's performance was in the top third of the DAX 30 companies. The stockholders' equity of the Bayer Group as of December 31, 2008 was €16.34 billion, of which €77 million was attributable to Bayer AG stockholders.

Our stockholder structure continues to be highly international: According to a survey on institutional investors' shareholdings in 2008, 80 percent of the identified capital is held by investors based outside Germany. 43 percent is held by investors whose base is in the United States. Our Board of Management and Investor Relations Department engage in regular dialogue with private and institutional investors. The Annual Stockholders' Meeting, investor conferences, forums for private investors and roadshows are important tools for this.

The U.S. index provider Morgan Stanley Capital International (MSCI) reclassified Bayer stock from the "Diversified Chemicals" category of the "Materials" sector to the "Pharmaceuticals" category of the "HealthCare" sector with effect from July 1, 2008, reflecting our new focus on the health care business.

Our acquisitions, investments and payments to stockholders in 2008

Bayer HealthCare acquired the Eastern European OTC business of Sagmel Inc. for €265 million in 2008. Disbursements of €695 million were also made for the acquisition of the remaining interest in Bayer Schering Pharma AG, Berlin, Germany. Following the



* Not directly allocable to the subgroups, e. g. sales of the service companies

entry of the squeeze-out in the commercial register, the remaining minority stockholders received cash compensation of €98.98 per share for their stock.

Bayer CropScience invested in expansion of herbicide production capacity at its sites in Frankfurt and Knapsack in Germany and in a new formulating plant for insecticides in Hangzhou, China.

Bayer MaterialScience started up the world's largest production facility for diphenylmethane diisocyanate (MDI) in Shanghai, China, in October 2008. This subgroup also started construction of a pilot plant for the production of carbon nanotubes.

Our Annual Report 2008 gives an overview of the main investments and further acquisitions that were made in the period under review.

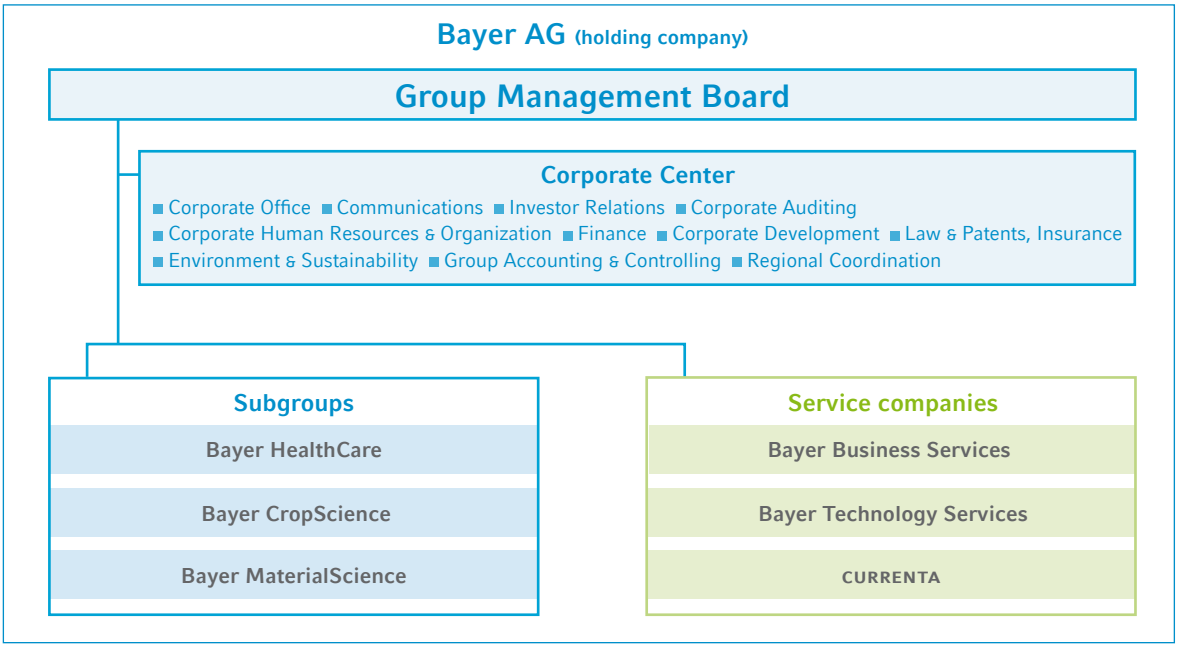
Our corporate structure

The present Bayer AG traces its roots to a company established in Wuppertal, Germany, in 1863 and has been headquartered in Leverkusen since 1912. Today, the Group comprises around 320 companies on five continents. The Bayer Group is headed by a management holding company. This sets the strategic framework for the subgroups and service companies, which operate as separate legal entities. The operational business is divided among three subgroups: Bayer HealthCare, Bayer CropScience and Bayer MaterialScience. Our three service companies – Bayer Business Services GmbH, Bayer Technology Services GmbH and CURRENTA GmbH & Co. OHG provide services for both internal and external customers.

Our corporate governance

Under the German Codetermination Act, the Supervisory Board of Bayer AG comprises ten representatives of the stockholders and ten representatives of the workforce. In compliance with its statutory obligations, in 2008 the Supervisory Board fulfilled its role of advising and continuously overseeing the Board of Management.

The ongoing development of corporate governance at Bayer and the amendments to the German Corporate Governance Code in June 2008 were among the central issues discussed by the Supervisory Board in 2008. In December the Board of Management and Supervisory Board renewed their declaration that Bayer AG fully complies with the recommendations of the German Corporate Governance Code.



Our compensation policy

The compensation of the Board of Management basically comprises four components: a fixed annual salary, a short-term incentive award on a yearly basis in relation to a target amount, a long-term incentive award for a three-year period in relation to a target amount, and a company pension plan conferring pension entitlements that increase with years of service. Remuneration in kind and other benefits are also provided, such as the use of a company car for private purposes or reimbursement of the cost of health screening examinations. The fixed salary consists of two parts: a base salary and a fixed supplement. The short-term incentive award for 2008 is calculated partly according to the Group's EBITDA margin before special items, and partly according to the weighted average target attainment of the HealthCare, CropScience and MaterialScience subgroups. The latter is based mainly on the subgroups' target attainment measured by EBITDA before special items as well as a qualitative appraisal in relation to the market and competitors.

The compensation of the Supervisory Board is determined according to the provisions of the Articles of Incorporation, which provisions were approved by the Annual Stockholders' Meeting on April 29, 2005. This provides that, in addition to reimbursement of their expenses, each member of the Supervisory Board receives fixed annual remuneration of €60,000 and a variable remuneration component. The variable remuneration component is based on corporate performance in terms of the gross cash flow reported in the consolidated financial statements of the Bayer Group for the respective fiscal year. The members of the Supervisory Board receive €2,000 for every €50 million or part thereof by which the gross cash flow exceeds €3.1 billion, but the variable component for each member may not exceed €30,000. In accordance with the provisions of the German Corporate Governance Code, additional remuneration is paid to the Chairman and Vice Chairman of the Supervisory Board and for chairing and membership of committees. The Chairman of the Supervisory Board receives three times the basic remuneration, while the Vice Chairman receives one-and-a-half times the basic remuneration. Members of the Supervisory Board who are also members of a committee receive an additional one quarter of the amount, with those chairing a committee receiving a further quarter. However, no member of the Supervisory Board may receive total remuneration exceeding three times the basic remuneration. It has been agreed that no additional remuneration shall be paid for membership of the Nominations Committee. If changes are made to the Supervisory Board and its committees during the fiscal year, members receive remuneration on a pro-rated basis. Details of remuneration received by individual members of the Board of Management and Supervisory Board are disclosed in our Annual Report.

In order to link the variable remuneration of Bayer executives directly to success in the sustainability arena, we have also started to include sustainability criteria in their annual personal performance targets. Our aim is to ensure a close link between sustainability targets and variable compensation components throughout the Group.

Our global workforce

Bayer's success is based on the daily commitment of our 108,600 employees (2007: 106,200) around the world, around 34 percent (2007: 36.8 percent) of whom work at our sites in Germany. Globally, around 74 percent (2007: 76.5 percent) of our employees are in countries that belong to the Organisation for Economic Co-operation and Development (OECD). Almost 26 percent (2007: 23.5 percent) work in a total of 43 non-OECD countries. The largest of these is China, where we have around 6,800 employees, followed by India (3,500) and Brazil (3,300).

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2 Investor Relations
3 Stock market indices which include Bayer
4 Supervisory Board
5 Corporate governance
6 Board of Management
7 Compensation
8 Bayer sites

The Bayer Group

The Bayer Group is a global enterprise with companies all over the world.
The map shows some of our most important locations.

The Bayer Group in 2008 in figures (values for previous year in brackets)

	North America	Latin America/ Africa/ Middle East	Europe	Asia/Pacific	Total
Sales (€ million)	**8,026** (8,161)	**4,958** (4,660)	**14,549** (14,353)	**5,385** (5,211)	**32,918** (32,385)
Employees	**17,000** (16,800)	**15,300** (14,300)	**55,500** (56,200)	**20,800** (18,900)	**108,600** (106,200)
R&D expenditures (€ million)	**459** (581)	**36** (35)	**2,014** (1,836)	**144** (126)	**2,653** (2,578)
No. of fully consolidated companies	**45** (47)	**46** (51)	**167** (168)	**58** (60)	**316** (326)

Bayer HealthCare

Arthur Higgins, Chairman of the Executive Committee of Bayer HealthCare AG

Medical innovations for patients around the globe

Our mission to discover and develop innovative medicines and medical devices is linked with our commitment to promoting access to healthcare worldwide. As a healthcare company, we invest in innovation and life cycle management for products that create value for people and societies around the world. In line with our business goals, we strive to demonstrate excellence in corporate social responsibility.

We are actively engaged in public-private partnerships with non-governmental organizations, governmental institutions as well as other companies devoted to improving global access to medicines. Our research is focused on reducing the global disease burden by targeting severe and chronic diseases.

Our business conduct is governed by our responsibility to mankind, animals and the environment throughout the entire life cycle of our products. As such, we tackle environmental issues that are specific to the health care business, are involved in climate protection activities and have introduced high ethical marketing standards.

Headquarters: Leverkusen (Germany)
Headcount: 53,100 (2008), 51,500 (2007)
Sales: €15.4 billion (2008), €14.8 billion (2007)
Sites: in over 120 countries
Specific directives: Voluntary commitment to health, safety, environment and quality, 2004
Website: www.bayerhealthcare.com

Bayer CropScience

Professor Friedrich Berschauer, Chairman of the Board of Management of Bayer CropScience AG

Second green revolution ensures sustainable global food supply

Agriculture faces major challenges in view of the high demand for renewable raw materials, the limited amount of land available for cultivation, and climate change. In order to ensure a supply of foodstuffs, global agricultural productivity must be further improved. Nothing less than a second green revolution will suffice, following the first one in the 1960s.

As an innovation leader in the crop science sector, we provide farmers with state-of-the-art crop protection and new solutions in the field of crop cultivation and plant biotechnology to safeguard and increase harvests. We are looking to make substantial investments in research so that in the future we can play an even greater role in bringing about a second green revolution by ensuring sustainable agriculture.

Maintaining biodiversity and effective ecosystems form the foundation for sustainable agriculture and number among our firmly established objectives. We are also committed to helping stakeholders, our partners and the public understand the relationships between ecosystems and crop protection and seed technologies. This reflects our goal of reconciling economic, social and environmental interests.

Headquarters: Monheim (Germany)
Headcount: 18,300 (2008), 17,800 (2007)
Sales: €6.4 billion (2008), €5.8 billion (2007)
Sites: in over 120 countries
Specific directives: Voluntary commitment to quality, health, safety and environmental protection (QHSE), 2002; Product Stewardship Policy, 2009
Website: www.bayercropscience.com

Bayer MaterialScience

Patrick Thomas, Chairman of the Board of Management of Bayer MaterialScience AG

Solutions for sustainable energy generation

With its innovative materials, Bayer MaterialScience wants to address the issue of rising energy consumption by achieving a balance between ecological and economic demands, and offers numerous approaches to effectively tackle the challenges facing the world in this sector today.

For example, we have developed innovative materials for zero-emissions buildings, lighter cars and efficient wind turbines. Our activities at Bayer MaterialScience are always determined by the fundamental belief that safety, environmental protection, product and process quality and economic efficiency are success factors of equal importance.

We want our operations to help generate sustained added value for the company. That is why we are constantly looking for innovative solutions and new fields of application for existing products. We endeavor to continuously develop our operations, products and services in order to satisfy our customers and stakeholders, and to benefit the company.

Our goals with regard to health, safety, environmental protection and quality are clearly defined and constantly monitored, because we want Bayer MaterialScience to be perceived and respected as an ethically and socially responsible company.

Headquarters: Leverkusen (Germany)
Headcount: 15,100 (2008), 15,400 (2007)
Sales: €9.7 billion (2008), €10.4 billion (2007)
Sites: in over 55 countries
Specific directives: Voluntary commitment to health, safety, environment and quality, initial version 2004, revised version 2008
Website: www.bayermaterialscience.com

Bayer Business Services

Daniel Hartert, Chairman of the Executive Board of Bayer Business Services GmbH

IT-based solutions for sustainable development

Bayer Business Services is the Bayer Group's international competence center for IT-based services. We focus on offering integrated services in the core areas of IT infrastructure and applications, procurement and logistics, human resources and management services, and finance and accounting.

Our services make business processes faster, simpler, more reliable and more cost-efficient. In this way we make an important contribution to sustainable development at Bayer.

In procurement, for instance, we are adding more environment-friendly vehicles to Bayer's company car fleet, and creating incentives for our customers in Bayer companies to choose low-emission cars. The state-of-the-art video conferencing facilities that we are currently setting up are another example. By eliminating the need for many business trips they help to reduce CO_2 emissions.

Green IT is a key focus for us at present. For example, we are adopting innovative approaches designed to reduce energy consumption and emissions of harmful substances from our data centers. We are also encouraging Bayer employees to practice sustainability in their immediate work environment, for example by using paper-saving settings when printing and switching to the energy-saving mode on IT equipment.

Headquarters: Leverkusen (Germany)
Headcount: 5,460 (2008), 4,588 (2007); both figures excluding local services and trainee pool
Sites: in over 70 countries
Specific directives: Voluntary commitment to Responsible Care by Bayer Business Services, 2003
Website: www.bayerbbs.com

Bayer Technology Services

Achim Noack, Managing Director of Bayer Technology Services GmbH

Technological expertise for environmental protection

Bayer Technology Services (BTS) is the Bayer Group's global technological backbone and a key innovation driver for the development, planning, construction and optimization of processes and plants.

Bayer Technology Services plays a role in meeting the responsibility for Group-wide ecological and social concerns throughout the world. This includes implementing international standards at all sites, as well as developing processes, and planning and constructing plants in line with the latest technology.

We have, for example, developed the Bayer Climate Check, which provides detailed information about all emissions caused by individual production processes. This instrument enables the prioritization of measures aimed at maximizing the potential for reducing emissions, and has already been successfully introduced at more than 40 production plants as part of the Bayer Climate Program. A further 60 plants are to be analyzed in 2009, and the instrument will also be offered to external companies.

Another example is BayOpX®, the BTS Operational Excellence Program, which is designed to identify further optimization potential, e.g. in raw materials consumption or yield.

Headquarters: Leverkusen (Germany)
Headcount: 2,600 (2008), 2,600 (2007)
Sites: Belgium, Germany, India, Mexico, P.R. China, Switzerland, United Arab Emirates, United States
Specific directives: Health, safety, environment and quality policy in BTS
Website: www.bayertechnology.com

CURRENTA

Dr. Klaus Schäfer, Chairman of the Executive Board of CURRENTA GmbH & Co. OHG

Operating the chemical park sites responsibly

CURRENTA, a joint company of Bayer and LANXESS, offers services for the chemical industry. These include utilities, waste management, infrastructure, safety and security, analytics and training.

As the manager and operator of CHEMPARK with its sites in Leverkusen, Dormagen and Krefeld-Uerdingen, Germany, we are responsible for maintaining the competitiveness of our sites. We apply efficient technologies and methods and optimize our processes with the aim of ensuring maximum safety, saving on natural resources and also maximizing commercial efficiency. By taking up suggestions submitted by our employees as part of our climate protection program A++ we were able in 2008 to implement ideas with potential savings of around €1 million – corresponding to an annual reduction in CO_2 emissions of around 15,000 metric tons.

We reward and promote the commitment of our employees. In particular, we want to meet the challenges of demographic change through sustainable means. The action we are taking includes not only drawing up continuing education and personnel development concepts but also implementing measures to improve employee health.

Headquarters: Leverkusen (Germany)
Headcount: 5,500 (2008), 6,000 (2007); both figures excluding trainees
Sites: Leverkusen, Dormagen, Krefeld-Uerdingen (all Germany)
Specific directives: Voluntary commitment to Responsible Care of Bayer Industry Services, 2003; Policy on health protection, safety, environmental protection and quality, 2004
Website: www.currenta.com

Our sustainability management

Bayer is committed to the concept of sustainable development: Economic, ecological and social matters are goals of equal rank in our corporate policy. To implement this balance worldwide, we have developed effective steering mechanisms and defined specific goals by which we measure ourselves. Our sustainability management is based on long-term values and clear policy guidelines that are valid for all parts of the company.

Sustainability as a strategy for success

In economically difficult times, it is more important than ever to increase the value of the company in harmony with social needs and goals. Bayer's sustainability concept is consistently aligned to this goal: With its products Bayer wants to help effectively address societal megatrends and challenges such as climate change, inadequate global health care or the scarcity of water and food. We also consistently align our own business processes to sustainable development criteria along the entire value chain. Through our social responsibility, furthermore, we also contribute to improving living conditions in the communities in which our sites are located and supporting the future prospects of others.

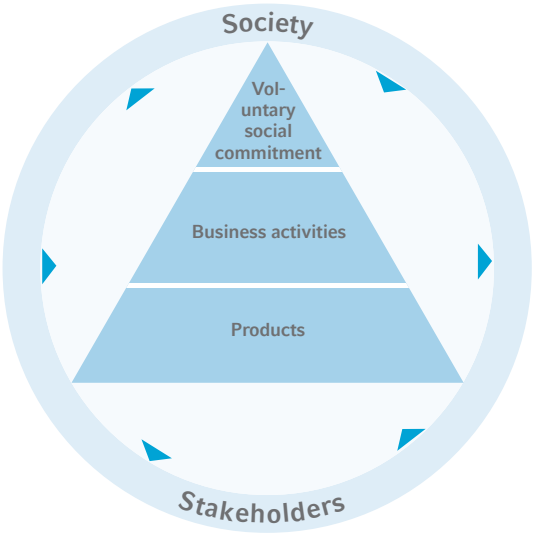
In order to be able to act in a goal-oriented manner in this environment, we must identify social trends and needs at an early stage. Our sustainability concept is therefore based on close, sustained dialogue with our stakeholders and society at large. In this way, we not only minimize our business risks, we can also work together with these dialogue partners to identify opportunities and fields of action, and thus lastingly enhance our company's competitiveness and ability to thrive in the future.

Our mission statement and values

Sustainable business means allowing oneself to be guided by long-term values. That's why sustainability is a key element of our values and leadership principles, which include a will to succeed and a passion for our employees, business partners, stockholders and society. Other values spelled out in our mission statement "Bayer: Science For A Better Life" include integrity, openness and honesty; respect for people and nature; and sustainability of our actions. Our mission statement is supplemented by the Bayer Sustainable Development Policy, our positions on human rights and working conditions, our Corporate Compliance Policy, our commitments to the global Responsible Care initiative of the

The Bayer sustainability concept

Successful sustainable development in balance with social needs and goals



Bayer is a member of society that makes important contributions through products, business activities and a voluntary social commitment. Social trends, needs and objectives for their part influence our activities on these three levels, however.

chemical industry and the 10 principles of the United Nations Global Compact.

Group-wide directives as a framework of action

On this basis, we develop Group-wide directives that provide a clear framework of action for all parts of the company. The implementation of these directives is supported in all subgroups and service companies by efficient management systems for health, safety, environmental protection and quality (HSEQ), for example (see page 51). In addition, the subgroups enact systems and standards that address their specific requirements. The steering of opportunities and risks – our risk management – is also an integral part of the Group-wide corporate governance system.

In 2008 we revised our Corporate Compliance Policy, which now emphasizes the theme of sustainability more intensively than before. Its implementation is based on specific organizational structures within the company. In Germany, each Group management company has a Compliance Committee; worldwide there is at least one Compliance Officer and often a local Compliance Committee in each country in which we operate. The reports from the countries are compiled in an annual Activity Report produced by the individual subgroups and service companies. In this way, our Corporate Compliance System supports, for example, the observation of our position on human rights and working conditions. What's more, the Corporate Auditing Department regularly verifies adherence to the policy (see page 59).

On January 1, 2009, furthermore, a Group-wide code of conduct for responsible lobbying went into effect that binds all lobbyists and consultants of the company to clearly identify themselves as such and to represent the company's business interests (see page 60).

Sustainability check: "Sustainability Value Balance"

Societal megatrends such as population growth or climate change require detailed analysis to determine their importance for our portfolio and our activities. That's why Bayer joined forces with a renowned institute for future research to develop a tool that helps us to more closely align our activities to the challenges posed by these trends: the "Sustainability Value Balance" tool. With the help of this tool, Bayer will regularly evaluate the global megatrends and how they

Sustainability management at Bayer

Community Board for Sustainable Development

Chairman: Dr. Wolfgang Plischke
Member of the Group Management Board responsible for Innovation, Technology & Environment

Members
One Management Board member per subgroup; Managing Directors of Bayer Technology Services and Bayer Business Services; Heads of Corporate Human Resources & Organization, Communications, Investor Relations, Law & Patents, Corporate Office, Environment & Sustainability

Community Council for Sustainable Development
Chairman: Dr. Wolfgang Große Entrup
Head of Environment & Sustainability

The Bayer Community Board for Sustainable Development (CB SD) is responsible for steering our sustainability strategy throughout the Bayer Group. Based on the Group-wide sustainability strategy, this body each year defines goals, determines the corresponding Group directives and monitors the implementation of these measures. The CB SD is supported and advised by our Community Council for Sustainable Development (CC SD), which succeeds the previous Sustainable Development Planning Group. Both bodies were restaffed in 2008.
The Chairman of the CC SD works together closely with the sustainability officers in the subgroups and service companies. The CC SD also regularly confers with other Group bodies, such as the Community Council for Health, Safety, Environment & Quality (CC HSEQ) and the Community Council for Politics, which is responsible for the alignment and prioritization of political activities at Bayer. The global organization is supplemented by bodies at the regional and subgroup levels. Group-wide cooperation is defined by our Sustainable Development (SD) Policy.

Sustainability management is integrated into all levels of the Bayer Group.

Management of sustainability at Bayer

Group level: general	Bayer Values Leadership Principles Policies	
Group level: sustainability	Sustainability Policy	
	Commitments to ☐ Responsible Care ☐ UN Global Compact ☐ World Business Council for Sustainable Development ☐ Corporate Social Responsibility	**Positions and policies on relevant basic issues e.g.** ☐ Human rights ☐ Corporate compliance ☐ Biomonitoring ☐ Responsible lobbying
		Sustainability management ☐ Objectives ☐ Reporting ☐ Steering
Subgroup and service company level (including regions and countries)	Policies, goals and strategies, HSEQ management systems and audits, Responsible Care programs and initiatives, opportunity and risk management	

relate to its own product portfolio. In other words, we analyze exactly how the megatrends relate to our business and how we as a company can help society to master the risks associated with them. To this end, we assess our products, processes and projects using uniform sustainability criteria in order to identify the areas in which we can have the greatest impact through our innovation capability. With this in mind, pilot projects are being conducted, one of which was completed by Bayer CropScience in 2008.

Step-by-step development of sustainability in the company

Before 2002

Strategic steps

1986: Policy guidelines for environmental protection and safety

2000: Bayer is a founding member of the UN Global Compact

2001: Guidelines for Responsible Care in Environmental Protection, Health Protection and Safety

Projects and measures

1987: Launch of a DM3 billion program to improve environmental protection

1995: Launch of the Agrovida program to improve the living and working conditions of rural laborers in Brazil

1998: Policy guidelines for the responsible use of genetic engineering

2000: Registration of all production sites in the Bayer Site Information System BaySIS® to determine HSE key performance indicators

External evaluations

1999: Bayer stock included for the first time in the Dow Jones Sustainability Index (DJSI) and the Storebrand Principle Funds

2001: Bayer stock included for the first time in the FTSE4 Good Global 100 and in the ASPI Eurozone Index

Sustainable procurement management

We expect our business partners to mirror in their conduct our commitment to sustainability and corporate compliance. Bayer's procurement guideline clearly supports the principles of the UN Global Compact, our values and leadership principles and Bayer's position on human rights and working conditions. To ensure that our purchasing activities are in line with the Group's sustainability strategy, the spokesman for the Procurement Community has also since 2008 been a fixed member of the Community Council for Sustainable Development.

In 2008 the Bayer Procurement Community further optimized the strategy for implementing sustainability in purchasing. To this end, a code of conduct detailing basic standards of sustainability among other aspects was compiled for suppliers to improve their awareness of the issue of sustainability. The code, which will be implemented step by step from mid 2009, also provides the basis for systematic supplier evaluation and development. The implementation of the corresponding measures as well as our information management and sustainability reporting will be supported by IT systems and processes. By informing and training our purchasing employees we ensure that our sustainability strategy becomes anchored in day-to-day purchasing practice all over the world.

Concept: Sustainability in procurement

Where deviations from our standards are observed, the Procurement Community examines how the supplier involved can be supported in complying with them more effectively. The concept behind this strategy is illustrated in the modules A–F shown in the figure above.

2003 – 2005

2003: Development of a strategy for sustainable agriculture
2004: Formulation of a mission statement, values and leadership principles for the Bayer Group
2005: Directive on Health, Safety, Environment and Quality (HSEQ) Audits

2003: Definition of key performance indicators for health, safety and environment (HSE)
2004: Sustainability Committees anchored in the Bayer Group organization
2004: Organizational stakeholder in the Global Reporting Initiative
2005: Launch of systematic initiatives to reduce child labor in India

2005: Inclusion for the first time in the Climate Leadership Index of the Carbon Disclosure Project
2005: Bayer presented with the Low Carbon Leaders Award by the climate protection organization "The Climate Group"

REACH implementation

The E.U. chemicals policy REACH has been in effect since June 1, 2007. As prescribed by REACH, Bayer had pre-registered more than 1,000 substances with the European Chemicals Agency (ECHA) in Helsinki by December 1, 2008. Thus we fulfilled the central requirement for continuing to work with these substances in the future. We also worked closely with our suppliers in this respect to ensure supply security. The next step is now to compile registration dossiers for the substances required in particularly large amounts. For the registration of these substances, which must be completed by 2010, Bayer strives to form consortia with its competitors to promote the exchange of data and avoid the need for additional animal studies.

Our Sustainability Program

Our Sustainability Program is a key steering tool for the implementation of our sustainability strategy. It comprises the specific sustainability goals of the Bayer Group, all subgroups and service companies, and the measures defined for the achievement of these goals. The program focuses on five fields of activity: innovation, product stewardship, excellence in corporate management, social responsibility and responsibility for the environment.

The implementation of the measures is monitored by the management boards and management teams of the various subgroups and service companies, as well as by our SD committees. A detailed overview of the current status of the program and of our individual target achievement can be found on page 104. We consistently align our sustainability management to new challenges. Where necessary we set new goals, as demonstrated by our climate goals for 2020. Our current Group Sustainability Program 2006+ will run over a period of five years. We are currently working on a realigned program for the period after 2010.

Step-by-step development of sustainability in the company

2006 – 2007

Strategic steps

- **2006:** Sustainable Development Policy
- **2006:** Signing of the Responsible Care Global Charter
- **2007:** Implementation of the Bayer Climate Program launched: Development and firm organizational establishment in the company

Projects and measures

- **2006:** Launch of the Group-wide innovation initiative “Triple-i”
- **2007:** Bayer Anti-Corruption Year
- **2007:** Bayer Group positions on the themes of human rights, biomonitoring, the responsible use of gene technology and nanotechnology
- **2007:** Bayer Code of Good Practice on Nanomaterials

External evaluations

- **2006:** German Environmental Reporting Award 2006 for the best sustainability report in Germany, awarded by the German Chamber of Certified Public Accountants
- **2007:** Inclusion once again in the European and global Dow Jones Sustainability Index (DJSI)
- **2007:** Inclusion for the third time in the Leadership Index of the Carbon Disclosure Project

Key Bayer Group sustainable development goals through 2010 (unless described otherwise)

- **Therapeutic proteins**
  Development of patient-specific medicines by 2015 through the expression of therapeutic proteins from tobacco plants (plant-made pharmaceuticals).
- **Cancer therapy**
  Expansion of the scope of application for the cancer drug Nexavar® to include the indications liver, lung and breast cancer.
- **Energy-efficient production process**
  Optimization of a production process for monomeric diisocyanate with the goal of reducing energy consumption by about 15 percent.
- **Occupational safety**
  Reduction in the incidence of industrial injuries with lost working days to less than two per million hours worked.
- **Emissions into water**
  Reduction in the discharge of total organic carbon (TOC) and nitrogen into receiving waters by 10 percent per metric ton of sales product.
- **Emissions into air**
  Reduction in VOC (volatile organic compounds) emissions by 30 percent per ton of sales product.
- **Climate protection**
  Restriction of global greenhouse gas emissions (metric tons CO_2 equivalents) to the 2007 level through 2020 despite an increase in production. See page 86 for detailed figures for the individual subgroups.
- **Protection of the ozone layer**
  Adherence to a maximum threshold of less than 20 metric tons of ODS (ozone-depleting substances) emissions per year (CFC-11 equivalents).
- **Waste**
  Reduction in the volume of waste requiring special supervision (hazardous waste) to less than 2.5 percent per metric ton of sales product.

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9 Mission statement
10 Bayer Sustainable Development Policy
11 Corporate Compliance Policy
12 REACH
13 Fit for REACH

Details of the sustainability program can be found on page 104 ff.

2008 – 2009	Through 2010
2008: Corporate Compliance Policy	• Further development of Bayer's sustainable development strategy and program
2008: Strategy: "Social Health Care Programs"	
2008: Expansion of the strategy for sustainability in procurement	
2009: Bayer Position: Code of Conduct for Responsible Lobbying	
2008: REACH implementation	• Sustainability check: Sustainability Value Balance (SVB)
2008: Presentation of the Bayer Climate Award	• Rollout of the "STRUCTese"energy efficiency tool
2008: Support for the CEO Water Mandate Initiative of the UN Global Compact	• Move into the world's first EcoCommercial Building in New Delhi, India
2009: Development of concept for the sustainability check	• Implementation of the expanded strategy for sustainability in procurement
2009: Implementation of the Climate Check	• Further implementation, further development and transparent reporting of the Bayer Climate Program
2008: Inclusion once again in the global Dow Jones Sustainability Index (DJSI)	• Continuous improvement of strategy, measures, performance and reporting with the goal of recognition by our stakeholders
2008: Inclusion for fourth time in a row in the Leadership Index of the Carbon Disclosure Project	
2008: "CorporateRegister.com" Reporting Award 2007 in the category "Transparency and Credibility"; 2009: 4th place award in the category "Best Report"	
2009: Inclusion in the UN Global Compact Notable COP (notable progress reports) Program	
2009: Top 10 placement in the European Good Company Ranking of "manager magazin"	

Interview with Dr. Wolfgang Plischke

"Sustainability is driven by innovations"

Dr. Plischke, Bayer is committed to sustainable development. The issues involved are of a long-term nature. Is there a danger, given the current financial and economic crisis, that companies will postpone essential investments?

There may well be a risk of this – but not at Bayer. We are committed to setting an example. Despite the difficult situation at present, we will be investing a record sum of €2.9 billion in research and development this year, for example, because we are convinced that sustainability is driven by innovations. Cutting back in this area would amount to thinking and planning in the short term. We are also committed to climate protection and are systematically pressing ahead with the Bayer Climate Program that we initiated in 2007. We intend to invest a total of €1 billion in this program by 2010.

How can companies' climate protection activities be supported on a political level?

There is an urgent need for effective regulations to significantly reduce greenhouse gas emissions on a global level. What is called for in this context is a strategic alliance between politicians and business. The international climate conference in Copenhagen at the end of the year must set the tone in this respect.

What contribution can companies make in such an alliance?

There are a number of possibilities. A study on the costs of climate protection presented by management consultants McKinsey in Brussels in January 2009 indicated that emissions could be cut by over a third between 1990 and 2030 at a cost of less than one percent of global GDP. The majority of this reduction can be achieved through technical measures that already make economic sense because the necessary investments are financed by the resultant savings made on energy costs. For example, better insulation and vehicles with improved fuel economy can significantly boost energy efficiency. Clearly, politicians need to work with companies because only they have the necessary technical know-how. This presents many companies with excellent opportunities and creates a win-win situation.

Can Bayer benefit too?

Of course! Under our Bayer Climate Program, for example, we are currently analyzing our sites worldwide to identify new potential for cutting emissions, and ways of realizing this potential, and achieving our ambitious emissions targets. We expect the optimization of our processes to result in a reduction in greenhouse gas emissions of around 10 percent across the Group as a whole. In addition to benefiting the climate, this will also cut costs and make our sites even more competitive. Improving our own energy efficiency is just one aspect, though. Just as important are our innovative products that help reduce emissions around the globe. Examples include our insulating materials and our high-quality materials to help lower energy consumption in automotive engineering.

In your view, what are the other key spheres of activity involved in sustainable development besides climate protection?

The growing world population and the increasing demand for food are major concerns. According to estimates by the Food and Agriculture Organization (FAO) of the United Nations, the global population will exceed nine billion in 2050. Agricultural production would need to double to ensure all these people were fed. Given that the amount of land available for cultivation cannot be increased, the figures clearly show that this will only be possible using the latest crop protection products and innovative seeds as part of a sustainable agricultural policy. We are obtaining promising results in both these areas.

In addition to boosting crop yields, the increasing shortage of water is also becoming an issue in the sustainability debate.

That's true. Water is a growing problem, but the issues vary enormously from region to region. In Germany, for example, water quality is the major concern. Bayer was very quick to develop and utilize effective wastewater treatment technology, which is also used to treat municipal wastewater. In many parts of the world, however, there is a shortage of clean

Dr. Wolfgang Plischke, member of the Board of Management of Bayer AG responsible for Innovation, Technology and Environment and for the Asia/Pacific region

drinking water. All too often in these regions, disproportionately large amounts of water are used for irrigation. Around the globe, 70 percent of the water drawn from freshwater sources is used in agriculture. We are therefore carrying out research into seeds and developing methods of cultivation that require less water. In addition, we made a public commitment to help find solutions with other partners by signing the UN Global Compact initiative's CEO Water Mandate in 2008. In this area, too, Bayer is looking to utilize its many years of expertise and its innovative strength to develop sustainable solutions for global water protection and efficient water management. The Global Exploration Fund that we have set up with National Geographic to finance research projects also serves this purpose.

The health of a great many people is threatened by factors besides hunger and thirst. Developing countries in particular are affected by poor access to medical care. How is Bayer tackling this problem?

We are endeavoring to improve the access of emerging markets and developing countries to our medicines so that as many people as possible benefit from Bayer innovations. We have recently developed our Social Health Care Program to pool our existing measures. This program involves aspects such as improved access to innovative medicines to treat oncological and hematological diseases. It also focuses on treating infectious tropical diseases and on boosting women's health and family planning worldwide.

You have referred to a whole host of major global challenges. Can you sum up by providing an assessment of how these challenges can be overcome?

In my opinion, the majority of the problems referred to can be solved by providing access to innovative products and technologies. For each of these areas, there also needs to be political input to encourage technology and information transfer in emerging markets and developing countries. In addition, it is important for patents and trademark rights to be protected. This is particularly true for companies carrying out research such as Bayer, since these rights provide the platform for our investments in research and development. In order to reduce greenhouse gas emissions, we need a globally level playing field for emissions trading with a standardized pricing structure for CO_2. Until global emissions trading exists, emissions allowances should be issued free of charge to companies in global competition to avoid unfair competition within the E.U.

One final question. The Bayer Group's Sustainability Program sets targets to be reached by 2010. What will happen after this?

The issue of sustainability will remain a key focal point for us and we will ensure the strategic development of our Sustainability Program over the coming year. This will include setting new targets to reflect current developments and incorporate our expertise in as targeted a way as possible. As a result, we will be focusing our commitment to sustainability even more sharply on our core business and on global megatrends.

In dialogue with our stakeholders

Sustainable solutions can only be developed if all societal groups work together. That's why Bayer specifically seeks dialogue at the local, national and international levels with representatives from politics, industry and society.

This includes our partners – employees, customers and suppliers – as well as our investors. Of equal importance to Bayer are public interests – those of our direct neighbors at our sites and of non-governmental organizations (NGOs), politicians and the general public. After all, Bayer operates within a scope of activity that is heavily influenced by scientific institutions and public administration bodies, as well as by legislation.

Close cooperation with these stakeholders creates value-added for all involved, as their suggestions influence our planning and decisions. At the same time, such cooperation gives us access to platforms on which we can openly communicate our viewpoints and receive important impulses for innovation.

Identification of major sustainability issues

We take the needs of our stakeholders seriously and strive to contribute to solving the pressing issues of our time – based on our values and in harmony with internal and external directives and laws. At the same time, we are charged with doing business efficiently, achieving economic success and increasing the long-term value of our company. We therefore select focus areas of our sustainability management and our reporting according to the following criteria:

- In which areas are the challenges currently the greatest?
- Where does our company harbor particular responsibility?
- What areas are highly relevant to our business?
- Where can we make a particularly substantial contribution to sustainable development?

Differentiated approach

The goal of our stakeholder dialogue is to jointly develop innovative solutions for sustainable development. In this connection, it is important to take a differentiated view of the

Examples of stakeholder dialogue in 2008 with various stakeholder groups

Employees
- Employee surveys (see page 66)
- Development and signing of a code of ethics between the social partners of the chemical industry: the German Chemical Industry Employers' Association (BAVC) and the German Mining, Chemical and Energy Industrial Union (IG BCE) in the framework of the so-called "Wittenberg Process"

Customers
- Dialogue on HSE issues including the declaration of substances
- Symposium on polyurethanes in Leverkusen, Germany
- Participation in the field days of the German Agricultural Society

Suppliers
- Supplier dialogue and presentation of a Sustainability Award for outstanding sustainability performance by Bayer suppliers in India
- Constructive dialogue with our suppliers to safeguard REACH preregistrations, thereby promoting long-term business relationships, ensuring delivery security for our customers

Public-private partnerships
- Collaborations with the WHO (Chagas' disease, African sleeping sickness)
- TB Alliance (tuberculosis)
- Gates Foundation (malaria)
- Launch of the "Food Chain Partnership" program in Mexico

International initiatives
- UN Global Compact, UN Global Compact "Caring for Climate" and "CEO Water Mandate"
- Participation in the Global Roundtable on Climate Change (GROCC)
- Cooperation with the United Nations Environment Programme (UNEP)
- Cooperation with the U.S. Agency for International Development (USAID), the UN Population Fund (UNFPA) and the International Planned Parenthood Federation (IPPF) (e.g. reproductive health)
- Organizational stakeholder in the Global Reporting Initiative (GRI)

Science and research
- Sponsorship of the Volatile Organic Chemicals Control and Management Conference in Beijing, China
- Forums and conferences participated in by industry and governmental organizations, in cooperation with the Chanzhou Coatings Research Institute, China
- University professorships in the fields of medicine, pharmacy and chemistry
- Strategic alliances with universities in Cologne, Germany and Singapore
- Lectures and discussions at BayKomm on sustainable development, with visiting student groups from Germany and abroad

NGOs ■ Cooperation with the Indian-based Naandi Foundation in the efforts to eliminate child labor ■ Projects with the German Foundation for World Population (DSW) ■ 7th International Dialogue on Population and Sustainable Development (in cooperation with Bayer)	**Schools** ■ "Baylab" school laboratories in Leverkusen, Monheim, Berlin and Wuppertal, Germany ■ Bayer education program "Making Science Make Sense" – since 2008, 11 countries have taken part in this initiative
Politics and society ■ Participation in the "NanoDialog" between the German government and industry ■ "Brainstorming for Berlin" dialogue series ■ Discussions with neighbors, public authorities and elected officials on topics such as the CO pipeline ■ Discussions with representatives of the European Commission and European Parliament on topics such as the new E.U. crop protection policy ■ Participation in the EPAA (European Partnership on Alternative Approaches to Animal Testing)	**(Industry) associations** ■ Member of the Board of Trustees of ECONSENSE ■ Chair of the European Federation of Pharmaceutical Industries and Associations (EFPIA) ■ Chair of the German Association of Research-Based Pharmaceutical Companies (VFA) ■ Participation in numerous national, European and international associations, including the Federation of German Industries (BDI), the German Chemical Industry Association (VCI), the American Council on Chemistry (ACC), the European Crop Protection Association (ECPA) and the European Chemical Industry Council (CEFIC)

issues and interests. After all, the perspectives of the various stakeholder groups and the regional framework conditions for possible solutions often vary widely.

To enable the stakeholders to discuss challenges within their proper context and develop case-specific solutions, Bayer has integrated its stakeholder dialogue into its various functions, organizational units and regions. The large number of initiatives, committees, specialist workshops and information campaigns at the Group level and in the subgroups and service companies reflects the diversity of our business. Our stakeholder activities range from cooperation with local NGOs to participation in international sustainable development initiatives.

The table contains examples of activities that the Bayer Group and its individual subgroups and service companies implemented in 2008 within the scope of Bayer's stakeholder dialogue. Due to the large number of different measures, the table illustrates only a small sample of our stakeholder activities.

Regular stakeholder surveys

Creating transparency with regard to our business, and our sustainable development activities and challenges is a basic principle of our stakeholder dialogue. This is grounded in the Bayer Sustainable Development Report, which is supplemented by the Internet site and the Management Report section of our Annual Report. We offer special reports and specialist publications on themes that are a current focus of public interest. In 2008, for example, Bayer AG brochures provided compact and vivid information on climate change, and the company addressed the public's questions about the planned CO pipeline at the site in Leverkusen, Germany through the Internet page **www.pipeline.bayer.de** (in German only) and a special brochure.

We regularly examine whether our reporting satisfies the information needs of our stakeholders. At the beginning of 2008, for example, we asked some 200 stakeholders of importance to Bayer (NGOs, associations, government agencies, analysts, customers, suppliers, politicians) by telephone which important themes of the future they believed we should address in connection with sustainable development, as well as their opinion of our reporting. In this survey, our stakeholders confirmed the themes that Bayer had identified as crucial to its sustainability management: climate change and the global water and drinking water problems. Other themes of importance to our stakeholders include environmental protection, human rights, sustainable health care and the question of how sustainable development can be anchored in business decisions.

With respect to dialogue, they prefer the exchange of viewpoints in smaller, theme-oriented groups, rather than major podium discussions or Internet forums.

This year again, we invite our stakeholders to evaluate our reporting and our sustainable development activities. At **www.survey.sustainability.bayer.com** they can share with us their opinion on this year's Sustainable Development Report and formulate their expectations as regards future sustainable development activities at Bayer.

Our challenges

With population figures on the rise, the world is facing a number of major challenges. Climate protection, world health and safeguarding food supplies are becoming ever more pressing issues. True to the spirit of its mission statement "Bayer: Science For A Better Life," the Group is making an important contribution to identifying effective solutions for dealing with these challanges. These also form the basis of our sustainability reporting – this year, climate protection, health care, water and food are focus issues of our current Sustainable Development Report.

The United Nations estimates that the world's population will exceed nine billion by the middle of the 21st century – that's around 2.3 billion more than the current figure.

With population growth particularly rapid in developing and emerging nations, local infrastructures and the ecological equilibrium are being put under increasing pressure. At the same time, the population in most industrial nations is aging, generating an imbalance in the social structures. In addition, changes in consumption patterns and the massive demand for energy caused by the global spread of urbanization are putting more pressure on natural resources. According to the International Energy Outlook (IEO), energy consumption in Asia alone will increase almost fourfold in the period from 1990 to 2030.

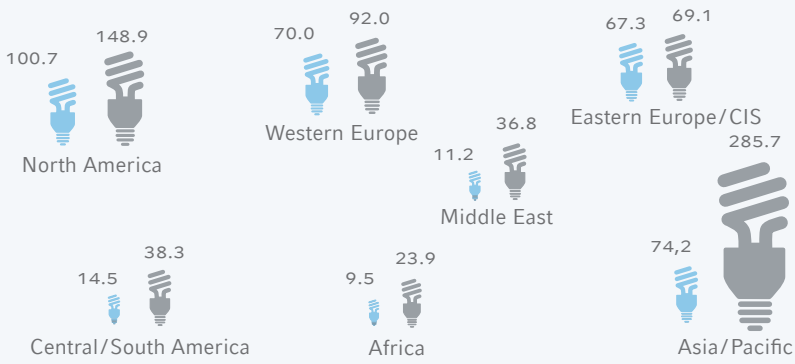
Integrated approach to tackling complex challenges

Global solutions, like global problems, are closely interlinked. Climate change can only be tackled with the most advanced energy-saving technology and sustainable energy generation.

Effective climate protection is also a key issue when it comes to safeguarding the world's food supplies, as climate change increases the likelihood of extreme weather conditions such as heatwaves, heavy downpours and tropical storms. In some regions such as the Sahel, large expanses of land essential for feeding the population are experiencing desertification, while heavy rainfalls are destroying crops and flooding villages in other areas. Unless we see an increase in agricultural productivity and ensure water is used efficiently, it will be impossible to provide sufficient food and water for the world's growing population.

In turn, poverty, poor nutrition and dirty water are some of the primary

Global energy consumption by region (in quadrillion BTU)



Global energy consumption has grown dramatically in the last few decades and will continue to increase significantly in the future. Demand in up-and-coming Asia is set to almost quadruple by 2030 compared to 1990.

Source: IEO, International Energy Outlook 2008; BTU = British Terminal Unit

causes of disease and inadequate health care in many parts of the world. In addition, poverty often triggers wastage of local natural resources. With the consequences including deforestation, soil degradation and increasingly arid conditions, this situation further exacerbates the problems posed by climate change and shortages of food and water.

As an inventor company, we are staying true to the spirit of our mission statement "Bayer: Science For A Better Life" and focusing our know-how and innovative strength on finding answers to the most pressing issues of our time. Bayer is a company with a very broad spectrum of activities and interests and, as such, we have the advantage of being able to observe the interconnections and reciprocal influences that exist between each of these global challenges, and ensuring these are incorporated into our solutions systematically.

Growing world population

Over 6.7 billion people live on Earth today. Ensuring food supplies in the light of continued dynamic population growth is a major challenge. The Food and Agriculture Organization of the United Nations (FAO) calculates that global agricultural production would have to double in the next 50 years to feed what would by then be a global population of over nine billion people.

Source: UN, World Population Prospects: The 2008 Revision, March 2009

Responding to megatrends

It is also in our own interests to tailor our portfolio to the challenges the future will bring. After all, as a company, we are part of this society and our business activities are influenced by the trends, needs and goals created by it. That's why we believe a sustainable and successful approach to business means bringing our innovative strength to bear in the areas where our core skills can be put to the best possible use, particularly the fields of health, food and high-quality materials.

Our portfolio already contains a number of promising solutions. New processes and materials from Bayer are helping to boost the energy efficiency of production processes, buildings and vehicles, and are unlocking new market potential for renewable energies. With the number of people in the world on the up and a trend toward aging populations in some regions, our drug research and commitment to ensuring the global provision of medical care is taking on an ever more important role. What's more, by making family planning more accessible, we are also working to improve the rights and health of women worldwide. As the rising global population also needs to be fed, we are making our contribution toward increasing agricultural yields and promoting sustainable methods of cultivation by developing innovative crop protection products and integrated crop protection solutions and bringing about advances in biotechnology. Due to its many years of experience in corporate environmental protection, Bayer has the cutting-edge technologies needed to protect drinking water and other similarly valuable resources effectively. One other factor is of special relevance, particularly in the current difficult economic climate: Due to its high earning power, the company is generating growth, jobs and income in many parts of the world, thus contributing to social stability and security.

Creating transparency

In addition to addressing these megatrends on a strategic level, we also want to provide clear, transparent reporting. That includes open discussion of the challenges we face and the provision of detailed information on our goals, strategies and performance. To that end, our Sustainable Development Report each year contains not only a performance report, but also features several focus issues currently deemed to be of particular significance in the eyes of the general public and from the company's own perspective. This year, those issues are "Innovations for climate protection", "Global access to medicines" and "Responsible and efficient use of water".

More information on these topics is available on the following pages:

Climate 30
Medicine 36
Water 42

Innovations for climate protection

Bayer is taking an active and integrated approach to the challenges posed by climate change by making substantial investments in climate protection and specifically developed products and processes. In addition to fulfilling the company's global commitment, the Bayer Climate Program also unlocks new economic potential.

Professor Eberhard Jochem from the Fraunhofer Institute for Systems and Innovation Research (ISI) in Karlsruhe is the winner of the first Bayer Climate Award worth €50,000. The Bayer Science & Education Foundation bestowed the award on Professor Jochem as an acknowledgement of his pioneering interdisciplinary research into energy efficiency. The photomontage shows him in climate-friendly mode with his fold-up scooter, which he frequently uses to go to meetings.

This year could be a crucial one for climate protection, with the member states of the United Nations Framework Convention on Climate Change meeting in Copenhagen, Denmark, in December 2009. The Convention will focus on the cornerstones of global climate policy, with the goal of drawing up a new international agreement on climate protection that can strengthen industrial, developing and newly industrializing countries in their common fight against climate change.

In view of the advancing climate change and our finite oil reserves, we have no option but to use energy more efficiently and limit emissions that harm the environment. The internationally recognized climate protection target is to limit global warming to a maximum of two degrees Celsius compared with pre-industrial times. To achieve this goal, the Intergovernmental Panel on Climate Change (IPCC) recommends that industrialized countries cut their emissions by between 10 and 40 percent by 2020 and between 40 and 95 percent by 2050 in relation to the 1990 level.

"Bayer's expectations of Copenhagen"

1 A new, fair agreement on climate protection worldwide
2 The active participation of all countries in tackling climate change
3 The early implementation of measures to limit the adverse effects of climate change
4 Rules for the essential market-based transfer of technologies to developing countries with the protection of intellectual property
5 Avoidance of competitive distortions and carbon leakage

Bayer sees itself not only as a problem-causer but above all as a problem-solver. With the Bayer Climate Program we are helping to meet the present challenges.

Bayer makes an active contribution to climate protection

"It's a massive task, but climate protection cannot be put on the backburner," urges Dr. Wolfgang Grosse Entrup, Head of the Environment & Sustainability Department at Bayer AG. Although the economic and financial crisis is exacerbating the situation, he said, we must ensure that we do not neglect to make the necessary investments.

Even in difficult economic times, Bayer remains committed to the goals defined in its Climate Program that was launched in 2007. In this way, the company is not only remaining true to its global obligations, but also viewing climate change as both a challenge and an opportunity. The Group intends to invest €1 billion in climate-related R&D and projects between 2008 and 2010. Alongside the climate targets to reduce greenhouse gas emissions, the lighthouse projects constitute another key element in the Climate Program. These projects illustrate how the subgroups and service companies are contributing to climate protection and adapting to climate change.

In practice, Bayer is tackling climate change in two ways: First, by continuing to improve the energy efficiency of its own production processes and, second, by developing innovative products to boost climate protection. Materials for thermal insulation, lighter materials for the automotive industry and stress-tolerant crops are three of the key innovative approaches that Bayer is currently pursuing.

Roadmap for climate targets

For Bayer, climate protection starts with its own plants and facilities, with the focus being on the energy supply and optimization of production processes. In the past, for example, greenhouse gas emissions have been cut significantly through the use of electricity and steam from combined heat and power plants or gas and steam cogeneration plants. The changeover from chloralkali electrolysis to the membrane process also made a major contribution to these goals.

Dr. Wolfgang Große Entrup, Head of Environment & Sustainability at Bayer AG and Chairman of the Bayer Climate Program

"Just one year on from the rollout of our Climate Program it is already clear that we are on the right track. We have developed important measures to help us achieve our targets and these are now being successfully implemented."

As part of the Bayer Climate Program, new greenhouse gas reduction targets were set for the three subgroups for the time corridor 2005 to 2020 aligned to their different structures and product portfolios (see graphic below). Starting with this year's report, the "Ecology" section of the Sustainable Development Report charts the subgroups' progress in meeting their targets for greenhouse gas emissions. Bayer MaterialScience has set itself the target of reducing specific greenhouse gas emissions by 25 percent. This specific reduction target set for Bayer MaterialScience is the most appropriate unit of measurement for tracking the improvement in climate performance of the energy-intensive world-scale facilities for plastics manufacturing as production continues to grow. Bayer HealthCare and Bayer CropScience are making a contribution to climate protection by pursuing absolute reduction targets. Current

estimates suggest that the greenhouse gas emissions of the Bayer Group as a whole will remain at 2007 levels up to 2020, despite the continuing rise in production

Basis for reducing greenhouse gases is in place

To achieve its climate targets, Bayer is focusing on improving energy efficiency in existing facilities and developing and utilizing innovative and extremely efficient production technologies. In 2008, Bayer MaterialScience incorporated energy-efficient and resource-friendly processes into some of its facilities at the Bayer Integrated Site Shanghai in China, and started to establish them in others. The following examples show how energy efficiency has been increased compared with existing facilities:

- Start-up of a production facility for methylene diphenyl diisocyanate (MDI) with an annual capacity of 350,000 metric tons; energy savings of around 15 percent
- Foundation stone laid for a production facility for toluene diisocyanate (TDI) with an annual capacity of 250,000 metric tons; energy savings of up to 60 percent
- Start-up of a hydrochloric acid recycling plant for the production of chlorine using oxygen depolarized cathode technology with an annual capacity of 215,000 metric tons; energy savings of around 30 percent.

Bayer intends to use these investments to strengthen its market position in China, a country currently experiencing a period of rapid economic growth. However, the company is not only hoping to gain an economic advantage from these developments. In the next few years, these environmentally friendly and energy-efficient plants will also have a positive impact on the climate balance of Bayer.

Bayer Climate Check and management of energy efficiency

Using energy efficiently is key to the reduction of greenhouse gas emissions. With the aid of the Bayer Climate Check from Bayer Technology Services, the energy requirements of 100 production facilities worldwide are being systematically analyzed up until the end of 2009, with the goal of identifying technical potential for reducing energy consumption and greenhouse gas emissions. The Climate Footprint® is used to record the greenhouse gas emissions associated with the production of a particular product. Half of the facilities have already been examined. The results show that absolute greenhouse gas emissions in existing facilities can be cut by between five and 10 percent.

However, it is not just technical measures that help cut energy consumption – it is just as important to use energy responsibly. The new lighthouse project "Managing Energy Efficiency," which features the newly developed tool STRUCTese (Structured Efficiency System for Energy), is based on the results of the Bayer Climate Check. This tool ensures that plants stringently apply efficiency measures and that all the necessary processes are integrated into the organization. It also supplies the figures for charting the ongoing improvement in energy efficiency at the production facilities. Initially, it is to be launched worldwide in the production facilities of Bayer MaterialScience. Application has already started in pilot facilities with high energy consumption.

Climate protection with nanomaterials

The field of nanotechnology also offers very promising solutions for climate protection. Bayer MaterialScience is exploiting the potential of carbon nanotubes (Baytubes®) to create extremely stable and lightweight materials, which are used, for example, in harnessing wind energy. Integrating Baytubes® into new plastics makes it possible to manufacture longer rotor blades for more efficient and higher-performance wind turbines, which, for example, can generate electricity even at low wind speeds.

Other interesting areas of application for nanotubes include energy storage and energy supply. Their excellent electrical conductivity and minute size could be used to improve the perfor-

Targets for the reduction of greenhouse gas emissions

Global greenhouse gas emissions: Reduction 2005 to 2020	
Bayer MaterialScience Reduction in greenhouse gas emissions per metric ton of sales product (without NaOH, HCl, trade products)	-25 percent specific
Bayer HealthCare Reduction in greenhouse gas emissions	-5 percent absolute
Bayer CropScience Reduction in greenhouse gas emissions	-15 percent absolute

Investment of €1 billion in climate-relevant research, development and projects from 2008 to 2010

Maintenance of 2007 level of greenhouse gas emissions at Bayer Group up to 2020 according to today's estimates despite growth in production

mance of lithium ion batteries or fuel cells, e.g. for electric cars. Bayer is currently building the world's biggest production facility for carbon nanotubes in Leverkusen, Germany.

The EcoCommercial Building

The Bayer EcoCommercial Building concept enables the construction of climate-neutral office buildings in all the Earth's climate zones using the best materials, systems and technologies. State-of-the-art Bayer insulating materials with an outstanding ecobalance play a key role here. They save around 70 times as much energy as is needed for their production. The foundation stone was laid for Bayer's own EcoCommercial Building close to New Delhi (India). Thanks to its solar-powered energy system and cutting-edge storage technology, it is designed to be entirely self-sufficient in energy. This zero-emissions concept is also being implemented in the construction of Bayer CropScience's new child care center at the Monheim site (Germany), which will be able to cater for around 60 children from November 2009.

Stress-tolerant plants for safeguarding harvests

A responsible attitude towards climate change also includes dealing with consequences that are already being felt today. The global population is continuing to grow and, with it, the demand for food, animal feed and renewable raw materials that have to be produced on a finite amount of agricultural land. As arable space is limited and it is becoming increasingly difficult to manage the existing land due to drier conditions and increasing soil salinity, innovations are required to improve crop yields. Bayer CropScience can help, for example, by developing state-of-the-art solutions in the field of plant biotechnology. In future, these solutions will help make crops more resistant to climate conditions and improve their stress tolerance, thus helping to safeguard food production worldwide.

Bayer CropScience is also already supplying innovative crop protection agents that help to safeguard or increase crop yields, even under stressful conditions. One example is Nativo®: It protects grain, vegetable and fruit crops against diseases that can be caused by fungal pathogens and lowers the plants' susceptibility to stress caused by excessive heat and a shortage of water.

Climate protection – A social responsibility

Bayer is pursuing varied and highly promising approaches to tackle climate change, but the company is aware that effective climate protection can only be achieved if all sectors of society pull together. This is why Bayer is seeking to ensure ongoing dialogue with a range of stakeholders and raising awareness of climate change both inside and outside the company through the provision of considerable information material, its own climate protection website and numerous events. For example, the "Bayer Climate Fellowships" scholarship program organized by the Bayer Science & Education Foundation provides support for particularly committed young people with a gift for natural sciences.

Our employees' contribution

The Bayer Climate Program will be particularly successful in the long term if it enjoys the active support of all

Professor Kornelis Blok,
Professor of Science, Technology and Society at the Copernicus Institute of Utrecht University, the Netherlands; member of the Scientific Committee for the Bayer Climate Award; Managing Director of ECOFYS

Sustainability is a corporate asset which nee ds to be pursued in the longer term. Front-runners need to invest steadily in new sustainable technologies and options, and also in research and development, to build up further knowledge.
ECOFYS is proud to have supported Bayer in the development of its policy on climate change – a major area for sustainability – and will continue to do so.
In times of crisis it is a pitfall to stop investing. Companies will have a hard time regaining their 'sustainable spirit' after an interruption. Moreover, I am sure that sustainable companies will gain an increased market share.
So saving money on sustainability solutions now will cost later.
One new challenge in the coming years for companies like Bayer will be involving the whole product value chain. More material-efficient products and more efficient production processes require collaboration with both suppliers and customers. Such chain integration is complex, but it opens up an entirely new perspective on sustainability.

Milestones of the Bayer Climate Program

May 2008

Foundation stone is laid for the first EcoCommercial Building in New Delhi, India

June 2008

Bayer receives the BDI Environmental Award for its innovative oxygen depolarized cathode technology

July 2008

Recipients of the Bayer Climate Scholarships attend seminars in the United States

December 2008

Opening of the telepresence room in Leverkusen, Germany

January 2009

Start of construction of carbon nanotubes facility at CHEMPARK Leverkusen

January 2009

BayKomm exhibition featuring innovations for climate protection

its employees around the world. This necessitates not only their support for large-scale Group-wide projects, but also a willingness on the part of every individual to get involved. Employees can find ideas about how they can play a part by referring to the Bayer intranet, for example. Bayer employees share tips on how they can make a contribution to climate protection in the section "Climate tip of the week." What's more, for the first time in 2008, Bayer has also nominated employees in India, China and the United States as "Climate Champions." Their task is to demonstrate commitment to implementing and developing the Climate Program in their regions.

CURRENTA launched its own climate protection program at the beginning of 2008. Suggestions for improvement submitted by employees in a special campaign led to the identification of potential energy savings of €1 million. This equates to an annual reduction of around 15,000 metric tons of CO_2.

The new "Business Travel" model has also proved very popular. To limit the number of business trips, which naturally impact on the climate, employees are increasingly opting to use telepresence systems (high-quality video conferences).

Bayer is pursuing environment and resource-friendly concepts for its data processing systems. The Green Bayer Data Center program launched by Bayer Business Services aims to improve energy efficiency by 20 percent from 2009 to 2012. To achieve this ambitious target, the subgroup intends, among other measures, to cut the energy consumption of its cooling systems and computers dramatically.

Through new directives on the use of vehicles with consumption-optimized engine technology and alternative drive concepts, it was possible to cut average CO_2 emissions per kilometer by more than five percent for all new vehicle registrations compared with 2007. This commitment shows that climate protection is clearly seen as a joint task at Bayer.

"We are confident that we have set the right course with our integrated approach to the Climate Program," says Wolfgang Grosse Entrup.

Recognition for Bayer's commitment to the climate

Independent institutions have also affirmed Bayer's commitment to climate protection. In 2008, Bayer was the only European company in the chemical and pharmaceutical industry listed in the Carbon Disclosure Leadership Index for the fourth time in a row (see page 62 f.).

In June 2008, Bayer was also presented with the Environmental Award from the Federation of German Industries (BDI) in the category "Environmentally Friendly Technologies" for its new chlorine production process (see page 7).

WWW

14 Bayer Climate Program
15 Bayer Climate Factbook
16 Bayer Climate Brochure
17 Bayer foundations
18 Intergovernmental Panel on Climate Change
19 Climate Champions

Global access to medicines

Adequate medical care is not a matter of course in many regions of the world. That's why Bayer is committed worldwide to enabling greater access to medicines and health services. With its new strategy of "Social Health Care Programs," Bayer aims to play an active role where the need is greatest and the company's own expertise is particularly high.

Professor Ming Li, Chief Physician at Beijing Cancer Hospital in China, during his round on the oncological ward. Patients here are treated with the anticancer drug Nexavar® among others. Since 2007 Bayer has helped patients in China with a proven cancer diagnosis to receive adequate treatment with Nexavar®.

Health care is a human right. Yet in many countries, the health system cannot guarantee adequate care for the population. The United Nations has therefore made health care a focus of its Millennium Development Goals.

The challenges are considerable: Often there is a shortage of not just medicines, but also hospitals and treatment stations, adequately trained personnel and information on preventive health care. "People in developing countries are particularly affected by this situation," says Dr. Ulrich Köstlin, member of the Board of Management of Bayer Schering Pharma AG and of the Bayer HealthCare Executive Committee. "Many live in regions where pathogens are particularly common due to the climate. Widespread poverty additionally creates a social and living environment that fosters the spread of diseases."

Bayer is aware of its social responsibility and therefore supports international efforts to improve medical care worldwide. These activities take place in a broad network of international organizations, governmental agencies, companies and non-governmental organizations (NGOs) – after all, effective solutions in health care can only be developed on a joint basis.

Strategy developed for global health care

Bayer develops and produces drugs that help to save human lives and improve the quality of life of patients and their families. To enable as many people as possible to benefit from these products, Bayer HealthCare's Bayer Schering Pharma Division in 2008 devised a strategy aimed at promoting access to health care: the "Social Health Care Programs" (SHCPs).

This strategy combines the existing activities in the area of social health care and has three clear focus areas: reproductive health care (family planning), tackling neglected tropical diseases and programs for improved access to innovative medicines. "We want to concentrate on projects where we possess special expertise," explains Köstlin. "That's where our efforts can be most successful."

Ideally, social and corporate value-added go hand in hand here. Yet it takes time to develop sustainable solutions. That's why Bayer focuses on long-term programs and supports particularly projects that enable structural changes over a longer period of time. "It goes without saying that we will continue to provide rapid, targeted relief in emergency situations through the donation of medicines or medical equipment. Yet

Strategy on Social Health Care Programs (SHCPs)

Areas of focus	Contents	Support approaches
Reproductive health	■ Family planning	■ Cooperation in numerous family planning programs with international partners
Tropical and infectious diseases	■ Neglected tropical diseases ■ Tuberculosis	**Better treatment options for** ■ African sleeping sickness ■ Chagas' disease ■ Malaria ■ Tuberculosis
Innovative programs	■ Oncology	■ Access programs for Nexavar®

our focus is clearly on lastingly improving health care," says Köstlin, explaining the company's support strategy.

Another goal of the strategy is to create more transparency. The aim is for clear criteria to facilitate decisions in favor of or against specific support projects in the future. Projects are evaluated for the Group and the selection of new projects prepared by a central unit at Bayer Schering Pharma in Berlin. Bayer is convinced that these activities will also positively impact the company's business success. Access to drug products is being improved in the long term by means of a differentiated pricing strategy that takes both the health burden and the level of development in the relevant recipient country into account. Such differentiated pricing also helps to gain access to new markets and expand existing markets. In this way, the SHCPs are contributing to the economic performance of the company. The Bayer Group also supported the evaluation of the Access to Medicine Index. This index was established in 2008 by the Access to Medicine Foundation and a number of committed investment societies to render more transparent and facilitate the comparability of companies' contributions to improved health care access (see also page 62 f.).

Enabling self-determined family planning

Bayer's family planning activities are aimed at enabling self-determined family planning at affordable prices and reducing mother and infant mortality. "As the market leader in hormonal contraceptives, we have a wealth of experience and a long tradition in promoting women's health and family planning," Köstlin explains. Our partners include the Reproductive Health Supplies Coalition (RHSC) – a joint international initiative of governmental agencies, private sector companies and NGOs – the United Nations Fund for Population Activities and a number of developmental aid organizations. In the context of these programs, various contraceptives are distributed at cost price or at heavily reduced prices. Through a collaboration initiated in August 2008 with the organization John Snow Inc. and the United States Agency for International Development (USAID), a total of eight million women in developing countries will receive access to hormonal contraception and health education in the future.

Promoting therapies against neglected diseases

The second focus area of the SHCP strategy is tropical and infectious diseases. Here Bayer places particular emphasis on therapies for neglected tropical diseases that are not at the center of global interest.

Together with the World Health Organization (WHO), for example, the company has focused since 2003 on fighting Chagas' disease, a widespread illness in Latin America that is primarily transmitted by triatomine bugs and kills approximately 14,000 people each year. The disease is increasingly spreading due to migration; as a result, North America, Europe and the Western Pacific region are now affected as well.

Since 2003, Bayer HealthCare has provided the WHO with free supplies of the drug Lampit®, whose active substance nifurtimox effectively fights the virus that causes Chagas' disease. Bayer and the WHO are united in their conviction that this disease can be not only cured, but effectively stemmed in the long term. The company is therefore considering with the WHO whether to expand the program.

Bayer is similarly committed to eliminating sleeping sickness, a disease that occurs in Africa and is transmitted by the tsetse fly. It is one of the most complex tropical diseases. The parasite that causes sleeping sickness is particularly widespread among the poorest people living in rural Sub-Saharan Africa. Bayer HealthCare is cooperating in this field with the United Nations-sponsored Special Programme for Research &

Dr. Ulrich Köstlin,
member of the Bayer HealthCare Executive Committee

"We view our efforts to achieve sustainable health care as a central element of our corporate responsibility."

Training in Tropical Diseases (TDR). Bayer has supported clinical trials designed to investigate the suitability of the active substance nifurtimox for treating African sleeping sickness. In April 2009, the WHO added Lampit® to its Essential Drug List for developing countries as part of a combination therapy for this indication.

In addition, in 2003 Bayer HealthCare began supplying the WHO with a drug containing the active substance suramin to control African sleeping sickness.

Bayer advocates an "Integrated Sleeping Sickness Initiative" intended to bring together resources and skills to manage all aspects of the fight against sleeping sickness, from infection and diagnosis to therapy and prevention.

Effectively fighting malaria

Malaria is still the most dangerous tropical disease, killing approximately 880,000 people a year. Here, too, Bayer has worked together with various partners for many years to limit the spread of malaria and alleviate its effects. In cooperation with developmental aid organizations such as USAID and NetMark, for example, Bayer CropScience developed a mosquito net that is many times more effective than conventional nets due to a special insecticide impregnation technique.

Bayer also participates in further international initiatives and projects such as the Corporate Alliance for Malaria Control in Africa (CAMA) and the Global Collaboration for the Development of Public Health Pesticides (GCDPP). Particularly promising is the Innovative Vector Control Consortium (IVCC), which has been sponsored by the Bill & Melinda Gates Foundation since 2005. Yet another research agreement was recently concluded for an initial period of three years with the aim of finding new active substances for Public Health Products (PHPs) which provide effective protection against insects which transmit diseases and are resistant to conventional medicines.

More effectively treating tuberculosis

There is also a need to act with regard to tuberculosis, which is the world's most deadly infectious disease. Tuberculosis affects particularly those with a weakened immune system: According to estimates by the University of Lübeck, Germany, patients infected with HIV are 20 times more likely to contract tuberculosis than those who do not carry the virus.

Bayer is working together worldwide with the Global Alliance for TB Drug Development, or TB Alliance for short, to develop a tuberculosis drug that significantly reduces the duration of treatment. The third phase of clinical development, which is relevant for the approval of Bayer's active substance moxifloxacin, is expected to be completed in 2011. The antibiotic moxifloxacin is not yet registered for the treatment of TB. As a member of the Global Business Coalition on HIV/AIDS, Tuberculosis and Malaria (GBC), Bayer organizes awareness programs and information campaigns on the theme of tuberculosis in India and China, among other countries.

Closing treatment gaps worldwide

The third pillar of Bayer's SHCP strategy is its programs to provide access

Tackling tuberculosis (TB) is one of the main medical challenges we face today.

Dr. Ann Ginsberg, Chief Medical Officer, Global Alliance for TB Drug Development (TB Alliance)

Someone dies of tuberculosis about every 20 seconds – that makes almost 5,000 people every day. The world Health Organization (WHO) estimates that TB killed some 1.8 million people in 2007 alone. Today's TB drug regimens were developed back in the 1960s and are complex and drawn-out. The duration of therapy is between six and 24 months, hindering patient adherence and fueling drug resistance.
The TB Alliance is developing the largest portfolio of potential new TB treatments ever assembled, the most advanced of which is a Phase III clinical-stage project between Bayer HealthCare and the TB Alliance, which is investigating whether the drug moxifloxacin is capable of significantly shortening TB treatment. A shorter treatment could increase patient compliance, slow the development of drug resistance, and lower TB-related health care expenditure in endemic countries.
Over the next few years, we expect to register the first new shorter regimens for active TB in over 40 years and to further expand our discovery and clinical development programs. We will advance the portfolio towards the goal of improved and innovative treatments against drug-sensitive and drug-resistant TB. The TB Alliance therefore continues to be dependent on close cooperation with partners from industry. We count on companies like Bayer HealthCare, which we have found to be a committed and reliable partner in the efforts to combat one of the world's most important causers of disease and death.

to innovative medicines for the treatment of serious and chronic illnesses. These include, for example, the treatment of oncological and hematological indications that so far is very limited in developing and emerging countries. In the future Bayer will systematically develop and promote activities that improve treatment worldwide in these indications.

An access program launched in China in 2007 for the active substance sorafenib to treat renal cell and hepatocellular carcinoma already points in this direction: Through this program, Bayer makes the drug Nexavar® sufficiently available to patients who have been diagnosed with kidney liver cancer. The program is now being introduced in India and it is planned to extend it to other Asian countries and also to countries outside Asia.

Bayer offers similar programs in Western countries when patients are not able to access treatment for cost reasons. In the United States, for example, the company provides medicines free of charge to cancer and multiple sclerosis patients who are unable to afford treatment.

Sustainable financing for research

Some NGOs are calling for international pharmaceutical companies to provide their products and services at no cost in poor countries or to authorize affordable imitation products. Yet research is very cost-intensive and prolonged – as a research-based pharmaceutical company, Bayer must finance research into future treatment options through the price of established medicines. Patents are essential for further progress in the field of health care. "We currently have 50 pharmaceutical research projects in clinical development," says Köstlin. "We would not be able to afford such enormous investment in medical innovations if we were to do without patent protection."

However, this does not mean that medicines and medical innovations cannot be made available in developing countries too at affordable prices. On the one hand, most of the drug products deemed essential by the WHO are no longer patent-protected. And on the other hand, Bayer has developed a differentiated pricing strategy for patent-protected medicines that is based on the economic situation existing in the respective countries. Individual agreements with the governments in question ensure that patients in poorer countries can receive Bayer products too. The company also donates medicines through the WHO.

Bayer in dialogue: family planning symposium

Together with the German Foundation for World Population (DSW), Bayer organized a symposium in Berlin on September 26, 2008, on the occasion of World Contraception Day. There, politicians, scientists, NGOs and other interested parties met to discuss ways to counter the high teenage pregnancy rate worldwide. The participants from both the northern and the southern hemispheres were quickly in agreement: Family planning remains a central theme for health and development. Courageous and coordinated actions by all stakeholders – governments, civil society and industry – are needed if the right to self-determined family planning is to be realized worldwide. This event is one of many examples of how Bayer actively seeks dialogue with a broad spectrum of stakeholders to jointly develop solutions for sustainable health care.

Mercy Mkaluma Maghanda, youth advisor at the DSW, talking with Simone Paetow, from the Berlin youth organization "Jugendwerk Aufbau Ost e.V." Mercy recounted her experiences with pregnant teenagers in Kenya and appealed to the international community not to ignore the issue of teenage pregnancy.

WWW

20 RHSC
21 WHO
22 USAID
23 IVCC
24 TB Alliance
25 GBC
26 DSW


BAYER

Responsible and efficient use of water

Water is essential for sustaining life. However, this valuable resource is distributed unevenly throughout the world and is also often used wastefully and polluted. This is resulting in severe ecological damage, disease, food shortages and violent conflicts. By developing and promoting solutions to support efficient and responsible consumption of water, Bayer is committed to conserving one of the most crucial of all raw materials.

Bayer CropScience employee Greg Skinner at the Bremer River, a feeder river of the dried up Lake Alexandrina in South Australia. Both belong to the Murray-Darling Basin, once the biggest river system in Australia. After many years of drought the river and thereby its tributaries have dried up. Farmers who used to till land in this area had to give up because of water shortages.

Drinking water is a resource in scarce supply. A mere 2.5 percent of all the water on Earth is freshwater – and most of that is either contained in ice, or is present as groundwater and therefore difficult to access. According to estimates by the United Nations, water shortages will assume critical levels in numerous regions over the course of the next few decades. Today, over a billion people already have no access to clean water. As the world's population continues to grow and consumption habits change, the amount of drinking water needed, and the volume required for sanitary and hygienic purposes and especially for food production, will continue to increase. Increased urbanization is intensifying the pressure on local water resources and, particularly in the emerging countries, water pollution is on the increase. In some areas, climate change will exacerbate the situation still further due to decreased precipitation and rising sea levels.

Efficient water usage and water pollution control are key issues when it comes to sustainable development. Agriculture has a crucial role to play in this respect, as the majority of the water consumed in the world (around 70 percent) is used in the cultivation of foodstuffs.

Water consumption per product

Average drinking water consumption in Germany has been falling since the 1980s. The daily consumption per person is now around 130 liters. The consumption of "virtual water" is steadily increasing, however. This is the amount of water that is contained in a product or needed for its production. In the case of a cup of coffee, the 200 milliliters in the cup is supplemented by the amount required to cultivate and process the coffee beans – 140 liters in all. Virtual water consumption is many times higher than actual consumption.

Source: UNESCO, Institute for Water Education, 2008

Promoting sustainable water management

Bayer has a vested interest in ensuring this raw material is managed sustainably, because the company requires water to cool and operate its production facilities. Water is also an integral part of numerous Bayer products.

"A commitment to protecting water quality and reducing water consumption has long been part of Bayer company policy," says Achim Noack, Managing Director of Bayer Technology Services, adding: "Our goal is to reduce the volume of water used in our production processes, steadily increase the amount of water we recycle and optimize our wastewater management system." To this end, Bayer is investing in innovative processes at its sites that will help to save, recycle and clean water worldwide.

"However, we still want to do more," continues Noack. "We aim to use our products to make a real contribution to efficient water management and water pollution control worldwide." Reflecting this spirit, Bayer signed the UN Global Compact's CEO Water Mandate at the end of 2008. Under this initiative launched by the UN Global Compact in 2007, companies commit themselves to developing strategies and solutions for sustainable water management in cooperation with governments, other companies and international organizations.

Efficient water usage

Bayer uses around 1.2 million cubic meters of water every day (see also page 82 f.). Through-flow cooling water accounts for more than a million of this. As this water is only warmed and does not come into contact with any products, it can simply be fed back into the natural water cycle once cooled.

The Group endeavors to recycle water that is directly involved in manufacturing processes. Bayer Technology Services has a range of technologies that can treat process water and make it suitable for repeated reuse within technical cycles. In 2008, the service company developed a tool that reveals the full potential offered by water recycling. The WWRC tool (Wastewater Recycling Tool) delivers a rapid assessment of the

Achim Noack, Managing Director of Bayer Technology Services GmbH

"A commitment to protecting water quality and reducing water consumption has long been part of Bayer company policy."

technological possibilities for water recirculation and the economic advantages that it offers.

Successful water management is performed, for example, at Bayer's site in Belford Roxo in Brazil. By initiating two projects to recycle water from the wastewater treatment plant and reuse water from the Rio Sarapui to provide process water, the site has succeeded in saving two billion liters of water over the past two years. This volume is enough to supply water to a town of 25,000 people for four years. The Group's achievement was recognized with the Brazilian Environment Award in 2008.

Saving water is also a key challenge when it comes to drinking water supplies. Up to 30 percent of this valuable resource is lost worldwide through leaks. However, renewing pipe systems is a lengthy and expensive process, particularly in urban conurbations. That's why Bayer supplies raw materials for innovative coatings that make it possible to renovate drinking water pipes much more quickly than before. The coating based on the raw material developed by Bayer has already been used along more than 10,000 kilometers of water pipes in Asia, America and numerous European countries.

In general, water usage also consumes a considerable amount of energy – the water has to be sourced, treated, transported and cleaned before being eventually disposed of. Service company CURRENTA has shown, however, that there is great potential for making savings in the field of industrial water supply, for example. Simply by reducing the water pressure in the supply pipes, the company was able to cut power consumption at CHEMPARK Dormagen, Germany, by about 15 percent in 2008. In addition, CURRENTA is now able to save up to 6,500 metric tons of steam annually following the construction of a new desalination plant to supply CHEMPARK Krefeld-Uerdingen with fully demineralized water. Other measures to increase efficiency include optimizing pump circuits (electricity consumption at CHEMPARK Leverkusen was reduced by approximately 9 percent), coating pump impellers, cutting transportation distances and the rapid detection of leaks.

Achieving energy efficiency through nanotechnology

In areas where there are insufficient reserves of freshwater, seawater desalination opens up major potential for supplying drinking water and water for domestic or industrial use. However, until now, this has been an extremely energy-intensive process. As part of the research collaboration project "Innovation Alliance Carbon Nanotubes" (Inno.CNT), Bayer Technology Services has opted to use particularly high-performance membranes with pores made from carbon nanotubes (CarboMembran) to reduce the amount of energy required. These allow considerably more water to flow through the membrane while consuming less energy.

Effective wastewater cleaning

Development in the industrial nations has demonstrated that industrialization and water pollution control are by no means mutually exclusive. Powerful wastewater treatment technology has led to dramatic improvements in water quality and the biological state of surface water over the past few decades. Having accumulated extensive experience in this highly dynamic field, Bayer is one of the world's leading experts in wastewater technology. With its Tower Biology system, for example, Bayer Technology Services succeeded in developing a patented process for the industrial and

Demand for water has never been as great as it is today.
An increasing number of countries are reaching the limits of their water resources, and population growth and climate change will aggravate the situation further. The latest World Water Development report of the United Nations estimates that by 2030, 47 percent of the world population will be living in areas with high water stress.
Although policies already exist to reduce water demand and loss, their impact is limited. What is required is a broad alliance of decision makers representing all sectors, public and private, from agriculture to finance, as they all have a decisive impact on water management.
And we need innovation: innovation in water management systems, in products and production patterns. This counts especially for agriculture: Unless agri-cultural water use is optimized, we will not be able to satisfy the growing demand for food.
In 2007, the un Global Compact launched the ceo Water Mandate: It aims at strengthening the partnership between business leaders and the international community to find effective solutions to the emerging water crisis. By signing the ceo Water Mandate, Bayer and the other 51 signatories have pledged to make water sustainability a priority and to work with other stakeholders to help solve this growing crisis.

Gavin Power, Deputy Director of the UN Global Compact and Head of the CEO Water Mandate

municipal sectors that imitates the self-cleaning process that occurs naturally in large bodies of surface water, even optimizing this through the input of oxygen and bacteria adapted to the process. Across a limited horizontal but considerable vertical area, bacteria separate wastewater into sludge and treated water.

Another efficient water pollution control technology developed by Bayer is LOPROX® (LOw PRessure OXidation). This patented wet oxidation process is used to pretreat highly polluted wastewater prior to biological treatment. Impressed by the technology developed by Bayer, Israel's leading manufacturer of crop protection agents commissioned Bayer Technology Services in 2007 to build what is so far the largest wastewater plant based on LOPROX®.

Maintaining water resources

However, some substances push even cutting-edge treatment plants to their limits. As a result, small traces of active pharmaceutical ingredients and associated degradation products can enter surface water, groundwater and, in isolated cases, even drinking water. The concentrations involved are so low that, in many cases, they can only be detected using very precise analysis. According to the available knowledge, they therefore pose no acute risk to humans. Bayer has set itself the task of investigating and understanding the possible impact that active pharmaceutical ingredients could have on the environment. To that end, the Group is therefore actively involved in several research projects, including the German START project (Management Strategies for Pharmaceutical Residues in Drinking Water) and the European initiative PILLS (Pharmaceutical Input and Elimination from Local Sources). Read more about this on page 97 f.

Bernd Naaf, member of the Bayer CropScience Executive Committee

"In view of climate change, we must intensify our efforts to develop and implement water-saving solutions for the agricultural sector."

Efficient solutions for agriculture

The agricultural sector is the biggest consumer of water taken from freshwater sources worldwide, accounting for 70 percent overall, and therefore needs to handle this resource responsibly. "We must intensify our efforts in the future to develop and implement efficient solutions for the agricultural sector," says Bernd Naaf, member of the Bayer CropScience Executive Committee and responsible for the Crop Protection Asia/Pacific sector. In Asia, 90 percent of water consumed in agriculture is used for rice cultivation. Here we are promoting water-saving cultivation systems such as the direct seeding of pregerminated rice. This consumes around 20 percent less water than the traditional method, which involves transplanting young rice plants to flooded fields. An important condition for successfully applying the direct seeding method is the effective control of unwanted grass and weeds, which are a serious threat for the young rice plants. Bayer CropScience's innovative herbicide portfolio provides tailored solutions for this.

In addition, Bayer opened a new rice development center in Thailand in November 2008 that will help to safeguard food security in Asia using high-quality, high-yield seed stock adapted to the local conditions. The process of cultivating conventional rice or lowland rice – the core foodstuff for two thirds of the world's population – is extremely water-intensive.

In order to ensure good harvests despite dry conditions and heat, Bayer is focusing among other things on increasing the stress tolerance and health of crops. For example, this means newly developed types of corn, rice and cotton that can also produce high yields in very dry climate zones and even during extended periods of drought. Innovative active ingredients used in crop protection also help to make food crops more resistant to the effects of water shortages (see page 99).

Generally, research is high on the agenda at Bayer CropScience. The subgroup plans to invest a total of around €3.4 billion in research and development between 2008 and 2012.

Making sustainable agriculture methods more widespread

"In any discussion on sustainable agriculture, we cannot ignore the role played by humans," remarks Naaf. He explains: "In order to work their land in a way that is sustainable and saves water, farmers need to be aware of and understand the problems that exist and the solutions available to them." To this end, Bayer is investing in training farmers worldwide in sustainable methods of cultivation. This training takes place as part of the global "Food Chain Partnerships," for instance. In numerous projects across all five continents, farmers receive advice and support on questions relating to sustainable agriculture and integrated production according to the standards set by good agricultural practices (see page 58).

Bayer has been supporting the government aid program "Fome Zero" ("Zero

Solutions for a changing world

Australia is feeling the heat: While a string of severe droughts have caused rivers to run dry in the south, extreme rainfalls in northern Australia have resulted in widespread flooding. Scientists agree: These weather phenomena are not just temporary, but almost certainly due to long-term climate change. The "Commonwealth Scientific and Industrial Research Organization" (CSIRO) estimates that since 1950, the average temperature has risen by about 1 °C and this trend is likely to continue.
Australia's farmers are among the first to experience the impact: Productivity of the agricultural sector has declined by around 1.4 percent per year since 2000. Growing crops in dry land conditions requires much more careful planning, while dramatically reduced river inflows have ruled out irrigation in many areas. In order to adapt to these changes, farmers have started to modify their agricultural practices: They store any rain that falls in the soil profile, protect the soil via direct seeding systems and plant crops much earlier in the year. But to be able to cope with the challenges of water shortage and climate change in the medium run, they rely on substantial innovations; new agricultural products and services are needed which improve productivity and sustainability.
Bayer CropScience is committed to supporting Australia's agricultural sector in this way. In order to get a detailed picture of the farmers' needs, the company is engaged in a constant dialogue with farmer groups, industry associations and government research bodies. Already, the company is boosting its range of products to help Australian agriculture adapt to the new climatic conditions.
Australia is an important location for Bayer CropScience's global cultivation research, which aims to develop varieties with greater tolerance towards drought, heat and salination. The company is just about to introduce a new herbicide that will allow farmers to engage in conservation tillage. This will also have a positive effect on the carbon content of soils and their capacity for water storage. Bayer has opted for an even greater commitment to grow and innovate in the market. "We are confident that in the next five years we will provide a range of excellent innovations that boost farmer productivity," states Jörg Ellmanns, Country Head of Bayer CropScience Australia.

Hunger") in Brazil since April 2004. Backed by technological and financial assistance from Bayer, small farmers in the semi-desert region of northeast Brazil are creating fertile plantations in a circular formation around a basin that retains and distributes water. The pipes for the branched irrigation system of these "mandalas" are made of a plastic from Bayer. The beds are used to grow fruit and vegetables, while small ponds provide an ideal environment for breeding fish and waterfowl. This project is all about helping people to help themselves – farmers are given the means to provide food for their families by using and selling their own produce.

Promoting knowledge

As water is so crucial to life, Bayer has expanded its projects for schools to include the topic of drinking water so that future generations understand why it is so important to handle this resource responsibly (see page 27). Since 2005, Bayer and National Geographic Deutschland have been working together to reward projects by scientists and researchers that focus on exploring new sources of water, water distribution and ways of conserving this precious resource. Nine projects were selected to receive funding totaling €250,000 from the Global Exploration Fund set up by Bayer and National Geographic.

WWW
27 UN Global Compact
CEO Water Mandate
28 CarboMembran
29 START
30 PILLS
31 CSIRO
32 Food chain partnerships


Net water use by source
Water use (million m³/d)
from surface water (%)
from bore holes/springs (%)
from public drinking water supplies (%)
from other sources, e.g. rainwater (%)
2004 1.29 60 33 5 2
2005 1.24 54 35 2 9
2006 1.20 53 35 2 9
2007 1.23 57 32 2 9
2008 1.20 58 32 1 9
Research and development spending (€ million)*
2004 2005 2006
Total 1,927 1,729 2,297
of which BHC 996 834 1,426
of which BCS 679 664 614
of which BMS** 236 214 227
of which reconciliation*** 16 17 30
Emissions of ozone-depleting substances* (metric tons p.a.)
Target
2008
2007
2006
2005
Financial data for the Bayer Group (€ million or percent)
2004 23,278 86.9% 1,222 749 67 682 6.4% 5,812
2005 24,701 84.4% 1,912 1,374 221 1,595 14.4% 5,494 348
2006 28,956 84.4% 1,930 1,526 169 1,695 14.1% 17,529 454
2007 32,385 85.1% 2,234 2,306 2,410 4,716 31.8% 12,184 72
2008 32,918 85.4% 2,356 1,720 4 1,724 10.4% 14,152 636
Total energy consumption 82,786
Total energy conversion 87,644
Steam sold (net) -4,006
Refrigeration energy sold -850

Our performance and objectives

In the following Performance Report, we render a detailed account of our sustainability performance in the year under review 2008 on the basis of clearly defined objectives and performance indicators. In this way we want to provide the reader with transparent and rapid access to all essential data and information on sustainability in the Bayer Group. The report is divided up into different sections dealing with economics, employees, human rights, corporate social responsibility, ecology and product stewardship and makes detailed statements on the level of achievement of the objectives. "Governance through objectives and indicators is an essential component of sustainability management at Bayer – and this is based on transparency and measurability," says Dr. Wolfgang Große Entrup, Head of Environment & Sustainability at Bayer AG.

With its Group Sustainability Program 2006+ and specific focal initiatives such as the Bayer Climate Program, Bayer therefore sets clear objectives and backs them up with actions.

In this Performance Report we provide clear and concise information on the issues that our stakeholders and ourselves have identified as being essential for Bayer. It complies with the current guidelines of the Global Reporting Initiative (GRI), achieving level A+, and covers all of the indicators recommended by the GRI.

Our selection of indicators and measurement of key data also took into account the recommendations of the World Business Council for Sustainable Development (WBCSD), the Greenhouse Gas Protocol (GHG Protocol) and the European Chemical Industry Council (Conseil Européen de l'Industrie Chimique, CEFIC).

The Performance Report is supplemented by a table showing the status of implementation of the Group Sustainability Program 2006+ (see page 104 f.) We also report annually on our progress in implementing the 10 principles of the UN Global Compact (see page 112).

Reporting principles

Capture and presentation of key data

We capture data from all of the relevant organizational units and companies worldwide which fall within the scope of the Bayer Group's consolidated financial statements. Our health, safety and environment (HSE) data cover all companies in which we have a holding of at least 51 percent. The key performance data of these companies have been fully consolidated, regardless of Bayer's precise share in the respective company. The years 2005 to 2008 reflect the continuing business operations without the divested Wolff Walsrode, H.C. Starck and Diagnostics sites. Schering sites have been included in the figures from the date of acquisition, June 23, 2006. We continue to report our data over a period of several years (2004/2005–2008) in order to identify trends. Our greenhouse gas emissions are reported from 2005, the baseline year for the climate targets set in the Bayer Climate Program up to the year 2020, portfolio-adjusted in line with the Greenhouse Gas Protocol.

Electronic data capture using Bayer information systems

The key HSE performance data of these companies were captured using an electronic questionnaire and consolidated in our Group-wide site information system, BaySIS®. BaySIS® is an intranet-based tool for Group-wide HSE reporting developed by Bayer Business Services. BaySIS® makes efficient reporting possible thanks to its user-friendly and highly configurable design. Specially designated on-site reporting managers enter the relevant data based on predefined questionnaires into a central database. Plausibility checks and cross-checking of data ensure a high degree of data integrity. BaySIS® provides an important basis for external data verification by an auditor. Additional data have been provided through our information systems, e. g. BayInfo for human resources data.

Interpreting performance indicators

In our Performance Report, as well as providing figures, we also endeavor to give the reasons and background for the way performance indicators are changing. In order to classify the current performance indicators and interpret changes in figures over time, it is important in many cases to place these figures in the context of annual production volumes. The volume of products sold fell during the reporting year to 10.0 million metric tons compared with 10.6 million metric tons in 2007.

Volume of products sold				
	2005	2006	2007	2008
Volume of products sold (million metric tons)	9.7	10.1	10.6	10.0
Change compared with previous year (percent)	6.6	4.1	5.0	-5.7

External audit certification

Since 1997, we have had our reporting process audited by independent external organizations. For this report, the auditing company Ernst & Young examined the data capture process and the statements of the report's Focus Issues and of the Performance Report as a whole for consistency, appropriateness and credibility. The assurance statement is reproduced on page 102 f. of this report.

HSEQ management systems

In order to ensure a consistently high standard in the areas of health, safety, environment and quality (HSEQ), Bayer has established the appropriate HSEQ management systems, which are based on recognized international standards.

Operational responsibility for HSEQ lies with the management boards of each of the subgroups and service companies and the corresponding line organizations. Through continuous updating and expansion of HSEQ directives and internal audits, each division ensures that its HSEQ management systems meet, or exceed, specific requirements based on international standards and statutory regulations.

Bayer CropScience is currently carrying out audits of relevant sites with regard to the key HSEQ requirements. These include sites of Industrial Operations, Environmental Science, BioScience and sites with research and development activities. By the end of 2008, 70 percent had already been inspected and auditing is due to be completed by the end of 2009, before a new five-year audit cycle begins. Process and plant safety will also be inspected at all Bayer CropScience production sites by the end of 2009.

Bayer HealthCare is also continuously updating, optimizing and auditing its HSEQ management systems on the basis of an annually defined, risk-based audit program. 19 sites were audited in 2008. The subgroup is additionally auditing process and plant safety at its sites by means of questionnaires and visits.

The Bayer MaterialScience (BMS) Integrated Management System is continually monitored within the framework of a global internal HSEQ audit program and is being externally certified to ISO 9001.

In addition to the audits by the individual subgroups, the Bayer Group carries out regular reviews (observer audits) of the subgroups and service companies.

In 2008, a total of 77 percent of our production sites had a Bayer-audited HSE management system.

Standards and certifications

Approximately one third of our production sites have been certified in accordance with the international environmental management standard ISO 14001 or validated according to the European environmental management regulation EMAS (Eco-Management and Audit Scheme). A further 21 percent of the sites have an HSE management system complying with other external standards, such as the RCMS (Responsible Care Management System) in the United States or Industria Limpia (Clean Industry) in Mexico.

Additional certifications will be sought if this is deemed appropriate based on local factors. This also applies to the international occupational safety management system standard OHSAS 18001 (Occupational Health and Safety Assessment Series) and the SCC standard (Safety Certificate Contractors), for example for the safe management of construction sites and assembly activities by contractors. Bayer Technology Services, for example, has SCC certification with Europe-wide validity.

All subgroups and service companies have quality management systems. Since quality standards and norms are often defined on a branch-by-branch basis, implementation is the responsibility of our subgroups and service companies.

Our drugs and medical devices are produced and monitored in accordance with the quality standards of GMP (Good Manufacturing Practice), while research and development activities take place in line with the principles of GLP (Good Laboratory Practice) and GCP (Good Clinical Practice). In the other subgroups and service companies, the international quality standard ISO 9001 plays an important role, with 47 percent of Bayer CropScience sites being certified to this standard. At Bayer MaterialScience, all main production sites have an ISO 9001 certificate.

Certifications and audits (as a percentage of the total number of Bayer production sites)

	2004	2005	2006	2007	2008
Sites with a management system certified to ISO 14001 or validated to EMAS standards	33	36	36	33	34
Sites with an HSE management system based on other external standards	5	4	7	10	21
Sites with a management system certified to OHSAS 18001	2	5	8	8	8
Sites with a Bayer-audited HSE management system	-	-	62	64	77

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Economics

Bayer's goals are a strong innovative and business performance and a sustained increase in the value of the company. Our core competencies are in health care, nutrition and high-tech materials, and our business is aligned to attractive growth markets.

Earnings targets achieved

2008 was a successful year for us despite the increasingly difficult economic conditions. Operationally, our key financial data were slightly better than in the previous year and we achieved our earnings targets. Bayer thus clearly benefited from its alignment to the life-science businesses HealthCare and CropScience, which are less dependent on global economic trends. Group sales grew 1.6 percent to €32.9 billion in 2008, compared with €32.4 billion in 2007. Adjusted for currency and portfolio effects, sales rose by 4.4 percent. While Bayer HealthCare and Bayer CropScience reported sound sales growth of 6.9 percent and 13.9 percent respectively, sales declined 4.6 percent at Bayer MaterialScience.

Income before income taxes rose from €2.2 billion to nearly €2.4 billion. Group net income was €1.7 billion, well below the 2007 level of €4.7 billion. However, the figures are not fully comparable as Group net income for 2007 contained one-time tax income of over €900 million, and a gain of €2.4 billion from the divestment of the diagnostics business, H.C. Starck and Wolff Walsrode. The return on equity declined from 31.8 percent in 2007 to 10.4 percent in 2008.

At the same time, core earnings per share from continuing operations rose to €4.17 and the dividend per share for 2008 was increased from €1.35 to €1.40.

Economic data for the Bayer Group* (€ million or percent)

	2004	2005	2006	2007	2008
Net sales	23,278	24,701	28,956	32,385	32,918
Sales outside Germany	86.9%	84.4%	84.4%	85.1%	85.4%
Income before income taxes	1,222	1,912	1,980	2,234	2,356
Income from continuing operations after taxes	749	1,374	1,526	2,306	1,720
Income from discontinued operations after taxes	-67	221	169	2,410	4
Income after taxes	682	1,595	1,695	4,716	1,724
Return on equity	6.1%	14.4%	14.1%	31.8%	10.4%
Net debt (total)	5,422	5,494	17,539	12,184	14,152
Income taxes		-538	-454	72	-636

* Figures for 2004–2007 as last reported

Net debt was €14.2 billion as of December 31, 2008 (2007: €12.2 billion). The increase was partly the result of a rise in working capital, acquisitions costing €0.9 billion and changes in key exchange rates against the euro, which accounted for €0.6 billion.

Further key figures can be found inside the front cover and in the Annual Report 2008.

A clear commitment to research and development

Our mission statement "Bayer: Science For A Better Life" underscores our goal, as an inventor company, of setting trends in research-intensive fields. We are continuing this strategy even in difficult economic conditions. Bayer has the necessary resources to realize further opportunities for the future through research and development. In 2008 we spent around €2.7 billion on research and development (R&D) – more than any other company in the German chemical and pharmaceutical industries. That represented a further three percent rise in R&D spending compared with 2007, and total R&D expenses in 2008 were equivalent to 8.1 percent of sales.

Bayer has around 12,300 R&D employees, supported by an international network of partner companies, leading universities and public research institutions. In the present crisis, we stand by our obligation to invest in high-performing scientific and research systems. Together with other leading companies we have therefore documented our commitment by signing the "Berliner Appell" of the "Stifterverband für die Deutsche Wirtschaft," a not-for-profit organization dedicated to promoting research and higher education.

We are planning to raise R&D expenditures to approximately €2.9 billion in 2009 and remain committed to strong R&D in the future. For example, Bayer HealthCare will be investing around €100 million in a new research and development center in Beijing, China, in the next five years. Bayer CropScience intends to invest a total of €3.4 billion between 2008 and 2012 in the research and development of innovative crop protection agents and new solutions for the seed and plant biotechnology areas. Further details of the global R&D activities of our subgroups can be found in the Annual Report 2008 on page 88 ff.

Public funding is becoming an increasingly important factor, especially in fundamental research. Bayer utilizes such funding and takes part in project consortia, for example for the development of a new generation of solar cells produced cost-effectively using a pressure process, which receive public subsidies amounting to €3.8 million as part of a project of the BMBF (German Federal Ministry of Education and Research). Overall, Bayer received public-sector funding of around €10 million for 80 projects in 2008.

Research and development expenses (€ million)*

	2004	2005	2006	2007	2008
Total	**1,927**	**1,729**	**2,297**	**2,578**	**2,653**
of which BHC	996	834	1,426	1,700	1,742
of which BCS	679	664	614	637	649
of which BMS**	236	214	227	209	221
of which reconciliation***	16	17	30	32	41

* Figures 2004–2007 as last reported
** Excluding R&D undertaken jointly with customers
*** Not directly allocable to the subgroups, e. g. expenditures of the service companies

Patent protection is essential for innovation

Reliable global protection of intellectual property is essential for an inventor company like Bayer because it is vital for innovation.

Without effective global patent protection, companies like Bayer would have no way of recouping the substantial amounts they spend on research into new solutions. Ohterwise, the commercial incentive would be lacking, as would funding for further innovation.

Patented products and technologies account for around 40 percent of the sales generated by each of our three subgroups. We therefore vigorously defend our intellectual property.

For example, since the end of 2008 Bayer has been engaged in a dispute with the Drugs Controller General of India (DCGI), who has granted an Indian company marketing approval for a generic version of Bayer's cancer drug Nexavar® despite valid patent protection. Bayer therefore would have to bring individual court cases to prevent marketing of this me-too product before expiry of the patent. That would be extremely expensive and time-consuming. And we could make better use of such resources – for example, for research and the provision of effective local assistance.

Wide-ranging innovations for sustainable solutions

Innovation is a key growth driver for us as a research-based company and is therefore a focal point of our corporate strategy. Bayer wants to find innovative solutions to help tackle global challenges such as climate change, health care provision and improving the world's supply of food. Developing new products to strengthen our core business has especial priority, as has optimizing our production processes.

In 2008, our subgroups and service companies again succeeded in launching a wide range of innovations that bring us closer to our goals of sustainable development and sustainable growth. Further evidence of our progress comes from the consistently large number of patent applications submitted over many years. In 2008, we filed 649 patent applications (excluding the corresponding foreign patent applications).

All of Bayer's subgroups work closely with Bayer Technology Services to develop new technological solutions, particularly in the fields of process technology, plant engineering, automation and product development. Bayer Technology Services develops new production processes, for example in collaboration with Bayer MaterialScience, to make more efficient use of energy and raw materials and thus help the subgroup maintain and strengthen its technological edge and cost leadership. This collaboration includes the central development of cross-subgroup technologies such as nanotechnology and biotechnology. Knowledge of mathematical simulations and data mining helps Bayer HealthCare and Bayer CropScience reduce the time-to-market for new products. A key strategic element in this is gaining access to international know-how, from country-specific expertise in implementing capital expenditure projects through global access to innovations and public-sector research funds, to recruiting of top international personnel.

A cornerstone of our innovation management is Bayer Innovation GmbH, which focuses on areas not covered by the core activities of our subgroups. Its goal is to identify and develop new growth areas for Bayer and thus pave the way for us to enter new markets. Bayer Innovation covers areas that dovetail with our mission statement "Bayer: Science For A Better Life" and draws on the competencies of our subgroups, often in conjunction with external partners such as universities, institutes, start-ups and other companies. The current areas of focus are medical technology and the production of plant-based medicines.

Plants as a source of active substances

Bayer Innovation GmbH is conducting research on tobacco plants to establish how to produce therapeutic proteins in plants. Tobacco plants have the advantage, for example, that they are not used as food for humans or animals. Modified tobacco mosaic viruses transport the blueprint for a medicine to the plant. The plant uses this to develop large quantities of the required protein in its cells. This method can be used to produce antibodies for the treatment of cancer, along with hormones, vaccines and enzymes for technical applications.

We also foster the sharing of ideas between R&D units within the Bayer Group. 35 research and development specialists attended the first Expert Club Meeting in Leverkusen, Germany, at the invitation of the Board of Management and meetings are to be held regularly from now on. Our "Triple-i" innovation initiative encourages employees around the world to submit ideas for possible new products and thus play an active role in innovation at Bayer. By March 2009, employees had submitted more than 7,700 ideas, many of which are still being screened for potential by our subgroups. Some approaches such as using polycarbonates for special applications in boat-building have already been launched successfully on the market.

Examples of sustainable innovations by Bayer's subgroups and service companies

Product	Description
Bayer HealthCare	
Xarelto® is an anticoagulant that sets new milestones in the prevention of dangerous thromboses.	In tests on patients after elective hip or knee replacement, Xarelto® has shown better efficacy than the present standard therapy and has a comparable safety profile. Xarelto® has been approved in the European Union for the prophylaxis of venous thromboembolism in adults following elective hip or knee replacement surgery. Further registrations have since been granted in more than 20 countries, including Australia, Canada, China, Mexico and Singapore
The contraceptive pill **Qlaira®** is the first in a new class of oral contraceptives.	Qlaira® is the first oral contraceptive based on estradiol, which is identical to the estrogen produced by the female body. The drug approval procedure for Europe was completed in October 2008 and Qlaira® received national marketing approval for Germany in January 2009. Europe-wide launch starts in May 2009.
Bayer CropScience	
Movento® is the only modern insecticide that has systemic two-way efficacy. It protects, for example, many vegetable, fruit and nut crops from hidden pests that are difficult to control.	Movento® moves up and down through the entire plant system so it can control insects in inner leaves and in the bark of fruit trees. Moreover, it does not harm beneficial insects such as ladybugs. Movento® was approved for the key U.S. and Canadian markets in July 2008. The intention is to introduce it in more than 70 countries.
Adengo® corn herbicide sets new standards in modern integrated weed control. This product combines good long-term action with high biological performance.	The ready-to-use formulation marketed under the brand name Adengo® is effective against a wide range of weeds. It was approved for marketing in Romania in 2008 and market launch in the main European corn-growing countries, the United States and Argentina is planned for 2009.

InVigor®, a new hybrid Canola seed with significantly improved yield.	The new InVigor® hybrid seed 5440 achieved the highest yields in a series of independent tests* on conventional seeds and other hybrid varieties in Canada. *Canola Council of Canada
Bayer MaterialScience	
The **BayVision® brand pools expertise** in climate-friendly automotive glazing.	The polycarbonate glazing developed under the competence brand BayVision® helps to reduce weight and thus cuts CO_2 emissions from vehicles. Bayer MaterialScience is working closely with well-known names in the automotive industry who are testing the use of polycarbonate glazing in new models.
Bayer MaterialScience is building the **world's largest production facility for carbon nanotubes** (Baytubes®) at CHEMPARK Leverkusen in Germany.	These minute products are far tougher than steel, have better thermal conductivity than diamonds and conduct electricity better than copper. The new pilot plant in Leverkusen will have a capacity of 200 metric tons p.a. and will create 20 new jobs. Applications for nanotubes include ultra-light, high-performance rotor blades for wind turbines.
Bayer Business Services	
Bayer Business Services supports the objectives of the Bayer Climate Program through its innovative **Green IT** activities.	Environment-friendly information technologies and energy-saving use of equipment can make a major contribution to increasing energy efficiency at Bayer. Bayer Business Services (BBS) is aiming to increase the energy efficiency of its data centers by a total of 20 percent by 2012. BBS is also supporting customers in the resource-friendly configuration of IT workstations. By carefully applying the energy-saving functions of computers and monitors, several million kilowatt hours of electricity can be saved worldwide every year. Moreover, by adopting a more restrained approach to the use of printers, paper consumption will also be reduced significantly.
BaySIS®4 REACH, a new **data entry and management system** facilitates communications along the supply chain.	The E.U.'s Chemical Regulation REACH requires companies to register all chemical substances they use and place on the market. BaySIS® 4 REACH, a new software program from Bayer Business Services, helps companies enter and evaluate the necessary information on their supply chain and fosters efficient dialogue between suppliers and customers on REACH-related issues.
Bayer Technology Services	
Bayer Technology Services' **innovative UVivatec® technology** improves the reliability and cost-efficiency of production processes for pharmaceuticals.	This new technology developed by Bayer Technology Services inactivates viruses in biopharmaceuticals through ultraviolet irradiation. Bayer has signed an exclusive cooperation agreement with Sartorius Stedim Biotech GmbH on the manufacture and marketing of UVivatec® products.

CURRENTA	
The Sludge Redox pilot project sponsored by the E.U. has shown **that industrial sludge can be used to produce biogas**.	In a pilot facility, CURRENTA has shown that dehydrated industrial sludge from chemical wastewater treatment plants and aqueous waste from chemical production processes can be used to produce biogas after treatment by a new, specially developed combined process. CURRENTA is testing the profitability of a facility in order to use up to 20,000 metric tons p.a. dehydrated sludge from wastewater treatment to produce energy for the CHEMPARK sites.

Our contribution to regional economic development

Bayer is a key driver of social and economic development in many regions. As an employer we have for many years played a significant role in strengthening the communities around our sites, mainly by increasing purchasing power and social security. In 2008, our expenditures for pensions and pension obligations amounted to some €22 billion worldwide. We also make a contribution to the common good through our tax payments.

Personnel expenses and pension obligations* (worldwide, € million)

	2004	2005	2006**	2007	2008
Personnel expenses	6,026	5,318	6,630	7,571	7,491
of which pension and social security contributions	1,204	1,009	1,414	1,611	1,513
Pension obligations***	13,581	15,561	16,708	15,022	14,910

* Figures for 2004–2007 as last reported
** The 2006 figures only contain Schering from June 23, 2006.
*** Present value of defined-benefit obligations for pensions and other post-employment benefits

The procurement volume in the systems of our Group's Procurement Community is also a significant development factor in many regions. Bayer sources goods and services totaling around €13.5 billion from some 80,000 suppliers in around 70 countries. 13 percent of expenses go towards purchases in non-OECD countries.

Percentage of suppliers and expenses according to economic region

	Suppliers (percent)	**Expenses** (percent)
Non-OECD	24	13
OECD	76	87
TOTAL	**100**	**100**

Source: Procurement Community Business Warehouse 2008

In many regions, especially in Central America and Latin America, Bayer CropScience supports fruit and vegetable-growers in economical production methods and international product marketing. Through food chain partnerships, Bayer contributes innovative crop protection solutions and technical expertise and gives extensive advice to help farmers safeguard harvests, raise yields and ensure quality.

The Brazilian "Flavor Guarantee" program is an example of a successful partnership. In collaboration with the non-governmental organization HortiBrazil, Bayer CropScience provides support for small farmers in Brazil who grow and market table grapes, melons and pineapples. Around 500 producers have joined the project since it was introduced in May 2007 and have received advice on crop cultivation, marketing information and certification support from Bayer. Interest in the crops produced under this program in the central market in São Paulo is so high that there are plans to extend it to other types of fruit and other growers.

Our proactive site development in many regions is evidence of Bayer's sense of responsibility for the local community. Bayer HealthCare's commitment in Madagascar is a good example. The company organizes the production of organic cosmetics and promotes local infrastructure by investing in schools, water supply, electrification and logistics.

The German CHEMPARK, which has sites in Leverkusen, Dormagen and Krefeld-Uerdingen, is well-prepared for the future. Investment by companies at these locations was around €500 million in 2008.

Worldwide commitment to compliance

Bayer is fully committed to compliance. Lawful and responsible conduct is mandatory for all employees and we do not tolerate infringements of the law.

The Program for Legal Compliance and Corporate Responsibility at Bayer issued in 2004, which has to date formed the core of our commitment to compliance, was revised in 2008. The result is a new Corporate Compliance Policy which continues to integrate all the basic principles set out in the previous program. These include a strict ban on corruption and anti-competitive practices, creating and safeguarding fair and respectful working conditions and a clear commitment to respect intellectual property rights. The new policy puts greater emphasis on sustainability.

A brochure outlining the new policy, which was translated into 36 languages, has been distributed to all employees in the Bayer Group – with the exception of those at CURRENTA. CURRENTA will issue its own compliance brochure in the course of this year. In parallel with this, we launched a communication drive to heighten awareness of compliance issues. Using the motto COMPLIANCE W.I.N.S. it comprises posters displayed at sites around the world, presentations for use at employee meetings and team workshops and articles in internal media. Information on compliance is available to employees via the Intranet in German, English, French and Spanish, together with details of how to contact the compliance officers and the phone numbers of local compliance hotlines, which have now been set up in 66 countries in which Bayer operates. Where we have not been able to set up a local compliance hotline for legal or organizational reasons, this function is fulfilled by ombudsmen or compliance officers.

In 2008, we continued to train employees worldwide in compliance and have now achieved a training ratio of around 77 percent. We will be continuing our systematic training policy in the future to raise this figure even further.

In order to identify any infringements of the regulations, Bayer employees have an obligation to report suspected violations of the compliance policy. Incidents reported are investigated and action is taken where necessary. This may range from issuing formal warnings to actual dismissal, and may also result in alterations in business processes. Owing to the particular nature of the French legal system, this reporting obligation does not apply to Bayer employees in France. There, it is left to the discretion of every employee to report potential compliance violations by contacting the German compliance hotline or the local compliance officer to initiate an investigation.

Our compliance principles

1. Fair competition
2. Integrity in business dealings
3. Commitment to sustainability
4. Upholding foreign trade laws
5. Safeguarding equal opportunity in securities trading
6. Proper record-keeping and transparent financial reporting
7. Fair and respectful working conditions
8. Protection of the fruits of our endeavors and the legally recognized rights of others
9. Separation of corporate and personal interests
10. Cooperation with authorities

Despite our extensive commitment to compliance, Bayer employees breached the regulations in the past. In such cases Bayer cooperates closely with the relevant authorities.

Following investigations into corruption, the Bayer Group and a former service-provider terminated at the end of 2008 the dispute that had begun at the beginning of 2007 in connection with investigations by the public prosecutor's office concerning employees of the two companies. A mutual settlement was reached, including a ruling on damages for the Bayer Group (see page 47 of the Sustainable Development Report 2007).

Legal proceedings against Bayer are pending in several countries and some cases were concluded in 2008. The class-action lawsuit brought against Bayer by stockholders in connection with Lipobay/Baycol was concluded through an out-of-court settlement involving a total payment of US$18.5 million. In the investigation of the marketing of blood glucose meters, Bayer has agreed to a settlement with the U.S. Department of Justice to avoid long-drawn-out litigation. Without acknowledging liability, Bayer agreed to pay US$97.5 million to the U.S. government. In Europe, the European Commission imposed fines on Bayer in antitrust proceedings on several rubber products in recent years. In another case, it granted it full amnesty. In May 2008, Bayer accepted a fine of €10.34 million imposed by the German Federal Cartel Office in connection with an investigation into resale prices in pharmacies. The litigation referred to here does not represent an exhaustive list. An overview of other pending litigation can be found in our Annual Report.

Code of conduct for our political work

The basic conditions in which we operate are influenced to a great extent by politics and legislation. Bayer therefore regards lobbying as an important and legitimate way of contributing its expertise and participating in the political decision-making process. The rules applicable for all employees and consultants of the Bayer Group in such matters are set out in a Group-wide code of conduct for responsible lobbying, which was issued on January 1, 2009. All lobbyists and consultants are obliged to identify themselves as representatives of the Bayer Group and to disclose the company's business interests. Moreover, no lobbyist or consultant may induce public servants to breach the rules, obtain information in an unlawful manner or endeavor to influence decisions in an unlawful manner. Bayer was one of the first companies in the chemical and pharmaceuticals sector to be entered in the European Commission's lobby register and discloses the relevant overall costs of its lobbying work in the E.U.. In 2008, these amounted to €1 million.

Uniform communication with political decision-makers is coordinated by our Politics Community Council, which is responsible for defining and prioritizing the company's political affairs activities.

Bayer collaborates closely with national and international industry associations on key political plans in the interests of a consensus-based approach. We also maintain close contact with other stakeholder groups in society, for example in the environmental and health care areas. Good collaboration with local initiatives and organizations close to our sites is also important to us.

In line with its directives, Bayer does not make any donations to political parties, related institutions, politicians or candidates for political office. In the United States, individual employees make private donations to the Bayer Corporate Political Action Committee (BayPac) which sup-

ports individual candidates for election to parliament. In 2007/2008 a total of US$306,100 was donated to various candidates in federal and state election campaigns. The associations to which we belong make any donations on their own initiative, in compliance with the relevant statutory regulations, especially laws on party political activity. As in the past, German employees who are elected to a local council, regional parliament, the German parliament or the European Parliament are covered by the Officeholders Directive introduced in 2005 (see page 31 of the Sustainable Development Report 2005)

Responsible risk management

Business operations necessarily involve opportunities and risks. Effective risk management is therefore a key factor in maintaining the company's value over the long term. The management of opportunities and risks at Bayer is an integral part of the Group-wide corporate governance system, not the task of one particular organizational unit. Key elements of the risk management system are the planning and controlling process, Group regulations and the reporting system. At regular conferences the company's results and potential opportunities and risks are discussed, and targets and necessary controlling action are agreed upon. The Bayer Group's risk management principles are set out in a directive. Our subgroups and service companies and the organizational units at the holding company have named risk officers at top management level and risk management coordinators to ensure the efficiency of the risk management system. Corporate Auditing is responsible for coordinating Group-wide identification and documentation of risk factors and for ongoing development of the risk management system. The effectiveness of the risk management system is evaluated at regular intervals by internal auditors. In addition, during the year-end audit the external auditor of the Annual Report assesses the risk management system and briefs the Group Management Board and the Supervisory Board on the outcomes of these evaluations. These outcomes are taken into account in the continuous process of enhancing our risk management system.

One area which is becoming increasingly important from a risk management viewpoint is climate change. Since it operates globally, Bayer has production facilities in more than 100 countries. Some of these could be exposed to extreme weather conditions such as storms, flood and drought in the future or by a rise in sea levels in the medium term. The Baytown production facility in the United States had to declare force majeure for nine days in August 2008 due to the damage caused by hurricanes Ike and Gustav in the Houston region. This also affected some suppliers' plants in Texas and Louisiana. Other production locations that are potentially at risk from severe hurricanes and typhoons are Map Ta Phut in Thailand and Caojing in China. Bayer takes these risks very seriously. An emergency response system (Bayer Emergency Response System, BayERS) to ensure the safety of employees, the environment and production plants is a mandatory component of the integrated HSEQ management systems at production sites.

A threat of shortages of water and fossil resources could also potentially represent a considerable business risk for Bayer in the medium term. We are therefore endeavoring to reduce the water and fossil resources consumed by our production processes and increase the use of renewable resources. We take account of climate change in the alignment of our portfolio and are investing in solutions with which we want to make a considerable contribution to ensuring full supply of food, water and medication.

Enterprise risk management

Bayer HealthCare (BHC) introduced a new uniform risk management system in the area of product supply in 2008 to identify potential risks as early as possible and thus minimize their impact on business objectives. At all BHC production sites, potential risks are recorded and assessed and – where necessary – action is initiated. Included are risks that could affect production, the fields of HSE and quality or procurement along with potential natural disasters. The globally standardized methodology provides a transparent and uniform overview of risks as a basis for decision on any necessary counter-action.

As part of the global effort to counter climate change, regulatory conditions for companies are constantly changing, such as through emissions trading. Since around 70 percent of direct and indirect emissions of climate-relevant gases generated by Bayer are in the European Union, the implications of the European emissions trading system are extremely important for us. Scenario-based calculations suggest that we will have to bear substantial additional expenses up to 2012 for rising energy prices and the purchase of emissions allowances, which could amount to up to 1.5 percent of our EBITDA. However, since it is not clear how U.S. climate policy is likely to evolve, we cannot make any corresponding statements for our facilities in the United States, which account for around 23 percent of our global emissions of climate-relevant gases.

As an exporting company, Bayer is exposed to a wide range of export controls. We respect all national and international foreign trade regulations and support the efforts of the international community to prevent the production and spread of biological, chemical and nuclear weapons and the relevant carrier systems, and to combat international terrorism and the illegal production of narcotics. The obligation to comply with foreign trade law is also embedded in our Corporate Compliance Policy.

Our German and foreign subsidiaries are responsible for ensuring compliance with all international regulations and voluntary obligations on export control. The necessary organizational measures are implemented by their export control officers, who can call on the export control office at Bayer Business Services for support and advice.

The organizational framework conditions are set out in a separate directive entitled “Organization of Export Control in the Bayer Group,” which is available to our employees. This directive is also focused on at the compliance training sessions.

First-class performance in sustainability indices and sustainability funds

More and more investors take our sustainability performance into account. That is particularly true of long-term investors such as pension funds. Bayer is included in a variety of sustainability indices and sustainability funds. For example, we have been listed in the Dow Jones Sustainability Index World (DJSI World) continuously since its establishment in 1999. This index gave Bayer top marks, for example, for its environmental and climate protection performance and sustainability reporting. By contrast, despite an improvement in our performance compared with the previous year, we are no longer included in the European Dow Jones Sustainability Index STOXX because other companies in our sector posted an even better improvement.

In 2008, we were again included in the Carbon Disclosure Leadership Index, the only European representative of the chemical and pharmaceutical sector to be listed for the fourth time in a row. Our strategy of fostering access to sustainable health care was rated ninth out of 20 companies in the Access to Medicine Index which was established in 2008. Our successful performance in these and other sustainability rankings (see table) is an acknowledgement of our business strategy and our commitment to sustainable development.

Our performance in sustainability indices and sustainability funds

Index/Fund/ Ranking	Rating agency	Focus of rating	Bayer listing		
			2006	2007	2008
DJSI (Dow Jones Sustainability Index) World	SAM – Sustainable Asset Management (Switzerland)	Corporate governance, risk management, environmental performance, HSEQ (health, safety, environment and quality), working conditions, employees, ecological and social reporting	✓	✓	✓
DJSI STOXX (European companies)			✓	✓	-
FTSE4 Good (Financial Times und London Stock Exchange) Global Index	EIRIS (United Kingdom) and IMUG (Germany)	Environmental management, climate protection, anti-corruption, human rights, working conditions, sustainability of the supply chain	✓	✓	✓
FTSE4Good Europe Index			✓	✓	✓
FTSE4Good Environmental Leaders Europe 40 Index		Overall environmental performance of the company	Had not started	✓	✓
Storebrand Principle Fund	Storebrand (Norway)	Environmental and social criteria, anti-corruption, clear exclusion criteria being tobacco, land mines and violation of human rights	✓	✓	✓
Advanced Sustainable Performance Indices (ASPI) Eurozone	Vigeo and Stoxx Ltd. (France)	Corporate social responsibility, corporate management, relations with customers and suppliers, HSEQ, employees	✓	✓	✓
Access To Medicine Index (ATM)	RiskMetrics (United States)	Management of ATM measures, R&D, patents policy, pricing policy, donation of medicines	Had not started	Had not started	✓
Carbon Disclosure Leadership Index	Carbon Disclosure Project (United States)	Risks and opportunities, strategies and action on climate change	✓	✓	✓

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Employees

The tremendous commitment of our employees plays a central role in ensuring the success of our business. Bayer therefore maintains a responsible human resources policy covering all aspects from vocational training across the entire working life of our employees. Our employees benefit from an extensive range of job-related training opportunities, pension plans and health care provision and healthy working conditions.

Our employees

The Bayer Group had 108,600 employees worldwide in 2008, 2,400 more than in 2007. The increase was mainly due to acquisitions, and to expansion of our organization in Brazil, Russia, India, China and other growth markets. Around 51 percent of Group employees are in Europe, which still accounts for the majority of our workforce. Worldwide personnel expenses declined from €7,571 million in 2007 to €7,491 million in 2008.

To cover peaks in demand and short-term increases in personnel requirements, Bayer also uses the services of staffing agencies. Our subgroups and service companies had around 650 temporary employees at year-end 2008 (2007: 669). Company regulations ensure careful consideration is given to the use of temporary workers to ensure they are not given preference over personnel available within the company. Our internal personnel services company job@active works generally with staffing agencies whose employees are covered by the collective bargaining agreements entered into by organizations representing their interests and the German trade union confederation.

Employees* by region and function

	2005	2006	2007	2008
Europe	45,700	57,800	56,200	55,500
North America	13,100	17,200	16,800	17,000
Asia/Pacific	13,200	17,300	18,900	20,800
Latin America/Africa/ Middle East	10,600	13,700	14,300	15,300
Production	41,600	47,800	48,800	49,100
Marketing	25,200	37,400	36,900	38,000
Research	8,000	12,300	11,600	12,300
Administration	7,800	8,500	8,900	9,200
Total	**82,600**	**106,000**	**106,200**	**108,600**
of which trainees	2,700	3,100	2,700	2,900

* Full-time employees. Part-time employees are included pro rata based on their contractual working hours.

High employee satisfaction

A low fluctuation rate is regarded as a reliable indicator of the satisfaction of employees. Bayer's Group-wide fluctuation rate is nine percent, as in 2007, but varies by region: In 2008 it was around eight percent in Europe, just under 10 percent in North America, seven percent in the Latin America/Africa/Middle East region and around 12 percent in the Asia/Pacific region. We have not carried out a division according to age group and gender up to now owing to the very complex framework conditions in the individual countries. We are currently working on an expansion of our system for recording HR data.

The high esteem in which our company is held as an employer is reflected in the large number of international accolades we received in 2008. The news magazine Maclean's once again voted us one of Canada's top 100 employers. In Italy, we were ranked first in a survey of university graduates conducted by the management consultancy "Cesop" and in China the Corporate Research Foundation once against singled us out as one of the best employees in the booming Shanghai region. These accolades strengthen our employer branding in the competition for the increasingly short supply of qualified young people.

A global commitment to employee rights

Our commitment to respecting the rights of employees worldwide is set out in our Human Rights Position (see page 75) which is binding on all employees. Employees at all Bayer sites have fundamentally the right to elect their own representatives. Where they do not do so, we make a special effort to ensure direct and open communication. Constructive collaboration with employee representatives is reflected in different forms of participation such as the Bayer European Forum (BEF), our Europe-wide platform for dialogue between employer and employee representatives. Following the enlargement of the European Union, we extended our European Forum to include representatives from the new Member States in which we have a presence.

The various bodies established at Bayer companies around the world in 2008 to represent employees' interests are further evidence of our openness and willingness to cooperate with representatives of our workforce. In September 2008, a trade union presence was established for the first time at Bayer's site in Shenzhen in China. At the end of the year, our employees in Romania elected their first representatives, who then signed a collective agreement with the management on compensation. Employees in Romania are thus included in the roughly 60 percent of Bayer employees around the world whose working conditions are set out in binding industry-wide or in-house agreements (see table on page 69). In Germany, an agreement rules out dismissals for operational reasons before the end of 2009. Contractually agreed working hours at Bayer do not exceed 48 hours a week in any country where we have operations.

Protection of employee data

When processing personal data, we always respect the privacy rights of our employees and business associates. To highlight the significance of data protection and data security, we have issued a far-reaching Group Regulation on handling personal data, as a supplement to statutory provisions. Personal data may only be collected for clearly defined and legally acceptable purposes and processing of such data must comply with the relevant data privacy regulations. This prohibits evaluations without prior suspicion of personal employee information or work communication. The Corporate Data Privacy Officer is responsible for ensuring compliance with these regulations. He is supported in this task by data protection officers at our subsidiaries.

Communication with our employees

The competencies and cooperation of all our employees are essential for sustainable development. We therefore provide regular internal information on the background to related issues and on the latest developments both within the Bayer Group and beyond, for example on climate protection, compliance, diversity and our "Triple-i" innovation drive. We communicate with our employees through a variety of media, for example "direkt," the newsletter for the local community, "update," the magazine for managerial staff, the "Bayer aktuell" information bulletins, publications by the subgroups and service companies and the Bayer News Channel on the Intranet, and through events with representatives of the management. We also organize lectures by external speakers, such as the recent talk by the British polar explorer Hannah McKeand at our location in Newbury, United Kingdom, and exhibitions such as the one showcasing the results of the International Children's Painting Competition on the Environment. Our annual Sustainable Development Report is naturally another example of our communication activities. To mark the introduction of the Bayer Climate Program we established a special intranet portal on this issue and published a brochure entitled "The Bayer Climate Program" aimed at our employees.

Full and timely information for our employees is provided on significant operational changes in compliance with the relevant national and international obligations.

We consider our employees' opinions to be important. Consequently, we conduct regular surveys to monitor employee satisfaction and obtain feedback and suggestions. A Group-wide managerial staff survey is held roughly every two years, with the next one due to be conducted at the end of 2009. In addition, some of the subgroups and service companies ask some of their employees to provide feedback on the company and their work every few months. The "Pulse Check" developed by Bayer Business Services is used for this. It comprises brief surveys of a random selection of managerial and non-managerial employees and is conducted in some cases several times a year to obtain an overview of employee sentiment. Details of the results are published as received. The aim is to use the findings of such surveys and insight into long-term trends to identify potential for improvement and highlight the progress that has been made.

Diversity: Commitment and management in the United States

Bayer has a long tradition of diversity management in the United States. In the mid-1990s, Bayer Corporation established a Bayer Diversity Advisory Council to support diversity and foster talent. Bayer Corporation's successful diversity management has received many honors, including the Catalyst Award back in 2002, the most important U.S. award in this field. Since then, a wide variety of measures has been implemented to strengthen and encourage diversity. For example, in 2008, the Sandwich Generation Network Group was established to provide special assistance to employees who also have to care for sick or elderly relatives. Last year Bayer Corporation also set up mentoring programs for women, Afro-Americans and younger employees.
In March, Bayer was voted one of the Top 10 companies for global diversity by the magazine Diversity Inc.

Diversity and equality of opportunity

Bayer offers equal opportunities to all employees – regardless of gender, color, religion or sexual orientation. Our directives therefore stipulate that the selection of personnel worldwide is exclusively based on specialist qualifications, development potential and individual performance. Bayer's senior management now comprises executives from 23 nations. There are two main objectives of our diversity strategy: We want our workforce to reflect the diversity of society and we want to encourage our employees to use their talents and develop their ideas to the full in an environment free of discrimination. This includes integrating severely disabled employees and those with impaired health. The ratio of severely disabled employees in Germany in 2008 was 4.1 percent. The Declaration on Diversity at Bayer adopted by the Bayer European Forum in October 2006 provides a reliable framework for local diversity initiatives within Europe.

Our commitment to diversity in the United States was acknowledged by the Human Rights Campaign (HRC), which included Bayer in the Corporate Equity Index in 2009.

We naturally consider equality of opportunity to also include performance-oriented compensation irrespective of the gender of the employee. Owing to the differing framework conditions in the individual countries and operations, global recording of gender-specific compensation statistics is very difficult. We are discussing appropriate comparison models.

Bayer employees who feel discriminated against despite our diversity guidelines and principles are encouraged to take the issues to their local compliance officer, supervisor or HR department. Such cases are investigated by the responsible legal and HR departments and reported to the relevant compliance officer. In the United States we have special diversity councils to provide advice and mediation in the event of suspected discrimination.

Fostering the development of female employees

Equality of opportunity for men and women has been a basic principle of recruitment and professional advancement at Bayer for many years. In Germany, for instance, we have had a Joint Committee on Equality of Opportunity for more than 18 years.

Bayer has a strong interest in raising the proportion of female employees in all professional areas and at all management levels. Human resources trends show that our efforts to recruit well qualified female employees and our professional advancement programs are having a positive effect. Between 2000 and 2008 the number of female chemists at our German companies rose by 36 percent and there was even an 81 percent increase in female engineers. Group-wide, female employees currently account for around 27 percent of our total workforce.

We will be continuing our commitment to equality of opportunity, especially in view of demographic trends. Action includes activities at schools close to our sites and special events for young women as part of Germany's nationwide Girls' Day. The aim is to encourage more young women to opt for a technical or scientific career.

The proportion of female managers is also increasing: In Germany around 18 percent of our middle managers are female, compared with around nine percent 10 years ago. Although the proportion of executives in senior management globally is still low, it has risen steadily, from 3.8 percent in 2006 and 4.3 percent in 2007 to a present figure of 4.7 percent. We aim to increase the proportion of women in selection processes for managerial positions. The Women's Leadership Initiative introduced by Bayer HealthCare (BHC) in the United States at the beginning of 2009 is part of this strategy. BHC has set itself the goal of achieving a significant increase through 2012 in the proportion of female employees in senior management positions from the present level of 15 percent. Alongside selective action to identify and foster particularly able female employees through the talent management program, special communication campaigns, mentoring programs and networks are expected to play a key role in helping us achieve this goal.

Flexible working hours

To help our employees combine professional development with their personal lives, we offer a wide range of flexible worktime systems, from flextime through part-time employment to teleworking. Almost 60 percent of employees in Germany already benefit from these flexible worktime systems. Together with our offer of professional help for employees looking for child care arrangements and enabling employees to take up to seven years off to raise young children, this helps employees combine raising a family with professional opportunities. In November 2009, Bayer CropScience plans to open a new child care center at its site in Monheim, Germany, blending high-quality educational work with an ecologically designed building. This will be Bayer's first EcoCommercial Building in Europe. Working Mother magazine in the United States has included Bayer Corporation in its annual ranking of the 100 best employers for working mothers for the sixth successive year in recognition of its family-friendly policies. This magazine also included Bayer among the "2008 Best Green Companies for America's Children."

To foster flexible planning of lifetime working, Bayer introduced "BayZeit" long-time accounts at its German companies in January 2008. Employees can save various time and compensation components in a special account to enable them to retire early or take a period of paid leave during their working life. Around a quarter of entitled employees already use this innovative tool.

Fair participation in corporate success

Bayer's employees benefit from transparent and competitive compensation packages, including variable payments to reflect the performance of the company and their individual performance. Enabling employees to share in the success of the company has traditionally been a central element of our human resources and compensation policies. In 2008, we therefore continued our Group-wide short-term incentive (STI) program of performance-related payments for around 18,000 managers. In all, around €475 million was paid out to our employees in spring 2009 as variable bonuses for 2008. Around €71 million of this went to non-managerial employees in Germany. In addition to this amount, employees in many countries and organizational units will be receiving payments under local bonus programs.

In addition to the uniform Group-wide short-term incentive program, the performance-oriented compensation of our senior executives includes a long-term incentive (LTI) plan. For many years, Bayer has deliberately avoided stock option programs: Since 2005 our "Aspire" LTI plan for senior executives has been an exclusively cash-based plan based on the development of the company over a period of three years, in part relative to the EuroStoxx 50 share index. A bonus is paid for sustained outperformance of this index. This innovative compensation system has received much praise since its introduction and is regarded as an exemplary sustainable incentive system because of the high performance benchmark, together with the high personal investment required by participants and the moderate level of bonus payments.

The internationalization of the "BayShare" employee stock program continued in 2008. Alongside employees in Italy, the Netherlands, Portugal and Spain, members of our workforce in Belgium and Finland can now purchase shares in the company at a preferential price. Employees in many other countries are offered opportunities to purchase Bayer shares on special terms and thus participate in an additional way in the company's performance.

Our contribution to social welfare

Employees throughout the Bayer Group enjoy a high degree of social security. Health insurance cover is provided for employees worldwide either under statutory plans or through company health care offers. In countries where there is no statutory health care system or where the public system only provides rudimentary cover, we arrange additional offers and initiatives to supplement state provision. The Maghreb states of North Africa are a case in point. Since there is no public health care system in this region, we offer our employees almost complete health care cover through private health insurance. Since last year, retirees in Algeria, Morocco and Tunisia have also enjoyed the same private health care benefits as our employees in these countries.

We also extended and upgraded our health care and pension insurance arrangements for employees in many other countries in 2008. In Bangladesh, a larger number of family members can now be included in the health care cover. In addition, we have increased the life insurance cover for employees in this country. Employees at our companies in Switzerland have benefited from a full preventive medical check-up and a fitness program since 2008. Advice and support on a variety of medical issues, including the prevention of HIV infections, is part of an extensive Employee Wellness Program introduced for employees in South Africa in 2008. In Belgium, we pay the cost of supplementary health care insurance for inpatient treatment for employees of some of our companies.

In addition, around 76 percent of employees worldwide have access to some form of company pension plan or a pension program in which the company finances a significant proportion. In countries where we have a large workforce, for example Germany, the United States and Japan, nearly all our employees are entitled to join company pension plans. Bayer will be examining the scope to introduce further pension plans internationally in the future.

To ensure that our employees' contributions in Germany are placed on a sound and sustainable basis, our pension plans focus on secure investments. By increasing employer contributions to the pension fund by around €25 million p. a., Bayer is providing even greater security for its pension commitments. This increase reflects the forecast rise in individual life expectancy.

Social security for employees by region (percent)

Region/Area	Percentage of full-time employees with contractually agreed working weeks of max. 48 hours*	Percentage of employees with health insurance**	Percentage of employees eligible to take part in a company or company-financed pension plan***	Percentage of employees covered by collective agreements, especially on compensation and working conditions****
Europe	100	100	89	88
North America	100	87*****	98	9
Asia/Pacific	100	94	44	23
Latin America/ Africa/Middle East	100	99	45	42
Bayer Group (total)	**100**	**97**	**76**	**57**

* Standard employment contracts, excluding exempt employees
** State or employer/employee-funded
*** Including programs to supplement statutory pension plans
**** Sector or in-house agreements
***** Around 13 percent of employees in the United States voluntarily forgo the health insurance program offered by the employer.

A proactive approach to demographic change

Demographic change is a major challenge for our corporate strategy because the transformation in the age structure will bring far-reaching changes in our workforce by 2020. To identify the wide-ranging implications as soon as possible and develop suitable countermeasures, we initiated a Group-wide project called "Demographic Chance Management@Bayer" in 2007.

In the year under review, this project has undertaken extensive analyses and groundwork for a long-term corporate strategy to address demographic change. For example, all activities in the company have been assigned to specific job families and future requirements for each of these have been examined with the aid of internal and external labor market analyses. Bayer Technology Services in Germany and Bayer CropScience's Research Department with sites in France, Japan, Germany and the United States were chosen to pilot this project. Further parts of the company are to be analyzed in this way in the coming months to obtain a full overview of the demographic risks facing the Group.

At the same time, innovative software has been developed to allow realistic simulation of a variety of demographic scenarios. Bayer therefore has a powerful tool to generate reliable forecasts of future changes in the age structure of its global workforce. The results of this model allow foresighted management of employment trends.

Through effective training we are already helping various employee groups prepare for changes in their working life. Other action relating to demographic change includes training and support for older employees and stepping up our efforts to position Bayer as an attractive employer for young specialists and managers. Recent accolades such as being voted as the preferred pharmaceuticals company by German students and university graduates show that we are very well positioned in the competition to attract the most able young professionals.

Investing in vocational training and the development of young managers

Opening up perspectives for young people by giving them a sound vocational training is part of our social responsibility and an investment in the future of our company. In 2008 we therefore continued our global activities in the areas of vocational training and the recruitment of future managers and specialists. Bayer had 2,900 trainees on its payroll worldwide in 2008. At its German sites in Dormagen, Krefeld-Uerdingen, Leverkusen and Wuppertal-Elberfeld, Bayer commissions CURRENTA to carry out training on its behalf. This training was certified to DIN ISO 9001:2000 in 2008. 933 young people embarked on a vocational training course at our German sites in 2008.

Alongside Germany, Austria and Switzerland, where the "dual training system" comprising a combination of theoretical instruction in technical schools and practical work experience is common, we offered this system of training to more than 20 young people in China, over 80 in Mexico and around 30 in Argentina. As in previous years, we offered far more training places in Germany than we actually need for meeting our future employment requirements. Over 70 percent of trainees who passed their examinations in 2008 were taken on by the company.

In 2008, five sites in Germany offered a total of 149 young people with insufficient educational qualifications a special program to prepare them for vocational training courses. This highly acclaimed program has been running for 20 years. During this time around 1,200 of the 1,400 participants subsequently met the requirements for technical or scientific training courses. That is a success rate of over 85 percent.

43 outstanding graduates from around the world – including a high proportion of young women – took part in a variety of graduate trainee programs in 2008, offering them an opportunity to broaden their theoretical knowledge and gain practical experience in an international context.

We increasingly use the Internet as a tool to recruit new employees. Our international portal "mybayerjob" sets standards with its innovative structure and wide range of information. This site was awarded first place in the "Top Employer Web Benchmark 2009," a ranking of German companies' career pages by the Swedish management consultancy Potentialpark. Bayer's career website is now permitted to display the logo "Top Career Website 2009."

Skills enhancement and ongoing training

Bayer traditionally gives high priority to ongoing training of its employees because professional and personal development enhances motivation and performance. Our professional training offering is geared to the needs of our operational business and standardized processes are used to plan, implement and evaluate training worldwide. Our systematic compliance with this principle is documented in Germany by the successful certification of our continuing education structure to the quality management standard ISO 9001.

There are also many training offers designed to foster the development of our managers. These include our Development Dialogue and 360° Feedback. Through these tools, more than 3,600 managers around the world received feedback from supervisors, colleagues and employees on their personal and professional strengths and weaknesses in 2008.

Our globally uniform training and personal development tools and programs are supplemented by a wide variety of local and regional tools and initiatives. For example, the Andean Region Leadership School gave some 50 managers in South America a practical introduction to Bayer's values and leadership principles. The objective is to train managers as practical role models to drive forward our collaborative yet performance-oriented corporate culture.

SPEED (Significant Progress in Early Executives Development), an innovative program introduced by Bayer Schering Pharma to foster the development of management talent in the Asia/Pacific region, got off to a good start. Following on from Singapore, further SPEED Centers were established in China and Australia in 2008. Since 2007, employees at Bayer's companies in Thailand have been offered the opportunity to study for a further university qualification in their country under the Bayer Thai Employee Scholarship Program.

We continued our sustainability training of procurement personnel in 2008 in keeping with our extended strategy on sustainable procurement (see page 21). Training in 2009 will focus on sensitizing employees about the risks and opportunities related to sustainability, while raising awareness of sustainability criteria and training staff to present them to suppliers. Another goal of this training program is to strengthen established networks and help build new ones to promote knowledge transfer within our Procurement Community.

In 2008, we invested 2.7 percent of our total personnel expenses of around €7.5 billion in vocational and further training of our employees. That was far more than in preceding years. Alone in Germany, more than 10,000 employees attended at least one training course, spending on average up to five days in ongoing vocational training.

Vocational and further training (as a percentage of personnel expenses)			
2005	2006	2007	2008
2.3	2.2	2.0	2.7

Occupational safety

Every accident is one too many. Our goal is therefore to reduce the MAQ (the number of occupational injuries resulting in days lost for every one million hours worked) to less than 2.0 by 2010. We made further progress towards achieving this goal in 2008: The MAQ declined by 0.2 percentage points to 2.2. At the same time, there was a further drop in the rate of reportable injuries. No fatal accidents were reported by contractors working on Bayer's sites in 2008. Sadly, we have to report that two employees died in an explosion at a facility operated by Bayer CropScience in Institute, West Virginia, United States. Air measurements at the site perimeter showed no evidence of an elevated concentration of hazardous substances in the environment. The population was not endangered at any time. Bayer CropScience supported the authorities involved in their investigations into the causes of the accident. The company also undertook its own investigation and has initiated steps to further improve occupational safety and communication in emergencies. The goal of all these measures, which have been developed and implemented in close cooperation with the authorities, is to ensure the safety of employees and neighbors and limit impact on the environment. Bayer CropScience has decided to suspend production until the causes of the accident have been unequivocally ascertained and the facilities can be operated safely.

To take even more effective action to prevent accidents at work in the future, occupational safety experts at our subgroups and service companies are working hard to improve technical safety precautions and raise awareness of safety issues among employees. For example, CURRENTA has developed a new traffic safety concept for our site in Krefeld-Uerdingen, Germany, which should greatly reduce the risk of accidents in the future. Bayer HealthCare's "Managing Safety!" campaign highlights the need for every employee to contribute to safety at work. This campaign is targeted directly at supervisors, to encourage them to set an example and raise awareness of occupational safety. It focuses clearly on employee training and motivation as safety-related tools. Occupational safety is included in clear targets for managers in production areas, making it a personal objective and thus raising its profile. A variety of individual and extensive packages of measures have been introduced at many sites to implement the "Managing Safety!" initiative and improve occupational safety.

In 2008, the successful campaign run by the Polycarbonates Business Unit of Bayer MaterialScience to raise safety awareness was rolled out to its facility in Filago, Italy. Routine situations and potential errors are analyzed at cross-site training sessions, and the reasons for the action taken and ways of making improvements in the future are discussed.

Exemplary occupational safety at Bayer CropScience

Our site at Bien Hoa in Vietnam received an occupational safety award from the Vietnamese Health and Environment Ministry in December 2008 on its 10th anniversary in recognition of its outstanding performance in this field. At the award ceremony, representatives of the ministry thanked Bayer for raising safety awareness in the country and highlighted the function of the Bayer CropScience site as a role model for other companies in the country.

The Pegasus online occupational safety instruction system is a well established and useful tool. Around 6,000 employees in Germany can undertake statutory safety training via this program, which was rolled out to employees at the sites in Brunsbüttel, Bitterfeld and Bergkamen in 2008. Pegasus was used for a total of 27,171 training sessions in 2008.

Occupational injuries affecting Bayer employees

	2004	2005	2006	2007	2008	Target
Occupational injuries to Bayer employees resulting in days lost (MAQ*)	2.7	2.7	2.8	2.4	2.2	< 2.0
Reportable occupational injuries to Bayer employees (MAQ*)	4.7	4.0	4.3	3.7	3.6	-
Fatal accidents (total)	5	4	9	4**	2	-
of which Bayer employees	4	3	5	4	2	-
of which contractor employees	1	1	4	0	0	-

* MAQ = million working hour quota (injuries per million hours worked)
** Due to legal clarification, one fatal accident that occurred in 2007 was not reported until 2008.

Modern occupational health management

Since the retirement age of employees and the demands made on them are rising, our occupational health management is designed to maintain and strengthen the health and ability to perform of our workforce. It includes a special reintegration program to help employees who are frequently ill or have been unfit for work for a prolonged period overcome their health problems and return to work. In the period under review, 18 new cases of work-related illness were reported. That is a decrease compared with 2007 (30 recognized cases).

CURRENTA assumes responsibility for health protection on behalf of the Bayer Group's subgroups and service companies at the German sites of Leverkusen, Krefeld-Uerdingen, Wuppertal-Elberfeld and Dormagen in the form of basic health care by company physicians and acute and preventive medicine. CURRENTA is particularly active in company health management. CURRENTA employees receive extensive medical advice on their reintegration into the workplace after illness. This company also provides extensive advice to help Bayer employees overcome psychosocial problems and conflicts in their personal lives and at work and in the case of addiction. CURRENTA's subsidiary Chemion Logistik was singled out by Landschaftsverband Rheinland for its exemplary work to reintegrate employees. Other companies at CHEMPARK also benefit from CURRENTA's expertise in occupational health management. One example is Bayer MaterialScience, whose Regional Service Center in Leverkusen has introduced a new state-of-the-art occupational health management system for office workers.

Preventive health care is particularly important for employees in countries where the public health system offers restricted support. To prevent illness, Bayer CropScience therefore offers employees in many countries regular medical check-ups and is introducing new health management programs, including vaccinations, cancer checks and advice on factors that increase the risk of cardiovascular disease, stress avoidance and ergonomic workplaces.

Bayer also has a wide variety of other programs to foster the wellbeing of its workforce. The Employee Wellness Program offers employees in South Africa and their relatives practical and psychological support 24 hours a day. In the United States, the WorkLife programs help employees balance the needs of their job, family and private life and cope with difficult situations. The Wellness Works pilot program for employees and their families in Pittsburgh that will run until 2010 comprises check-ups to identify health risks and foster a more healthy lifestyle.

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Human rights

Bayer is a founding member of the UN Global Compact, which works to promote sustainable and ethical corporate management worldwide. We used the 60th anniversary of the Universal Declaration of Human Rights in 2008 as an opportunity to reiterate our commitment to fair and respectful coexistence.

Our position on human rights

Our mission statement, values and leadership principles, the Bayer Sustainable Development Policy and our Corporate Compliance Policy obligate all Bayer employees to conduct themselves respectfully toward employees, colleagues, business partners and customers. We published our Bayer Human Rights Position for the first time in the Sustainable Development Report 2006. On November 1, 2007, it took effect as a binding directive for all employees Group-wide. The Bayer Human Rights Position is available as an official company publication in nine languages and has since been enacted by all Group management companies. On January 1, 2009, a revised version went into effect.

Communication and training in human rights

The current version of the directive can be called up at any time from our globally accessible database. As managerial staff hold particular responsibility in the observation and communication of human rights, a special Bayer brochure on this subject was sent to about 8,000 Bayer managers in Germany, Austria and Switzerland together with a personalized letter from the member of the Board of Management responsible for Human Resources. An English version of the brochure is to be made available to managerial employees worldwide by the end of 2009.

The Human Resources Department is also currently developing a training document designed to support the managerial employees in the introduction of the principles and instruction of their teams on the subject of human rights starting in mid-2009. Employees joining the company are familiarized with the contents of the directive and its significance via our global employee portal HR//direct online and an e-learning tool that can be accessed from there.

Global monitoring and incentive systems

Our corporate compliance organization is available to our employees worldwide to answer questions and rigorously follows up possible complaints (see page 59). Our performance management system also supports the implementation of the directive: Human rights aspects can also be addressed in the annual leadership goals we agree on with our approximately 25,000 managerial employees. This is an important leadership tool particularly in countries and regions in which there is an increased risk of human rights abuses.

Respecting human and employee rights in China

In recent years we have significantly increased production capacities in China, and the size of our workforce there has grown substantially. We maintain intensive contact with civil society stakeholders, including universities and media, and seek dialogue with non-governmental organizations. Bayer is supporting the Chinese government in the introduction of a new labor law that strengthens employee rights. We have developed an internal set of rules that supplements local labor law and familiarizes our employees with our company values. Our Human Resources

Core statements of the Bayer Human Rights Position

1. Bayer guarantees fair working conditions worldwide.
2. All forms of forced or mandatory labor are strictly prohibited.
3. Bayer forbids all forms of harassment and discrimination.
4. All employees have a right of association and collective bargaining.
5. We do not tolerate child labor.
6. We ensure the health and occupational safety of employees and community members at all sites through uniformly high HSEQ standards.

Governance Code – which applies throughout China – obligates all employees to address one another in a fair, open and just manner. All employees in China have access to state and company health insurance programs and further social benefits at Bayer, including a comprehensive range of vocational training and continuing education measures. Working times are contractually specified at 40 hours a week, and the first employee representations have been set up. Teams made up of specialists for health, safety and environmental protection (HSE) ensure the safety of employees and community members at all of our sites.

Supply chain responsibility

We also expect our business partners to respect human rights and contribute to their implementation. Bayer's Procurement Community Policy and the purchasing guidelines "Requirements for suppliers" are therefore based on the principles of the UN Global Compact and the Bayer Human Rights Position.

In 2008, we extended our strategy for sustainability in procurement and supplemented our requirements for suppliers in the fields of human rights, working conditions, environmental protection and management systems. To prepare for this, the Procurement Community held intensive discussions with numerous stakeholders, arranged risk assessment workshops with purchasers and conducted precise analyses of the structure of suppliers and purchasing regions. We consider dialogue and close cooperation with our suppliers to be important criteria to ensure sustainable procurement management. We are also endeavoring, step by step, to introduce a code of conduct for sustainability in procurement in 2009. Our suppliers will be assessed by the purchasing departments of the subgroups and service companies on the basis of this code of conduct (see also page 21).

Successfully tackling child labor

The Bayer Human Rights Position is unambiguous and strictly prohibits child labor. Unfortunately, however, child labor is still widespread in many countries. In India we acquired the seed company Proagro (known today as Bayer BioScience Pvt. Ltd.) at the end of 2002 and were confronted with child labor in the production of cotton seed. We immediately began establishing an effective package of measures to counter this upon learning of this situation.

Our multi-stage plan of action in India is aimed at making clear to children and their families in cultivation regions that child labor cannot be an option for safeguarding their means of subsistence. In addition to effective monitoring in cotton fields, the Bayer CropScience Child Care Program also offers education and vocational training opportunities for children and young people. Furthermore, we comprehensively educate farmers, parents, children and the entire village community about the negative effects of child labor. As part of the monitoring program, we advise farmers on how to increase crop yields and provide them with access to affordable microcredits.

Together with the Indian-based Naandi Foundation, we have established a total of 19 Creative Learning Centers since 2005; more than 1,000 children have been able to be integrated into the regular school system through these centers. In January 2008, Bayer CropScience joined with local institutions in the Hyderabad region in opening an agricultural vocational center called the Bayer School of Agriculture. A year later, the first class of 27 students successfully completed the program. 19 graduates had received job offers even before taking their final exams. In this way we help to improve the prospects for children and young people.

Stakeholder survey in India: Learning from one another

In December 2008, Irmela Koch, business administration student at the University of Cologne, Germany, joined the Bayer CropScience Child Care Program in India. As a member of the organization "Students in Free Enterprise," she helped the local project team for two weeks in carrying out a stakeholder survey. Through this survey Bayer is trying to find out how the school situation in India can be improved further. "Bayer's commitment to counter child labor in India impressed me considerably," says Irmela Koch. "From educating them about their rights to helping them find a traineeship, Bayer supports the children and young people in every way imaginable. It's good to see a global player taking its responsibility seriously." Summing up, Irmela Koch says: "I now understand the global relationships and the importance of corporate responsibility much better. It is especially important with such a complex issue as child labor to understand the local circumstances so as to be able to find viable solutions and help people escape the poverty trap."

We conclude a clear contractual obligation with our suppliers of seeds that prohibits the employment of children as workers in the fields. Each year our monitoring teams make at least six unannounced visits to the cotton fields, establish the ages of the workers and document this information. Producers who adhere to the contractual obligation not to employ children as laborers receive a bonus at the end of each planting season. However, sanctions are imposed upon those who violate the contractual prohibition of child labor; these penalties range from a warning and the loss of the bonus through a price reduction to the cancellation of the contract in the case of repeated violations.

The monitoring system in the fields is inspected not only through internal audits, but also once a year by Ernst & Young India. These measures show that there is no systematic child labor in our Indian cotton supply chain. Today we only observe isolated child labor cases that are immediately addressed and eliminated. As a result of this positive experience, we are currently expanding the Bayer CropScience Child Care Program to include vegetable seed production in India, where we have identified a need to act.

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Corporate social responsibility

Our voluntary corporate social responsibility is the third level of our sustainability concept, alongside the sustainable shaping of our value added chain and our products and services. We aim to help improve living conditions and create opportunities for the future through this commitment, in keeping with our mission statement "Bayer: Science For A Better Life." We made available approximately €50 million in funding in 2008 for the social projects, many of which are longstanding, that Bayer organizes and supports in numerous regions of the world. We focus our efforts on the areas of Education and Research, Environment and Nature, Health and Social Needs, and Sports and Culture.

Supporting talented young people and leading researchers

Bayer traditionally places great importance on support for education and research, which are central factors in the ability of society to thrive in the future. As a company we are dependent on a flow of new employees who have had very good scientific training.

In 2008, the Bayer Science & Education Foundation provided funding to outstanding scientists, excellent students and dedicated schoolchildren, as well as to schools for innovative teaching projects. At the beginning of 2009, the €50,000 Hansen Family Award went to Professor Patrick Cramer of Ludwig Maximilian University in Munich for his achievements in the field of molecular research. The Otto Bayer Award, which carries equal prize money, was presented by the foundation in 2008 to Professor Thomas Carell of the Institute of Chemistry and Pharmacy at Ludwig Maximilian University in Munich for his research into DNA repair.

The Bayer foundation provided funding of approximately €140,000 to support gifted and ambitious students in the disciplines of natural science and medicine. Some €500,000 in funding went to 47 school projects aimed at improving the conditions for scientific instruction at schools in the communities near our sites.

Our foundation activities are increasingly dedicated to the issue of climate change: In the context of the Bayer Climate Program, we presented the inaugural Bayer Climate Award to Professor Eberhard Jochem for his groundbreaking contributions to increasing energy efficiency. This distinction, which also carries a purse of €50,000, is one of the first international award presented for outstanding achievements in fundamental climate science research. Since 2008, the foundation has also awarded scholarships to selected schoolchildren enabling them to take part in international sustainability seminars. The first five students thus had the opportunity last year to develop new ideas for climate protection and sustainable development at the Bayer Sustainability Camp in the United States.

Bayer's educational program "Making Science Make Sense" continues to be a success, with Denmark in 2008 becoming the 11th country to join the initiative. Furthermore, the Bayer USA Foundation received dual accolades for its efforts in connection with "Making Science Make Sense": The National Science Board presented the Bayer foundation with the Public Service Award, while the Council on Foundations honored the company with the silver medal of the Wilmer Shields Rich Award 2008 for its outstanding communications work.

Bayer as a partner in environmental and nature protection

Protection of the environment and nature has long been important to Bayer. We consider working to ensure the careful use of natural resources and the protection of the environment and nature to be a key element of our corporate social responsibility, and we have made a particular commitment to promote environmental knowledge among young people worldwide.

In 2008 Bayer and the United Nations Environment Programme (UNEP) once again organized more than a dozen environmental projects for young people and children within the scope of their global partnership for youth and the environment. Bayer supports UNEP with annual funding of €1.2 million in total. The centerpiece of these activities was an auction in New York City in the United States featuring selected pictures on climate change from the International Children's Painting Competition organized each year by the two partners. More than 15,000 children from 90 different countries took part in the competition in 2008. The proceeds of US$21,000 were donated to a newly established aid fund administered by UNICEF for children put in a position of need following climate-related disasters. Bayer also assisted UNEP in organizing an international children's environmental conference and regional youth environmental conferences.

Worldwide activities in the area of health and social needs

Bayer works in many regions of the world to improve social conditions. The Bayer Cares Foundation, which aims to alleviate social needs, supported 21 established and newly adopted charitable projects in the communities near our German sites with total funding of around €80,000 in 2008. The foundation thus rewarded the volunteer activities of employees and local citizens as a central element of an active community.

The second fixed area of activity for this Bayer foundation is rapid aid for people who have been put in a situation of need, for instance following natural disasters, as well as for sustainable reconstruction projects. In 2008, for example, Bayer provided immediate relief to earthquake victims in Sichuan, China, in the form of medicines and material and monetary donations worth more than €2.2 million. These donations, which included employee contributions, enabled the construction of modern container buildings for 20 classrooms, 50 apartments and a health clinic, among other projects. At the beginning of 2009, Bayer donated €50,000 to the Australian Red Cross following the devastating bush fires and severe flooding in that country.

In the United States, the Bayer USA Foundation supports local charitable organizations in the communities near the company's sites, providing total funding of US$5.6 million in 2008 for such projects. These included the WomenHeart initiative, which aims to improve the health and quality of life of women who have had heart attacks or are at risk of heart disease. Together with Bayer Consumer Care, the Bayer USA Foundation supported the initiative in its educational and informational work to promote the avoidance, early diagnosis and correct treatment of heart disease with a donation of US$100,000. A further US$100,000 went towards supporting "The Wellness Company" in establishing a research and training institute on the subject of cancer. The institute is to focus on the psychological and social care of patients and their families.

Bayer is also committed to improving health care worldwide. For example, we have worked closely for many years with the World Health Organization (WHO) to provide effective treatment for dangerous diseases such as sleeping sickness in Africa and Chagas' disease in Latin America. For further information on our health care activities, see our Focus Issue Medicine starting on page 36.

A long tradition of cultural affairs and sports promotion

Cultural affairs have been a central element of Bayer's corporate social responsibility since 1907. The company's Cultural Affairs Department provides a diverse and sophisticated program in the areas of music, theater, dance and the fine arts. In 2008, some 60,000 people attended events organized by Bayer's Cultural Affairs Department or participated in the 17 Bayer cultural societies and ensembles. At the first benefit concert of the Bayer Philharmonic Orchestra in November 2008 in Leverkusen, the musicians themselves performed for a good cause. They waived their performance fees on behalf of the initiative "Leverkusen helps children with cancer." Bayer then matched the evening's proceeds and donated €36,000 to the charity.

Bayer is a well-known supporter of recreational, youth and disabled sports. In 2008, we provided funding of more than €14 million to 27 company sports clubs. Among the highlights of 2008 were the 13th Paralympics in Beijing, China, at which the 13 participating disabled athletes from Bayer took home eight medals. In addition, a total of 21 Bayer athletes took part in the 29th Olympic Summer Games in Beijing. At both tournaments, TSV Bayer 04 Leverkusen provided the largest contingent of athletes of any club in Germany.

Systematic monitoring safeguards sustainability

Since 2006, Bayer has been systematically reporting its global corporate social responsibility (CSR) activities. All activities implemented in the four supported focus areas are reported to a central unit in the Group via the country companies and the responsible functions in the holding company, the subgroups and the service companies. To ensure that our social commitment is aligned and controlled in a uniform way, the organizational units responsible for implementation monitor the success of the measures concerned.

In addition, the alignment of our social commitment is governed by a Group directive on donations, which lays down binding regulations for the whole Group on the content and handling of charitable contributions.

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Ecology

Throughout its history, Bayer has always placed great importance on protecting the environment. We are continuously on the lookout for solutions to ensure that economic growth is not tied to resource consumption and the generation of emissions and waste. We consider that we have an obligation to use both our technological know-how and the expertise we have invested in our innovative products to protect the environment, natural resources and the climate.

Energy consumption

The Bayer Group's energy consumption in 2008 was approximately 2.9 percent lower than in the previous year. The volume of products sold fell by approximately six percent over the same period. While energy consumption and volume of products sold are linked, they do not follow a simple relationship. A large number of parameters have to be taken into account such as the proportion of different product types, changes in manufacturing processes and material flows. We are continuing to pursue the goal of efficient energy use. To this end, we are researching innovative technologies, investing in modern plants and efficient processes, and taking steps to save energy. In order to identify potential energy savings in existing plants, we are applying the Bayer Climate Check and implementing measures through our "Managing Energy Efficiency" lighthouse project (see Focus Issue Climate on page 33). Many of these measures will make themselves felt in the energy and greenhouse gas balances in the coming years.

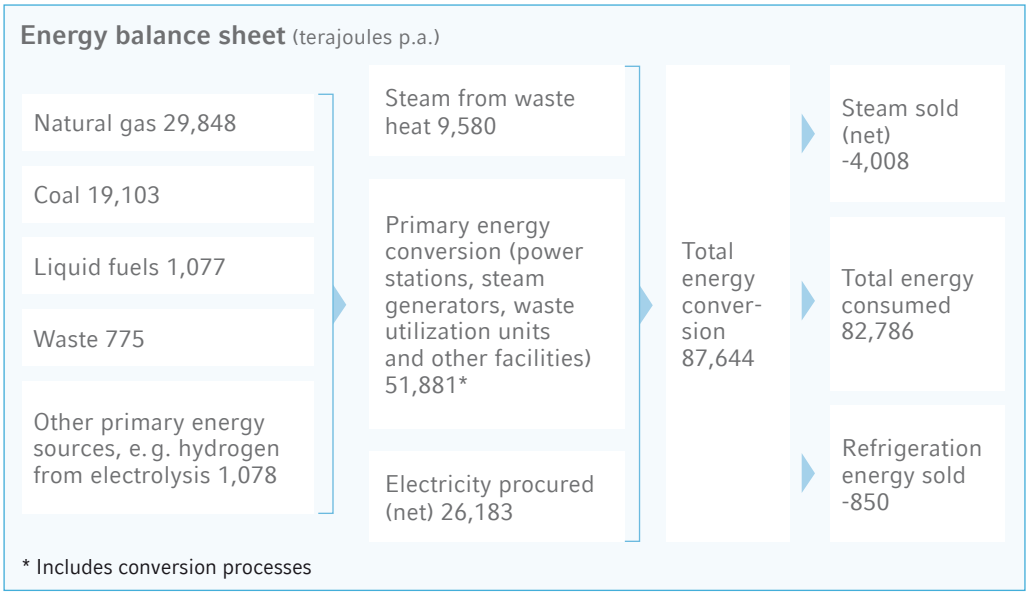
The drop in total energy consumption to 82.8 petajoules is attributable to various causes: Site consolidation and energy efficiency measures resulted in energy savings. Other reasons were production cutbacks for economic reasons and temporary shutdowns, for example owing to restructuring.

Energy consumption

	2004	2005	2006	2007	2008
Absolute energy consumption (petajoules)	85.2	82.4	80.5	85.3	82.8
Volume of products sold (million metric tons)	9.1	9.7	10.1	10.6	10.0

The basis for calculating energy consumption was altered, which is why figures indicated here for previous years differ from those reported in past publications.

The calculation of the total energy consumed by the Bayer Group, of 82.8 petajoules (equivalent to 23.0 terawatt hours), can be explained by looking at the energy balance sheet for 2008: The starting point is the consumption of primary energy and other energy sources for in-house energy generation. The sum of this is indicated as the primary energy conversion. To this is added the amount of steam from waste heat and electricity procured (excluding amounts passed on to third parties). This results in the total energy conversion. Subtracting the amount of steam and refrigeration energy sold to third parties leads to the total energy consumed by Bayer.



Reliable energy supply thanks to modern power plants

When investing in our energy supply, we focus on solutions that are in line with energy and climate policy while also being feasible in economic terms. We consider the best solution for supplying energy to CHEMPARK Krefeld-Uerdingen, Germany, to be a new 750 megawatt coal-fired power plant, which will be constructed by the energy provider Trianel and for whose technical operation CURRENTA will be responsible. The power plant will be state-of-the-art and will employ the combined heat and power principle to maximize power generation efficiency. The plant will operate at an efficiency level of approximately 57 percent, making it one of the most efficient coal-fired power plants of this size.

Efficient water use

Bayer recognizes the critical importance of diligent water resource management (see Focus Issue Water starting on page 42). We strive to keep our consumption as low as possible and to reuse water multiple times wherever technically feasible. In 2008, we were able to maintain water use throughout the Group at the level of previous years at approximately 1.2 million cubic meters per day.

The sites take over half of the water they need from surface water; about one third comes from underground sources (generally groundwater). At 1.0 million cubic meters per day, throughflow cooling water accounts for the largest proportion of our water use. Since this water is only heated during use and does not come into contact with any products, it can subsequently be discharged into the water supply without further treatment, provided maximum temperature limits are observed.

Bayer was the recipient in January 2009 of the Brazilian Environment Award for its efficient water management system at the Belford Roxo site in Brazil. By recycling wastewater and reusing river water to meet their process water requirements, Bayer MaterialScience and Bayer CropScience are achieving savings in excess of 2,700 cubic meters of water at Belford Roxo every day.

Net water use by source					
	2004	2005	2006	2007	2008
Water use (million m^3/d)	1.29	1.24	1.20	1.23	1.20
of which from surface water (percent)	60	54	53	57	58
of which from bore holes/springs (percent)	33	35	35	32	32
of which from public drinking water supplies (percent)	5	2	2	2	1
of which from other sources, e. g. rainwater (percent)	2	9	9	9	9

Use of materials and recycling

Bayer uses a large number of different starting products and raw materials of highly variable volumes in its subgroups and service companies. To keep the consumption of materials to a minimum, we try wherever technically feasible and justifiable on cost grounds to utilize materials in closed loops. Recovery and recycling are not possible for a large number of our products, such as pharmaceuticals and crop protection agents.

However, in many production processes we employ technologies that enable certain materials to be recycled. One example is at Bayer HealthCare's Bergkamen site in Germany, where the iodine released during the incineration of waste from the production of x-ray contrast media is bound and extracted in the form of a marketable iodide solution. Wherever technically possible, we prepare solvents by distillation and reuse them in our processes.

In addition, in September 2008, Bayer MaterialScience brought the new plastic recyclate Levblend® onto the market. The potential uses for Levblend® include plastic components for the automotive industry.

Another example is the Bayer MaterialScience technology known as the oxygen depolarized cathode method, which is used to recover chlorine from hydrochloric acid. Since 2008, this energy-saving technology has been in operation – for the first time on a world scale – at the Bayer Integrated Site Shanghai in China, with an annual capacity of 215,000 metric tons of chlorine.

Scrap cable and metal generated during the major ongoing dismantlement projects at the German CHEMPARK sites are reused by the service company CURRENTA.

Our media services provider Dynevo, a subsidiary of Bayer Business Services, processes paper from renewable forestry. In addition, Dynevo is authorized to manufacture products bearing the stringent "FSC" seal of quality, awarded by the Forest Stewardship Council (FSC).

In order to further develop new approaches for climate protection and to counter the growing shortage of crude oil, our research activities also include investigating potential new applications for renewable raw materials. For example, Bayer MaterialScience is using proportionate amounts of refined sugars and vegetable oils in some polyurethane raw materials, which can be used in the production of car seats, shoe soles, floor coverings or mattresses. Bayer CropScience is also involved in opening up the potential offered by renewable raw materials.

Protecting biodiversity

Bayer unequivocally acknowledges the objectives of the United Nations Convention on Biological Diversity and is taking various steps to implement them. These include agricultural technologies aimed at increasing yields in order to avoid the further need to turn natural habitats into farmland, steps to promote integrated crop management (ICM) and products to combat invasive species.

We use an internal approval process to prevent new production sites from being constructed in any area which is protected by the laws of the country concerned due to its natural uniqueness, diversity of species or other similar factors. The required minimum distances from protected areas are complied with in all cases. In order to limit land use, we apply land recycling. For example, CURRENTA is creating open spaces for new development at the CHEMPARK sites in Germany thanks to the demolition and safe disposal of buildings that are no longer used. Thus, demolition work in Leverkusen in 2008 made approximately eight hectares of land available for reuse.

As part of its corporate social responsibility activities, Bayer is implementing projects in the area of species protection at many of its sites. For example, Bayer CropScience is supporting the environmental protection organization "Ducks Unlimited" in its efforts to create habitats for waterfowl to aid their return to the North American prairies. A five-year initiative is to include the development of new varieties of seed for winter wheat in order to create better nesting conditions for wild birds thanks to increased winter wheat cultivation. Bayer is also a supporter of the organization "Friends of CMS," which is involved in the protection of threatened animal species. With our financial support, it was possible to launch a project to preserve the mountain gorilla population in the Virunga National Park in the Republic of Congo. Another project supported by Bayer is aimed at the protection of migratory birds in Colombia.

Reduction of greenhouse gas emissions

In determining our greenhouse gas balance, we align ourselves to the international standard established in the Greenhouse Gas (GHG) Protocol. Greenhouse gas emissions from all previous years are calculated in terms of the current corporate structure in the year under review as described in the GHG Protocol, with the emissions adjusted retroactively to reflect acquisitions and divestments of companies/businesses.

Total greenhouse gas emissions in 2008 fell by 7.1 percent from the previous year. Direct greenhouse gas emissions fell by 9.9 percent, while indirect greenhouse gas emissions from energy procurement fell by 3.8 percent.

Greenhouse gas emissions*				
	2005	2006	2007	2008
Direct emissions of greenhouse gases** (million metric tons of CO_2 equivalents)	4.63	4.57	4.44	4.00
Indirect emissions of greenhouse gases (million metric tons, CO_2 only)	3.52	3.67	3.71	3.57
Total greenhouse gas emissions (million metric tons of CO_2 equivalents)	**8.15**	**8.24**	**8.15**	**7.57**

* Portfolio-adjusted in accordance with the GHG Protocol. Changes compared to the Sustainable Development Report 2007 result from the inclusion of nitric acid production (see the text for further explanation).

** Composition of direct greenhouse gas emissions in 2008 (CO_2 equivalents): 92.1 percent CO_2, 7.5 percent nitrous oxide (N_2O), just under 0.4 percent partially fluorinated hydrocarbons

The reduction in direct greenhouse gas emissions (Scope 1 of the GHG Protocol) of 9.9 percent compared with 2007 is the result of changes in economic conditions and measures aimed at reducing emissions of nitrous oxide (N_2O), which is particularly harmful to the climate, at our nitric acid plant in Cologne-Worringen, Germany. This plant is operated by third parties but is owned by Bayer MaterialScience. MaterialScience changed the production process by steering operations (investing in emission reduction measures). Due to this operational steering process, we have an obligation, in accordance with the GHG Protocol, to include this plant in our greenhouse gas balance.

Indirect greenhouse gas emissions resulting from the generation of electricity and heat by external suppliers (Scope 2 of the GHG Protocol) fell in the reporting year by 3.8 percent compared with the previous year. When converting emissions to greenhouse gas equivalents, we follow the official conversion factors in the GHG Protocol. The change to the country-specific conversion factor (emissions per kilowatt hour) for electricity procurement in Germany (which was the result of a change in the German power supply) resulted in a significant reduction of indirect greenhouse gas emissions.

New method of presenting the greenhouse gas balance

As part of the Bayer Climate Program, climate goals were established for each subgroup up to 2020. In order to increase transparency when tracking the climate targets, starting with this Sustainable Development Report, emissions per subgroup will be presented as shown in the table, with specific emissions also being presented in the case of Bayer MaterialScience.

Bayer MaterialScience (BMS) has undertaken to reduce specific greenhouse gas emissions (metric tons of CO_2 equivalents per metric ton of sales product) by 25 percent worldwide between 2005 and 2020. This does not include sodium hydroxide solution and hydrochloric acid generated as by-products during the production process as these by-products will in future be generated in significantly lower amounts thanks to energy efficiency measures. Nor are trade products included. Specific greenhouse gas emissions fell by 15.9 percent from 1.07 metric tons of CO_2 equivalents per metric ton of product in 2005 to 0.90 metric tons of CO_2 equivalents per metric ton of product in 2008. This is substantially due to measures implemented in the nitric acid production process in Cologne-Worringen, Germany, in 2007.

Bayer HealthCare (BHC) has undertaken to reduce absolute greenhouse gas emissions (metric tons of CO_2 equivalents) by five percent worldwide between 2005 and 2020. Between 2005 and 2008, absolute greenhouse gas emissions were reduced by 4.3 percent from 0.585 million metric tons of CO_2 equivalents to 0.56 million metric tons of CO_2 equivalents, despite an increase in production volume. Between 2005 and 2007, site consolidations accounted for a considerable part of this reduction. In addition, many individual efficiency measures contributed to energy savings.

Bayer CropScience (BCS) has the objective of reducing absolute greenhouse gas emissions (metric tons of CO_2 equivalents) by 15 percent worldwide between 2005 and 2020. While production has increased, greenhouse gas emissions within BCS fell by 2.2 percent from 0.89 million metric tons of CO_2 equivalents in 2005 to 0.87 million metric tons of CO_2 equivalents in 2008.

Due to their limited emissions, the service companies Bayer Technology Services and Bayer Business Services do not have any climate goals of their own. They are summarized under "Other."

Bayer has a 60 percent share in CURRENTA, the operator of the CHEMPARK sites. Therefore, all of CURRENTA's direct greenhouse gas emissions are assigned to the Bayer Group in accordance

with the GHG Protocol. To the extent that CURRENTA supplies Bayer companies with energy, the resultant emissions are allocated to the subgroups. The remaining emissions shown for CURRENTA result from the provision of energy to other companies at the CHEMPARK sites.

Due to measures implemented by the subgroups and economic factors, outages and new conversion tables for CO_2 emissions linked to electricity procured, emissions in the Group have fallen 7.1 percent from 8.15 million metric tons of CO_2 equivalents in 2005 to 7.57 million metric tons of CO_2 equivalents in 2008. Despite growth in production, the Bayer Group anticipates that greenhouse gas emissions by 2020 will remain at their 2007 level.

Greenhouse gas emissions for subgroups and service companies
(total direct and indirect emissions in million metric tons of CO_2 equivalents)

	2005	2006	2007	2008	Target 2020
BMS	4.61	5.09	4.73	4.30	-
BHC	0.59	0.58	0.57	0.56	0.56
BCS	0.89	0.86	0.85	0.87	0.76
Other*	0.02	0.02	0.02	0.02	-
CURRENTA**	2.04	1.69	1.98	1.82	-
Group	**8.15**	**8.24**	**8.15**	**7.57**	**8.15**
Specific greenhouse gas emissions for BMS (metric tons of CO_2 equivalents per metric ton of product)	1.07	1.08	0.95	0.90	0.80

* Sum of the service companies Bayer Technology Services and Bayer Business Services
** The emissions shown for CURRENTA are attributable to the provision of energy to other companies at the CHEMPARK sites.

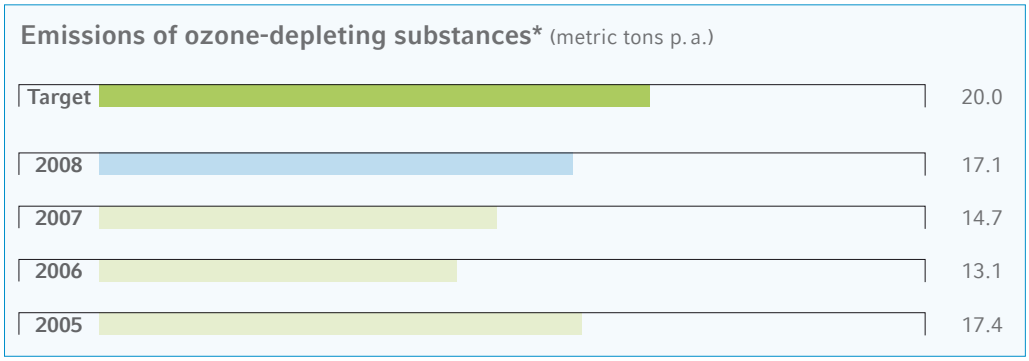
Emissions trading

In Europe, the Group was involved in European emissions trading with its own power stations for power generation in 2008. Emissions allowances for 2.5 million metric tons were required for the 11 plants.

In the United States, the Bayer Corporation is a voluntary participant in emissions trading on the Chicago Climate Exchange (CCX) with a number of its power stations. There, Bayer undertook to reduce its greenhouse gas emissions by a total of six percent in the period from 2003 to 2010, with 2000 as the base year. This goal had already been achieved by the end of 2008.

Ozone-depleting substances

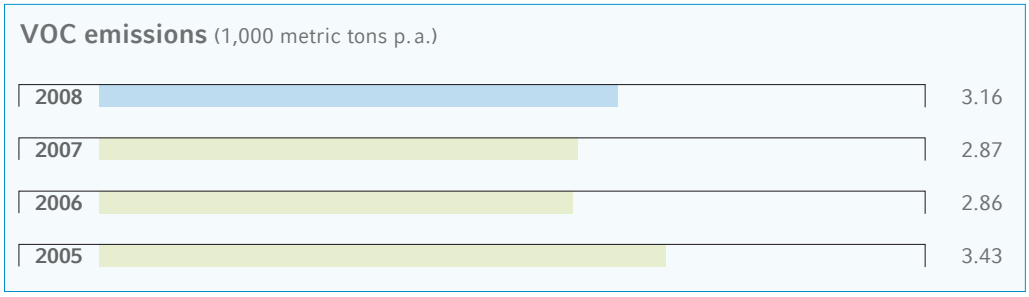
We are meeting our goal of keeping emissions of ozone-depleting substances (ODS) below a maximum level of 20 metric tons per year. However, while remaining beneath this target level, emissions did increase by approximately 16 percent over 2007 during the year under review. The biggest part of this increase is due to a rise in production volume at the Bayer CropScience site in Vapi, India.

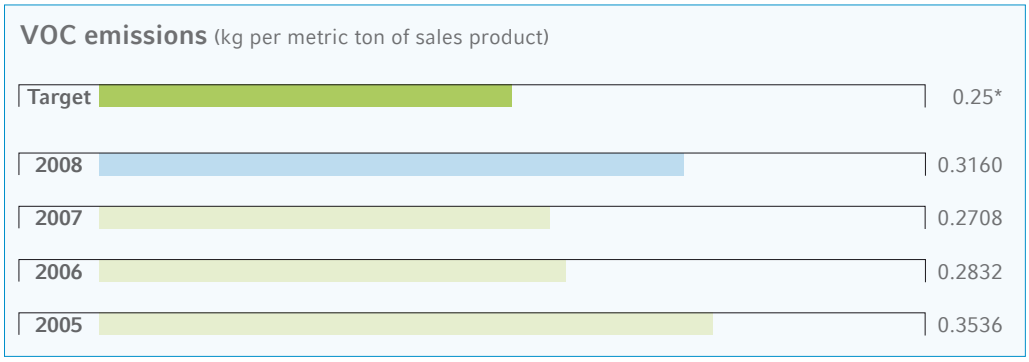


* In CFC-11 equivalents

Volatile organic compounds

Emissions of volatile organic compounds (VOC) increased by just over 10 percent over the previous year. The increase resulted mainly from a significant increase in the production of intermediates and active substances for crop protection agents during 2008 at the Bayer CropScience site in Vapi, India. Emissions at this site had successfully been reduced over the previous years through a multi-year investment program aimed at reducing losses of solvents. Bayer CropScience will examine the degree to which the further reduction of VOC and ODS emissions at the Vapi site is technically possible.





* Target based on 2005 figures

Other air emissions

Other important air emissions from production and incineration processes, such as of carbon monoxide (CO), nitrous oxides (NO_x) and sulfur oxides (SO_x), were reduced, while emissions of particulates were maintained at the same level.

At the Bayer HealthCare site in Bergkamen, Germany, the NO_x emissions level of the gas turbine was successfully reduced by 70 percent to 75 mg/Nm^3 thanks to the changeover to an environment-friendly technology. As a result, the energy supply at the Bergkamen site is today already capable of meeting the emission limits of 75 mg/Nm^3 that will apply from October 2012. The Bayer CropScience site in Vapi contributed to the reduction in SO_x emissions by changing the fuel mix in favor of a fuel with a lower sulfur content.

Other important air emissions (1,000 metric tons p. a.)

	2004	2005	2006	2007	2008
CO	1.9	1.7	2.2	2.0	1.7
NO_x	4.3	4.3	4.0	4.0	3.9
SO_x	4.2	4.5	3.8	3.6	3.2
Particulates	0.5	0.3	0.2	0.2	0.2

Modern wastewater management

During the reporting period, Bayer discharged 68.4 million cubic meters of wastewater. Wastewater includes production wastewater, water from waste air treatment plants, contaminated cooling water from recooling plants, sanitary wastewater and rainwater that has come into contact with chemicals or combustible materials. It does not include through-flow cooling water. Of the total volume of wastewater generated, 79 percent was purified in a wastewater treatment plant, while 21 percent was discharged untreated into surface water due to the low level of contamination.

Emissions of nitrogen (nitrates and ammonium nitrogen) were approximately at the level of the previous year, while discharges of organic bound carbon – measured as total organic carbon (TOC) – were about 10 percent lower than the previous year. The fall in production mentioned above and improved wastewater monitoring at various sites were notable in this respect. For example, in 2008 Bayer CropScience invested in an upgrade to the oxygen feed into the biological wastewater treatment plant at the Institute site in the United States, as a result of which TOC emissions were reduced significantly. Despite the positive developments, we have not yet achieved our goal of a reduction of TOC and nitrogen discharges into receiving bodies of water by 10 percent per metric ton of sales product (based on 2005 levels) by 2010. In the future, we will therefore continue to invest in optimized production and water purification processes (see Focus Issue Water starting on page 42). This includes the addition of the second stage of the biological wastewater treatment plant at the Leverkusen site in Germany to remove nitrogen from the wastewater.

The discharge of phosphorus into surface waters has been reduced by approximately 21 percent from the previous year. This is attributable to measures such as improved wastewater monitoring at the Kansas City site in the United States and optimization of processes in the plastics production process at the Map Ta Phut site in Thailand. It is planned to implement equivalent process optimization measures at the Baytown site in the United States by the end of 2009.

The increases in the amounts of heavy metals discharged into wastewater in 2008 are due to more comprehensive wastewater reporting.

CURRENTA's implementation of modern technologies at the German CHEMPARK sites contributes to the safe and environment-friendly disposal of wastewater, as well as to cost-effective active substance production. During the year under review, the capacity of the wastewater incineration plant at CHEMPARK Leverkusen rose by 50 percent. Thus, Bayer CropScience is able to dispose of non-biodegradable wastewater from the expanded active substance production in an environment-friendly manner. At the CHEMPARK Dormagen site, although the wastewater treatment plant remained unchanged in size, targeted oxygen feeds resulted in an increased degradation capability for Bayer CropScience wastewater.

In addition, CURRENTA is planning in a few years' time to supply environment-friendly energy generated from industrial wastewater treatment sludge and liquid waste to the plants at the CHEMPARK Leverkusen site. In a pilot project, it was shown that 20,000 metric tons of dehydrated wastewater treatment sludge generated each year from the biological treatment of chemical wastewater can be used to generate biogas despite its chemical contamination, provided that a treatment process newly developed by CURRENTA is placed upstream.

Emissions into water (absolute)

	2004	2005	2006	2007	2008
Phosphorus (1,000 metric tons p.a.)	0.76	0.74	0.81	0.99	0.78
Nitrogen (1,000 metric tons p.a.)	0.89	0.58	0.73	0.68	0.67
TOC (1,000 metric tons p.a. of bound organic carbon)	2.20	1.49	1.49	1.77	1.59
Heavy metals (metric tons p.a.)	28.2	11.6	8.0	8.9	10.4
Inorganic salts (1,000 metric tons p.a.)	-	797	843	825	812

Emissions into water (kg per metric ton of sales product)

	2005	2006	2007	2008	Target*
Nitrogen	0.0596	0.0723	0.0642	0.0669	0.0536
TOC (total organic carbon)	0.153	0.147	0.167	0.159	0.138

* Based on 2005 figures

Waste generation and disposal

During the year under review, Bayer generated 1.08 million metric tons of waste worldwide, 16 percent more than in the previous year. Additional construction and demolition activities at three German locations, the CHEMPARK Leverkusen site, the Bayer HealthCare site in Elberfeld and the Wolfenbüttel site, which has now been sold, were primarily responsible for this.

The amount of hazardous waste generated in production was 11 percent higher than the previous year's level and was to a large extent attributable to the Bayer CropScience sites in Dormagen, Germany; Kansas City, United States; and Muttenz, Switzerland, as well as to the Bayer HealthCare site in Bergkamen, Germany, where there was a significant increase in the volume of products and active substances manufactured. We are still 0.6 percentage points away from our goal of reducing the amount of hazardous production wastes to under 2.5 percent per metric ton of sales product, and must further strengthen our efforts to avoid waste. This goal corresponds to our efforts to reduce waste as a whole and further increase the proportion of starting products and materials recycled.

Waste generated (1,000 metric tons p.a.)				
	2005	2006	2007	2008
Total waste generated	760	649	928	1,077
Hazardous waste generated*	351	336	342	365
Hazardous waste generated in production	221	234	275	305

* Definition of non-hazardous waste in accordance with local laws

Hazardous production waste (per metric ton of sales product)					
	2005	2006	2007	2008	Target*
Hazardous production waste (percent per metric ton of sales product)	2.28	2.32	2.59	3.05	2.5

* Based on 2005 values

The total volume of waste disposed of increased by just under 14 percent in 2008, with the proportion of recycled waste increasing from 23 to 28 percent. However, the proportion of hazardous waste requiring removal to landfill fell by 20 percent. This is primarily attributable to the reduction of hazardous construction waste from the demolition activities at the German CHEMPARK sites and at the Bayer CropScience site in Knapsack, Germany.

The environment-friendly and legally conformant disposal of waste has a high priority at Bayer. It is also an important criterion for the assessment of new investments on the basis of our corresponding Group regulation.

Waste disposal* according to means of disposal				
	2005	2006	2007	2008
Total volume of waste disposed of (1,000 metric tons p.a.)	848	654	931	1,061
of which removed to landfill (percent)	52	44	48	45
of which incineration (percent)	28	32	26	24
of which recycling (percent)	18	22	23	28
Waste that cannot be definitively categorized according to one of the above disposal methods (percent)	1	3	3	3
Landfilling of hazardous waste (1,000 metric tons p.a.)	211	134	101	81

* Only waste generated by Bayer

Reportable environmental incidents and transport accidents

Bayer classifies environmental incidents of a certain level of severity as “reportable environmental incidents” based on unified criteria. This term covers incidents that result in substances being released into the environment. These incidents are divided into two categories depending on the amount and type of the substance, the level of resultant damage, the impact on residents and reporting in the media:

Level 1 incidents (severe environmental incidents): An example of the criteria for this type of incident is a cost in excess of €2 million for repairing damage to plant, clean-up costs, etc.

Level 2 incidents (significant environmental incidents): Incidents are categorized as level 2 incidents if the resultant costs are at least €100,000 and at most €2 million.

Despite our comprehensive safety precautions and training, not all environmental incidents and transport accidents can be prevented. However, incidents and accidents are analyzed in detail and appropriate measures introduced in order to prevent such incidents in the future. In 2008, we recorded nine reportable environmental incidents, of which three were level 1 incidents and six were categorized as level 2.

- In Wuppertal-Elberfeld, Germany, there was a release of ammonia at a Bayer HealthCare site. 30 people, including 22 Bayer employees and eight local residents, needed to remain under medical treatment for a temporarily period and were discharged from hospital on the same day. (Level 1)
- A phosgene leak occurred at Bayer MaterialScience's site in Baytown, United States. There were no injuries. (Level 1)
- In Mato Grosso, Brazil, an entire Bayer CropScience load of crop protection agents was spilled from a truck following a serious traffic accident. The driver was killed. The accident site was cleaned up by a specialist company (see also "Transport accidents"). (Level 1)
- Hydrochloric acid leaked from a defective tank at the Bayer MaterialScience site in New Martinsville, United States.
- 150 kg of ethylene oxide spilled from a railroad wagon at Bayer MaterialScience in Channelview, United States.
- At Bayer HealthCare's Bergkamen site, Germany, a leak on the residue drainage valve resulted in approximately 50 liters of thionyl chloride being released during a pumping process from the tank farm to the active substance plant.
- A leak was detected in a standing tank container at a loading terminal in Kiel, Germany. The contents (toluene diisocyanate, TDI) were pumped into a replacement container (see also "Transport accidents"). As a remedial measure, the entire series of tank containers is no longer in use at Bayer.
- In the Bayer MaterialScience chlorine processing facility in Leverkusen, a small amount of chlorine was released. There were no injuries. The incident was reported in the local press.
- Two employees were killed in an explosion and subsequent fire at Bayer CropScience's site in Institute in the United States (see page 72). Measurements of the air at the site boundaries did not reveal any elevated environmental levels of hazardous substances. As a precaution, the incident was classified as an environmental incident.

Reportable environmental incidents (number p.a.)

2004	2005	2006	2007	2008
6	3	8	3	9*

* Correction compared to figure given in the Annual Report 2008 owing to improved information

During the period under review, we recorded 10 reportable transport accidents. These are recorded accidents involving transports of chemicals and products ordered and paid for by Bayer that meet certain criteria. These criteria include the spillage of a load (categorized according to the amount and dangerous goods class), the occurrence of fatal injury or the blockage of the transport route for a specified duration. During the period under review, eight road transport accidents occurred, with one accident occurring at sea and one during a rail shipment.

Two accidents resulted in the death of the driver: at Mato Grosso in Brazil (see also "Environmental incidents") and at Baytown in the United States, when a truck loaded with isocyanate collided with another vehicle. Two further transport accidents resulted in substances being released: During load transfer operations on another company's premises, transported goods from the Bayer MaterialScience site at Brunsbüttel, Germany, were damaged, resulting in product being released. The contents of one leaking tank container standing at a loading terminal in Kiel, Germany, were pumped into a replacement container (see also "Environmental incidents").

In order to increase further the safety of our transport operations, we introduced a new Group regulation on transport safety in February 2009. The regulation defines the mandatory steps to be taken so that hazards can be avoided when preparing for and performing shipments of materials and products. We are also working directly with our carriers. For example, the Bayer MaterialScience teams in the Asia/Pacific region responsible for safety in the transport and distribution process perform not only numerous operational inspections but also health and safety training sessions with their logistics partners. In 2008, 51 customer training sessions of this type were conducted in China, Malaysia, Taiwan, Thailand and Vietnam.

Bayer CropScience has in past years implemented a comprehensive HSEQ qualification program with audits and appropriate training for safe materials handling in China and India. The standards achieved are regularly reviewed and reported annually. New suppliers undergo a corresponding certification process.

Transport accidents according to means of transport (number p. a.)

	2004	2005	2006	2007	2008
Road	10	2	6	9	8*
Rail	0	1	3	1	1
Inland waterways	0	0	0	0	0
Sea	0	0	0	0	1
Air	1	0	0	0	0
Pipeline	-	0	0	0	0
Total	**11**	**3**	**9**	**10**	**10**

* Two of the transport accidents are also included as environmental incidents.

WWW 53 Bayer Climate Program
54 Biodiversity
55 Biological diversity

Product stewardship

We consider the safety and compatibility of our products to have top priority. We therefore inspect and monitor all Bayer products in applications known to us with regard to potential health, safety, environment and quality (HSEQ) risks. Our product stewardship activities cover the entire value chain – from product development and production through to product use and final disposal. Since 1994, we have aligned ourselves to the voluntary Responsible Care initiative of the chemical and pharmaceutical industries, and Bayer signed the revised Global Charter of that initiative in 2006.

Comprehensive information on substances and products

For us, product stewardship means ensuring that our products are safe for people and the environment throughout their life cycle when used responsibly and properly. We restrict product marketing or discontinue production altogether when this is required to protect against health and environmental risks.

Our employees receive regular training in the safe handling of the substances and preparations, as well as in the use of appropriate protective equipment and in emergency measures and rescue operations. Special operating instructions are available for the handling of chemicals.

Virtually all the products manufactured by Bayer are subject to extensive and strict legal requirements concerning the publication of information. To satisfy the requirements of the E.U. chemicals regulation known as REACH (Registration, Evaluation and Authorization of Chemicals), we successfully completed the pre-registration in 2008 of all substances we manufacture in the European Union or import from elsewhere, thus enabling the further commercialization of our products (see page 22). In addition, we support international efforts to achieve a uniform global system of classification and labeling for substances and preparations (mixtures). According to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) that took effect in Europe at the beginning of 2009, chemical substances in Europe must be labeled according to global standards by December 2010 parallel to the implementation of the REACH regulation; the deadline for preparations ends in 2015. We are well prepared to meet the requirements of GHS.

Relevant safety information for the materials used throughout the Bayer Group – be they raw materials, intermediates or end products – is contained in product databases and continuously updated safety data sheets that we also make available to our customers. All the subgroups are updating their recording systems to comply with the new regulations. As part of the implementation of REACH, Bayer HealthCare has established an E.U.-wide database that will now be globally expanded in connection with the introduction of GHS. Bayer CropScience collects all product labeling information in its "E-Label Server" database. At present, this covers the products we market in Europe and parts of Africa and Asia.

In 2008, Bayer CropScience revised its External Adverse Incident Reporting Guideline, which governs internal reporting processes worldwide in the event of incidents involving products of that subgroup. This guideline represents a system for registering and evaluating the possible negative consequences of products and taking account of them in product development. Among other purposes, it serves as an early warning system for health or ecological risks, gives advice regarding medical care and provides a basis of information for preventive measures and continuing education seminars.

Bayer MaterialScience is currently preparing a product safety database from which up-to-date information will be accessible at any time and from anywhere in the world from mid-2009. As a producer of high-quality materials and innovative system solutions, Bayer MaterialScience is subject to a number of different product safety and information obligations. The subgroup thus globally monitors and centrally registers all potential detrimental effects of its products on health and the environment. All employees are instructed to pass on any information about possible risks to the global product observation function, which evaluates this information and, where necessary, defines, introduces and monitors suitable remedial actions. Since 2000, furthermore, Bayer MaterialScience has maintained the BayCare® program, which is aimed primarily at its customers in the Americas. Through BayCare® all safety information and instructions for Bayer MaterialScience products marketed both in this region and in some cases worldwide are available on the Internet.

Scientific risk assessment of chemicals

Bayer participates in many research projects dealing with the risk assessment of industrially manufactured substances as part of the Long-Range Research Initiative (LRI) set up by the international chemical associations. Through the Organization for Economic Co-operation and Development (OECD) and the European Center for Ecotoxicology & Toxicology of Chemicals (ECETOC), furthermore, we participate through LRI in the development and scientific validation of test methods and serve as an active partner in the development of suitable new regulations. We endorse the aims of the European Environment and Health Action Plan, particularly with regard to children's health. Bayer supports association activities, for example on the continued development of human biomonitoring as a tool for exposure analysis. We are also involved in many scientific bodies such as the Society of Environmental Toxicology and Chemistry (SETAC), the International Life Sciences Institute/Health and Environmental Sciences Institute (ILSI/HESI) and ECETOC.

Limiting animal studies

Animal studies are essential and legally required to assess the detrimental effects and possible risks of chemicals or new drug products. In keeping with our "Policy on animal welfare and animal studies," we are committed to the basic principle of using only as many animals as necessary to attain scientifically meaningful results. This is regularly monitored by animal welfare officers and also applies to external studies.

To date, very few alternatives to animal studies have been validated and recognized by the authorities. Nonetheless, where possible, we first employ substitute methods in all areas, and only when these tests deliver promising data are the substances then tested in animal studies. Thanks to this procedure, we have been able to markedly reduce the number of animals used in tests in recent years. In 1989, 454,000 animals were required by Bayer AG for test purposes compared to a worldwide Bayer total of 157,710 animals in 2008 – a reduction of 65 percent.

The rule here is that mice and rats are always used first; as a result, approximately 95 percent of test animals are rodents. Fish and birds make up approximately four percent of our test animals, while cats, dogs and primates account for 0.9 percent. In view of the great genetic and physiological similarity of non-human primates (NHPS) to humans, Bayer is committed to particular responsibility going beyond the legal requirements in regard to the use of NHPS in preclinical research studies. A special Ethics Committee comprising Bayer experts and external specialists is therefore charged with specifically assessing these studies with non-human primates.

Bayer is a member of the European Partnership for Alternative Approaches to Animal Testing (EPAA), a joint initiative of the European Commission, numerous companies and further advocacy groups. The EPAA works to implement the "3R" principle, which in turn is aimed at "reducing" the number of experimental animals, "refining" experimentation methods and "replacing" animal studies by new procedures. Bayer also participates in joint studies by pharmaceutical companies and universities and cooperates in various international projects designed to develop and globally validate alternative methods.

Nanotechnology – An opportunity and a responsibility

Nanotechnology is an important and growing research and development field for Bayer. This technology has tremendous potential to yield economic growth and sustainable innovations in the future.

Nanotechnology is a cross-sectional technology: Interdisciplinary research can enable Bayer to offer new and improved product solutions in all areas of our business – from materials technology, electronics and medical technology to the delivery of active substances in medicine and new formulations in crop protection.

Bayer MaterialScience has already introduced to the market its first nanoproducts, such as Baytubes®. These innovative carbon nanotubes are many times stronger than steel at a fraction of its weight. They are used, for example, in the construction of highly efficient, ultra-lightweight rotor blades in modern wind turbines.

Researchers at Bayer HealthCare are working to open up new diagnosis and treatment options by packaging active substances in nanoparticles, for example. Ideally, the nanoparticles will make their way directly to diseased tissue without being detected by the immune system, and systematically release their active substance at the right place. The aim is to enable highly specific action against tumor cells without damaging healthy tissue.

As nanotechnology is a relatively new technology, a sound, scientific risk analysis is particularly important to protect health and the environment. We take our responsibility in the development and use of nanomaterials seriously, and carry out risk analyses for all phases of the life cycle. Like all other pharmaceuticals, nanomedicinal products are comprehensively evaluated and not registered for market use until a thorough risk-benefit analysis for patients has yielded positive results.

The Bayer Position on Nanotechnology and the Bayer Code of Good Practice in the Production and On-site Use of Nanomaterials serve as the basis for a responsible approach to nanotechnology at all company sites. With Baytubes®, we have built up extensive risk management knowledge regarding the handling of nanomaterials that we are applying to the development of further nanomaterials. To develop harmonized assessment concepts, we are participating in the safety research projects TRACER, NanoCare and CarboSafe, which are supported by the German Ministry of Education and Research, and in the international standardization of nanotechnology within an ISO working group. Bayer also plays an active role in committees and associations, and fosters dialog with relevant stakeholders such as industrial partners, customers, regulatory agencies, universities and the general public.

Stringent drug safety requirements

The manufacture of pharmaceuticals and medical equipment is subject to very stringent quality standards that are regularly evaluated by regulatory authorities and external experts.

The Global Pharmacovigilance section, which employs more than 350 people worldwide, is responsible for drug safety at Bayer. It ensures that all the available information concerning the adverse effects and interactions of all the medicinal products marketed by Bayer is compiled and evaluated on an ongoing basis. In this way the risk-benefit potential of our products can be continuously monitored not just during their development, but also after regulatory approval has been granted. In matters of patient safety, we work closely with regulatory authorities such as the Food and Drug Administration (FDA) in the United States, the European Medicines Agency (EMEA) and the Federal Institute for Drugs and Medical Devices (BFARM) in Germany. Bayer HealthCare also makes available information about clinical studies through its "Clinical Trials Registry and Results" website. This platform comprises not just new substances, but also trial results for registered pharmaceutical or biological products that are already being commercialized by Bayer.

Should new adverse effects or risks be discovered following the registration of a product, we immediately take suitable steps such as informing the regulatory authorities, sending information letters to physicians and amending pack inserts. For example, one data analysis uncovered a very rare adverse effect of the antibiotic Avelox® (active substance: moxifloxacin): In very rare cases, serious adverse effects on the skin and liver can occur. In July 2008, EMEA's Committee for Medicinal Products for Human Use (CHMP) determined that the therapeutic benefit of Avelox® is higher than the risk, but recommended that its indications be restricted to cases in which other antibiotics are not an option or are not effective.

Continued suspension of Trasylol marketing

Bayer temporarily withdrew Trasylol® from the global market in November 2007 after the interim results from an independent clinical study in Canada had produced evidence of a possibly increased risk of mortality in patients treated with Trasylol®. In 2006 and 2007, post-marketing studies reported a possible connection between administration of Trasylol® and serious impairment of kidney function, heart attacks, strokes and increased mortality. Trasylol® (active substance: aprotinin) is a drug approved for use in reducing perioperative blood loss in patients undergoing coronary bypass operations. The product will not be marketed again until the final results of the Canadian study have been analyzed and the risk-benefit profile of Trasylol® has been re-evaluated in collaboration with the drug regulatory authorities. In some countries, including the United States, Trasylol® will continue to be made available for certain groups of patients with a specific medical need. We are working closely with the authorities to clarify the questions that have been raised.

By May 4, 2009, a total of 553 lawsuits had been brought against Bayer in the United States as well as one class action in Canada. The plaintiffs claim that Trasylol® caused harm to health such as kidney failure or death. They are demanding compensation and punitive damages on the grounds that Bayer was aware of or should have been aware of these risks, and that Bayer is liable as it did not provide adequate warning about risks associated with the use of Trasylol®. All the cases still pending before U.S. federal courts have been consolidated into a multi-district litigation (MDL) for pre-trial coordination. More lawsuits are to be expected. Bayer believes it has meritorious defenses and intends to defend these cases vigorously.

Responsible marketing of medicines

We observe stringent guidelines in the marketing of our products. This applies particularly to medical products, an area in which we are bound by national and international codes that ensure ethical conduct in cooperation between the pharmaceutical industry and members of medical and pharmaceutical specialist groups.

Bayer HealthCare undertakes to adhere to the code published by the International Federation of Pharmaceutical Manufacturers and Associations (IFPMA) for the ethical marketing of pharmaceutical products. We also observe marketing provisions contained in the code of the European Federation of Pharmaceutical Industries and Associations (EFPIA), the revised edition of which took effect in July 2008, and in additional national regulations for the ethical commercialization of drug products. Such provisions govern, among other things, advertising material standards, the distribution of samples, and cooperation with members of medical and pharmaceutical specialist groups in connection with consultancy contracts, studies and scientific lectures.

Since July 1, 2008, Bayer HealthCare has published the details of its cooperations with patient organizations in Germany, including all project-related data, on the website of its marketing subsidiary Bayer Vital. Furthermore, Bayer has made a commitment to observe the new code of the association "Voluntary Self-Monitoring by the Pharmaceutical Industry" (FSA) pertaining to collaborations with patient organizations, which came into force in October 2008. This code governs cooperations between patient organizations and pharmaceutical companies in order to maintain the organizations' neutrality and independence and ensure appropriate cooperation in the patients' best interests.

Bayer is committed to the highest ethical standards, and we are deeply committed to promoting our medications and products in a manner consistent with the approved indications. The FDA criticized advertising spots for YAZ® in the United States because, it claimed, these also contained statements on indications for which the drug had not been approved. Bayer has worked closely with the FDA and agreed on a course of action, and we are pleased to report that our new YAZ® advertisements are now being aired in markets around the country. We believe that the new advertisements correct any misperceptions that might exist. As always, Bayer remains committed to providing truthful and accurate informational materials to both health care providers and patients.

Despite extensive measures to ensure compliance in product marketing, isolated cases of conflict regarding compliance with marketing and competition laws have occurred in the past, as previously reported.

Analysis of pharmaceuticals in the environment

Traces of pharmaceuticals are found in bodies of water and occasionally in drinking water (see Focus Issue Water on page 46). One reason for this is the excretion of pharmaceuticals and their degradation products by patients. In many cases, wastewater treatment facilities can filter these substances out of wastewater or degrade them. However, some substances are only partially or not at all removable, and can thus enter natural bodies of water. Bayer HealthCare wants to further investigate the possible risks of pharmaceutical active substances in the environment to be able to assess these in a more differentiated manner. With this goal in mind, we are expanding the data base on environmental properties to include the results of tests on ecotoxicity and on the dispersion and degradation behavior of pharmaceutical products.

Bayer HealthCare also participated in several important research projects in 2008. In Germany, Bayer was engaged in the START project dealing with strategies for addressing pharmaceutical active substances in drinking water; at the European level, the subgroup contributed to the KNAPPE (Knowledge and Need Assessment on Pharmaceutical Products in Environmental Waters) and ERAPharm (Environmental Risk Assessment of Pharmaceuticals) projects, which were completed in 2008.

As part of the ERAPharm project, the meaningfulness of the guidelines that have been binding for the registration of new drug products in the European Union since 1998 (veterinary pharmaceuticals) and 2006 (human pharmaceuticals) was evaluated and improvement suggestions were developed. The results of the START project were summarized in a brochure explaining particularly the possible courses of action and implementation perspectives for reducing contamination. The analyses of the KNAPPE project contain a report on the status of incidences of pharmaceuticals in the environment and their evaluation, as well as recommendations on the technical options for reducing emissions from wastewater treatment facilities and on laws and regulations and political issues.

Safety for humans and animals

In 2008, Bayer Animal Health joined with the organization Vets Beyond Borders (VBB) and the University of Queensland, Australia, in initiating a research project in India. Its goal is to analyze canine vector-borne diseases (CVBD) in stray dogs and the potential resultant health risks for people.

Responsibility in animal health

The Animal Health Division of Bayer HealthCare produces and distributes worldwide more than 100 different veterinary pharmaceuticals and grooming products for livestock and companion animals. We apply the highest quality and safety standards to our animal health products as well. That's why we invest in extensive research and development measures and carefully design our production processes and the marketing and distribution of our products in order to ensure the highest possible standards with regard to quality, effectiveness, and the safety of animals, people and the environment. Through workshops, extensive information material and other measures, we also advise veterinarians and end users specifically and comprehensively in the proper and responsible use of our products.

Biotechnology – A technology of the future

In recent years, biotechnology has also achieved increasingly important significance in pharmaceutical research and production. For example, two of our best-selling products – the multiple sclerosis treatment Betaferon®/Betaseron® and the hemophilia drug Kogenate® – are produced through biotechnological processes. Innovative crop research, modern plant breeding and the use of new technologies too are of tremendous importance when it comes to feeding the growing world population. In this context, biotechnology offers diverse opportunities for increasing the performance potential and stress resistance of plants and raising crop yields.

Safety is our top priority in the development and use of biotechnology. Bayer respects consumers' rights to receive information and freely select food products, and observes all relevant legal provisions. We have spelled this out in our Position on the Responsible Use of Gene Technology and in specific directives in the subgroups and service companies. Before a new product is introduced to the market, it is subjected to a stringent registration processes to determine whether it is safe for people, animals and the environment. We understand the concerns about genetically modified organisms (GMOs) expressed by society, but we are convinced that GMOs do not represent a safety risk when the legal requirements and corresponding safety checks are observed.

Measures to combat counterfeit products

Counterfeit products and the trading of illegal goods have become a serious problem around the world in recent years, causing enormous economic losses. Not only are counterfeit pharmaceutical and crop protection products often ineffective, they can also present a risk to the

health of unsuspecting patients, users and consumers. What's more, the illegal production and the trade of counterfeit products regularly violate our intellectual property rights. It cannot be reliably estimated how many counterfeit products are in circulation in which markets. What is clear, however, is that the volume of such products is increasing. We intensively work to increase awareness about this problem and institute legal proceedings against counterfeiters. Our focus here is on education, product-related security measures, internal and external investigations and close cooperation with associations, authorities and the World Health Organization (WHO).

Bayer HealthCare has launched the "Beware of Counterfeits" education campaign for patients, which features extensive information material. At the international level, we advocate the coding of pharmaceutical products. The "Coding" project of the European federation EFPIA, in which Bayer HealthCare is playing a very active role, has model character for all pharmaceutical producers. Coding should ensure complete tracking of pharmaceutical products along the value chain in the future, at least in legal distribution channels.

Due to a lack of testing and registration, illegally produced crop protection products also frequently present a health risk to people who work in the agriculture industry, as well as a danger to consumers and the environment. Bayer CropScience therefore will continue to resolutely assert its intellectual property rights against illegal producers. A worldwide network of employees focuses on protecting our products at the global, regional and national levels. As a result, large quantities of counterfeit crop protection products were seized by local authorities in Poland, Russia, Paraguay and Indonesia in 2008. Several regional workshops on the effective coordination of product defense measures took place in the period under review. Furthermore, Bayer CropScience supports regional and global association committees that focus on fighting product piracy. Among these bodies are the Anti-Counterfeiting Project Team of the European Crop Protection Association (ECPA) and the Anti-Counterfeiting Steering Committee of CropLife International. To help customers correctly identify a Bayer CropScience product and impede product piracy, the company uses testing instruments to certify the authenticity of products and identify original packaging.

In ProteXXion®, Bayer Technology Services offers a solution for forgery-proof authentification that is unique worldwide. ProteXXion® is based on a laser-optic process from the British technology partner Ingenia Technology Ltd. that enables surfaces to be clearly authenticated without the need for additional identification marks. The object itself becomes the marking. It is therefore practically impossible to overcome the security barrier of ProteXXion®.

Responsible use of crop protection agents

Bayer CropScience helps safeguard harvests and raise crop yields worldwide by deploying the latest crop protection methods and new solutions in the areas of plant biotechnology and breeding. The crop protection solutions of Bayer CropScience are an important contribution to efficient agricultural activities. Extensive scientific risk testing of crop protection agents are specified under country-specific regulations and result in comprehensive product information on safe and recommended storage, application and disposal procedures. This information is available in a comprehensible form in the relevant lingua franca. This is part of a comprehensive product stewardship system with which Bayer CropScience promotes the appropriate use of its products worldwide to rule out negative effects on people and the environment. This system is based on the international Code of Conduct on the Distribution and Use of Pesticides by the Food and Agriculture Organization (FAO).

Instruction in handling crop protection agents

The Agro Vida training program, which Bayer runs in many South American countries, has long proven successful in ensuring that crop protection products are used safely. In recent years, many tens of thousands of people employed in agriculture have taken part in the program. The program is directed at various groups of agricultural laborers and farmers, focusing on risk management training: the correct handling of safety equipment and the prevention of product misuse and incorrect applications. The Agro Vida program involves vocational instructors, farmers, crop protection agent distributors and independent advisors.

In addition to the development of technical solutions for the safe use of our products, we regularly carry out on-site training measures for our customers and partners as regards the appropriate, safe and targeted handling (product stewardship) of crop protection products. Here, targeted and selective use also involves adapted application technologies and packaging techniques. In India alone, we instructed more than 100,000 employees of the agriculture industry in the safe use of crop protection products in 2008. Further areas of focus for training measures are South America and China, where Bayer CropScience received the official distinction "Best Safe Use Training Company" for the third time in a row.

New requirements for active substances in crop protection

The European Union has agreed on a new ordinance to harmonize existing legislation on crop protection. While we welcome the efforts made by the European Union the results of the consultations lead us to be increasingly concerned about the introduction of risk-based exclusion criteria. This entails a departure from the socially accepted principle – also predominant in technological evaluations – that, alongside a theoretical evaluation of risk, an evaluation based on exposure in practice is an essential factor that must be taken into account in any risk assessment. In addition, Bayer CropScience supports the proposition that substance analyses should not take a one-sided approach that focuses solely on the potential risk that could be associated with the usage of substances. In order to ensure a comprehensive and thorough approach, it is also necessary to evaluate the potential consequences of any failure to gain approval for a substance on the environment and consumers. Once the new regulation comes into force, the primary focus will be on helping to shape the implementation process based on scientific findings and on creating a practical system of rules. Bayer CropScience will make its experience and skills available in order to support the search for suitable solutions in cooperation with associations such as the European Crop Protection Association (ECPA) and the German agrochemical industrial association Industrieverband Agrar (IVA).

Replacement of WHO Class I pesticides

Bayer CropScience only distributes crop protection products that have been granted regulatory approval by the authorities in the countries concerned which are safe when used responsibly and as intended, and which pose no risk to either people or the environment. We are aware that crop protection products may not always be used correctly under certain circumstances in some Third World countries. This is why the company has undertaken to gradually replace products in WHO Class I preferentially in these countries. This is being accomplished, for example, by developing and introducing new active substances, products, application technologies and types of packaging. The company has made great progress in this respect in recent years. In the past five years alone, Bayer CropScience has removed a substantial number of Class I products from its portfolio. The active substances discontinued during this period include methyl and ethyl parathion – we have not sold ethyl parathion in developing countries since 1992 – monocrotophos, oxydemeton-methyl, azinphos-methyl, amitraz and trichlorphon. Bayer CropScience will systematically maintain this approach. New active substances with markedly better risk profiles, e.g. spiromesifen, flubendiamide and spirotetramate and their formulations, are now available to customers worldwide to replace the old products that have been withdrawn from the market.

However, there are still some vital products for which no alternative is available because it takes a long time to develop and register new crop protection products. In addition, individual countries differ considerably in terms of cultivation and market conditions and the pests that affect them, and this factor makes it impossible to provide a single standardized solution. If no alternatives are available, we promote the safe use of older products by providing numerous additional training events for users.

Bee safety and the insecticide clothianidin

In the spring of 2008, incorrectly treated corn seed resulted in the loss of bees in the Upper Rhine region of Germany. Investigations by both the authorities and Bayer have since found that the bee deaths were caused by improper application by the seed dressing companies of the crop protection product clothianidin (trade name: Poncho® Pro) in seed treatment. As a result of these findings, the German Federal Office of Food Safety and Consumer Protection (BVL) temporarily suspended marketing authorization for clothianidin as a seed treatment for various crops in May 2008, but has since lifted this suspension. The suspension for use with corn is continuing because the authority is reviewing further documents on bee safety.

We have since submitted further documentation to the BVL demonstrating the product's safety when used properly. Following the final examination of this documentation, the BVL will decide whether to lift the temporary suspension of marketing authorization for clothianidine as a corn seed treatment product.

The active substance clothianidin is needed to fight the corn rootworm, a reportable quarantine pest that first appeared in Germany in 2007. For the 2008 sowing season, therefore, the treatment of corn seed with clothianidin was prescribed for certain areas in Baden-Württemberg and parts of Bavaria in accordance with the corresponding E.U. regulation. Protection of crops from quarantine pests such as the corn rootworm is essential. Experts estimate that the potential annual damage to crops in Europe alone in the long term will amount to roughly half a billion euros. The pest is thus an existential threat for farmers in the infested regions.

Some batches of the corn seed treated with clothianidin were incorrectly treated in 2008, however, with the result that abrasive dust containing the active substance entered the environment when certain pneumatic sowing machines were used. There is no risk to the environment when the product is correctly used. Contact of the substance with the environment is reduced to a minimum through seed treatment, and it is broken down in the soil.

To minimize the risk of incorrect use in the future, we have worked with the sowing machine manufacturers and in close coordination with the relevant regulatory and monitoring agencies to develop technical retrofitting concepts that ensure a considerable reduction in dust driftage. Through a ground-level exhaust air duct, the new concepts prevent any abrasive dust from potentially entering the surrounding air and thus coming into contact with other plants. The effectiveness of these retrofitting concepts was confirmed in extensive test procedures carried out by the Julius Kühn Institute (Federal Crop Research Institute). Comprehensive information on the topic of bee safety and clothianidin can be found at the Bayer CropScience website.

WWW
56 Responsible Care
57 ECETOC
58 Animal studies
59 EPAA
60 Bayer Position on Nanotechnology
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62 NanoCare, CarboSafe and TRACER
63 Clinical studies
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ERNST & YOUNG

To the Management Board of Bayer AG, Leverkusen

We have reviewed the parts of the Bayer Sustainable Development Report (hereinafter: the report) listed below for the reporting period from January 1, 2008 to December 31, 2008:

- "Performance Report" (pages 48 to 101)
- "Our challenges" (pages 28 to 29), "Climate" (pages 30 to 35), "Medicine" (pages 36 to 41) and "Water" (pages 42 to 47); (hereinafter referred to together as the "Focus Issues").

A review is aimed at achieving a limited level of assurance and is therefore less extensive than an audit, which is aimed at achieving reasonable assurance. Consequently, a review cannot ensure that all significant issues are identified as in an audit. Accordingly, we cannot express a conclusion in the positive form (audit opinion) on the parts of the report.

Limitations of our engagement

Our engagement did not comprise any parts of the report beyond the pages listed above. Our engagement also did not include any prospective statements or statements from external experts on pages 34, 40 and 45.

Criteria

Our examination is based on the reporting principles and criteria presented on the front flap of the report.

Responsibility of the Management Board of Bayer AG

The Management Board of Bayer AG is responsible for the preparation and the content of the report in compliance with the above-mentioned criteria. This responsibility includes the implementation of internal controls for the preparation of a report that is free from material misstatements, in accordance with the above criteria and based on suitable methods for gathering source data.

Our independence

We performed the engagement in accordance with the independence requirements of the IFAC Code of Ethics for Professional Accountants.

Our responsibility

Our responsibility was to issue an assurance report on the "Performance Report" and "Focus Issues" parts of the report based on our review. Our responsibility in performing our assurance activities is to the management of Bayer AG only and in accordance with the terms of reference agreed with them.

We conducted our review in accordance with the International Standard on Assurance Engagements (ISAE) 3000. This standard requires that we comply with our professional duties and plan and perform the review to obtain a limited level of assurance to preclude that the "Performance Report" and "Focus Issues" parts of the report are not in accordance, in material respects, with the aforementioned reporting principles and criteria.

Within the scope of our engagement, we requested evidence on a sample basis based on risk and materiality criteria to obtain a limited level of assurance on the compliance of the "Performance Report" and "Focus Issues" parts of the report with the reporting principles and criteria. The nature and scope of our work was based on our professional judgment and we have performed all the procedures deemed necessary to provide a basis for our conclusions. The performance of our engagement mainly involved the following work:

- Assessment of the suitability of the underlying criteria and their consistent application.
- Inquiries of employees concerning the sustainability strategy, sustainability principles and sustainability management of Bayer AG.
- Inquiries of employees responsible for data capture and preparation of the Sustainable Development Report designed to assess the sustainable development reporting system, the data capture and compilation methods as well as internal controls to the extent relevant for a review of the Sustainable Development Report.
- Inspection of the relevant documents and systems for gathering, analyzing and aggregating data from

the areas Health, Safety & Environment (HSE) and Human Resources (HR) in the reporting period as well as tests on a sample basis.
- Analytical considerations at Group level, subgroup level and the level of significant reporting units with regard to analysis and aggregation of HSE and HR data in the preparation of the report.
- Inquiries and inspection of documents on a sample basis relating to the collection and reporting of HSE and HR data during site visits for the following 10 reporting units: Bayer Technology Services Leverkusen (Germany), CURRENTA Krefeld-Uerdingen (Germany), Bayer MaterialScience Krefeld-Uerdingen (Germany), Bayer HealthCare Elberfeld (Germany), Bayer HealthCare Bergkamen (Germany), Bayer Business Services Barcelona (Spain), Bayer MaterialScience Tarragona (Spain), Bayer CropScience Institute (USA), Bayer CropScience Kansas City (USA) and Bayer MaterialScience Belford Roxo (Brazil).
- Inquiries of employees from selected departments at the Group's headquarters, at subgroup level and the service companies and at the sites visited relating to significant qualitative statements made in the "Performance Report" and the "Focus Issues" as well as inspection of underlying documents.
- Review of material qualitative statements in the "Performance Report" and the "Focus Issues" with regard to consistency and plausibility.
- Review of selected press articles to ascertain whether they reflect company-specific topics of relevance for sustainable development considered in the "Performance Report" and "Focus Issues."

Our conclusion

Based on our work, nothing has come to our attention that causes us to believe that the "Performance Report" and "Focus Issues" parts of the report are not presented fairly, in material respects, in accordance with the reporting principles and criteria.

Rudolf X. Ruter
Auditor

Annette Johne
Auditor

Ernst & Young AG
Auditors
Tax advisors

Düsseldorf, May 4, 2009

Sustainability Program 2006+

Our Group Sustainability Program provides an overview of our specific sustainability objectives through 2010. It is based around the key areas of innovation, product stewardship, excellence in corporate management, social responsibility and responsibility for the environment. In areas where we have identified a greater need for action, we added additional objectives, some of which go beyond 2010.

The objectives of all subgroups and service companies have also been incorporated. Their management boards and executive committees are responsible for the successful implementation of these objectives.

Following the description of the implementation status, each objective is assigned a symbol that indicates how Bayer rates the current status of achievement. Further information on the objectives concerned can be found with the aid of the column on the right and in the Annual Report 2008.

Our objectives through 2010 (unless indicated otherwise)

Objective	Implementation status	Achievement 2008	More on page
Area of action: Innovation			
Promotion of a culture of innovation by implementing a long-term, Group-wide innovation initiative – the **"Triple-i" program** (Inspiration, Ideas and Innovations).	The global roll-out of the Group-wide innovation initiative "Triple-i" met with a very positive response. Our employees submitted around 7,700 ideas to date, some 80 of which were followed up by the Bayer subgroups. Two product ideas have already been introduced to the market.		56
Promotion of research projects on protecting drinking water and freshwater worldwide. Provision of funding and participation in project management for the **National Geographic Global Exploration Fund** set up by Bayer and National Geographic.	Support from Bayer has enabled the continuation of the nine external projects initiated in 2006/2007 with the aim of opening up, fairly distributing and conserving water resources. The results of our endeavors thus far were again documented in external publications in 2008, such as the Merian anniversary edition.	∞*	back flap

* Continuous development

AR stands for the Annual Report 2008.

Objective	Implementation status	Achievement 2008	More on page
Contribution to safeguarding the food supply of a growing world population by developing plants with higher yields and improved stress tolerance of dry conditions. **Further development of plant biotechnology and the latest seed breeding technology.**	Using plant biotechnology to improve the tolerance of crops towards abiotic stress factors such as drought, heat, cold and soil salinity is one of the central research focuses of Bayer CropScience (BCS). In this area there are a large number of research projects at both early and advanced stages of development, with alliances also existing with public research institutions (e.g. CSIRO, the Commonwealth Scientific Industrial Research Organization in Canberra, Australia or the Helmholtz Research Center in Jülich, Germany).		34, 46
Tapping the potential of renewable energy sources and renewable raw materials. Research work and technological developments for promising applications.	Bayer CropScience is investigating the potential of selected cultures that could be used as alternative raw materials for biofuels. Because of the limited area of agricultural land available, efforts are being made to avoid competition with foodstuffs for such land.		83
Selective, resource-optimized production of pharmaceutical active substances using **therapeutic proteins from tobacco plants (plant-made pharmaceuticals).** Development of patient-specific drugs within the next seven to nine years.	Around 50 known active substances have already been obtained from plants on a laboratory scale, including proteins for synthesizing vaccines and monoclonal antibodies for treating autoimmune diseases, infections and cancer. The first clinical trials using plant-based proteins are scheduled for 2010.		55
Provision of improved anticancer drugs. Extension of indications of the anticancer drug Nexavar® to include liver, skin, lung and breast cancer.	Nexavar® has already been approved in more than 70 countries for the therapy of liver cancer and in over 80 countries to treat advanced renal cell carcinoma (kidney cancer). Further studies in other indications such as non-small-cell lung cancer (NSCLC), breast cancer, bowel cancer and ovarian cancer (all Phase II) are ongoing. After the completion of a Phase III study in skin cancer, this indication will not be pursued further owing to a lack of efficacy.		AR 34
Provision of a drug to combat dangerous blood clots. Provision of thrombosis prophylaxis in the form of the oral Factor xa inhibitor rivaroxaban (trade name: Xarelto®).	Xarelto® has been approved in the European Union for the prophylaxis of venous thromboembolism (VTE) in adults following elective hip or knee replacement surgery. The European Union approved the market launch of Xarelto® in September 2008. Further approvals have been granted in more than 50 countries, including Australia, Canada, China, Mexico and Singapore. An extensive development program is already at an advanced stage for using rivaroxaban for thrombosis prophylaxis and treatment in a wide range of indications. The program includes the treatment of venous thromboembolism, prevention of stroke in patients with atrial fibrillation, prevention of VTE in hospitalized patients with internal medical conditions and secondary prophylaxis after acute coronary syndrome. It is planned for more than 60,000 patients to take part in the study program for rivaroxaban.		56

Objective	Implementation status	Achievement 2008	More on page
Area of action: Innovation			
Extension of the duration of efficacy of Kogenate®, a drug recombinant to treat hemophilia, using a new formulation based on liposome technology.	A Phase II study with Kogenate® is ongoing.		AR 91
Development of new molecular imaging methods for early detection of cancer, inflammatory processes in the nervous system and Alzheimer's disease.	Existing cooperation agreements were expanded and new ones entered into, e.g. with the University of Nagasaki on molecular imaging for Alzheimer's or Hamamatsu Photonics K. K. in the field of tumor diagnostics.		AR 89 ff
Research into new methods of treating multiple sclerosis. Development of alemtuzumab.	A Phase III program with alemtuzumab is ongoing.		AR 91
Development of solutions for tropical and other neglected diseases. Cooperation with stakeholders who are following novel approaches to enable more people to be treated.	Bayer is supporting the WHO's clinical development program for the treatment of African sleeping sickness with the active substance nifurtimox. The studies in this area have been concluded; the WHO's combination therapy is currently in the registration phase.		39-41
Provision of new treatments for gynecological disorders with a high level of unmet medical need.	In the past few months, many possible treatment options have been identified and examined for endometriosis and myoma. Visanne® for the long-term treatment of endometriosis has been submitted for approval in Europe.		AR 89 ff
Better treatments for the most common cause of serious visual impairment and blindness in the over-65s in industrialized nations.	A Phase III program on treatment of the wet form of age-related macular degeneration (AMD) is ongoing.		AR 89 ff
Options for the early diagnosis of diseases with a high level of unmet medical need.	A Phase II study with a new PET tracer for the early diagnosis of Alzheimer's disease is ongoing.		AR 35
New objective: **Strengthening of networks with academic institutions** and utilization of shared research and development expertise.	An alliance has been established with the German Cancer Research Center for the faster utilization of research results for the development of new drugs to combat cancer and for the improved evaluation of innovative therapies for tumor-related diseases. Bayer is also working with the University Clinic in Cologne to utilize new findings from the research and development laboratory for the development of innovative approaches in the treatment and prevention of disease, e. g. in the area of oncology.	 	10 AR 49
New objective: **Development of a drug to combat** various forms of **pulmonary hypertension** – riociguat.	Two Phase III studies have begun, focusing on the treatment of the two indications pulmonary arterial hypertension (PAH) and chronic thromboembolic pulmonary hypertension (CTEPH) with the oral drug riociguat.		AR 91
Identification of new mechanisms for fertility control using new approaches to non-hormonal contraception.	Project discontinued.		-
Objective achieved. **Optimization of a production process for monomeric MDI (methylene diphenyl diisocyanate)** for construction of a new large-scale plant in China in 2008 with a target energy saving of approx. 15 percent.	Bayer MaterialScience (BMS) has started up a production facility for MDI with an annual capacity of 350,000 metric tons in Shanghai.		AR 49, 95

Objective	Implementation status	Achievement 2008	More on page
Area of action: Product stewardship			
Further contribution to improved crop yields through highly effective crop protection agents with good plant tolerability, coupled with a good environmental and health profile.	Further development of the Bayer CropScience product portfolio through the market launch of innovative products: • Laudis® (herbicide): New standard for crop selectivity and outstanding weed control in corn crops • Movento® (insecticide): For the first time, all parts of the food crop are protected against harmful pests thanks to this new two-way systemic approach • Infinito® (fungicide): New, unique active mechanism, which precludes cross-resistance with other active substances and is highly effective against potato diseases • Oberon® and Envidor® (acaricides): Ideal for combined use in biological forms of pest control thanks to their outstanding selectivity vis-à-vis useful insects		34, 46
Analysis and evaluation of the environmental properties of our pharmaceutical active substances and their occurrence in the environment to prevent damaging effects on people and the environment.	Bayer HealthCare (BHC) is continually expanding its database of environmental properties by conducting tests on ecological toxicity and the propagation and decomposition behavior of drugs. The company also supports external monitoring studies (e.g. measurements in rivers and seas) on drugs and plays a role in improving guidelines for the evaluation of the environmental compatibility of medicines for humans and animals. The ERAPharm project was concluded in 2008.	∞*	46, 97/98
Timely implementation of the **REACH Regulation** in the Group.	As stipulated by REACH, Bayer pre-registered around 1,000 substances with the European Chemicals Agency (ECHA) in Helsinki, Finland, by December 1, 2008. In doing so, we met the key prerequisite for continuing to work with these substances in the future. The next step is to draw up registration dossiers for substances that are required in particularly large quantities.		22, 93
Area of action: Excellence in corporate management			
Ongoing improvement of internal work processes and **employee motivation**.	We have continued our regular worldwide managerial staff surveys. The subgroups also perform regular surveys of their staff. The global leadership principles are integrated into the regular performance assessments; the annual target agreements of our managerial employees include behavioral leadership objectives. Regular feedback between supervisors and staff in the performance assessment process boosts participant motivation and satisfaction.	∞*	66, 68
Management of the process to implement the Directive on Health, Safety, Environment and Quality (HSEQ) Audits.	Implementation of subgroup-specific HSEQ management systems is completed; full auditing is under way in all regions.		51

* Continuous development

Objective	Implementation status	Achievement 2008	More on page
Area of action: Excellence in corporate management			
Improvement of leadership qualities of all managers, e.g. through 360° Feedback analysis.	Ongoing.	∞*	71
Implementation of the objective formulated at the United Nations World Summit on Sustainable Development in Johannesburg in 2002 on the **globally harmonized classification and labeling of substances and preparations** (GHS = Globally Harmonized System).	Implementation in Europe was supported through to the approval of the regulation by the chemical industry associations. In countries that have already implemented the GHS, BMS products are marketed with GHS-compliant labels and material safety data sheets. BMS will classify all its substances in line with GHS by December 2010 and all its preparations by June 2015.		93
Permanent ongoing **safeguarding of compliance** with regulations on drug safety and quality assurance with regard to human drugs.	The BHC Compliance Management System describes measures for ensuring permanent ongoing compliance with regulatory requirements in the fields of drug safety and quality assurance. These were harmonized during the integration of Schering. Contacts have been appointed and responsibilities allocated. Detailed information obligations and procedures have also been defined and are being implemented. A system of internal inspections is being used to ensure adherence with compliance standards. These audits also apply to suppliers. Risks are identified and assessed using a risk management system. Among other measures, a risk analysis on label compliance has been carried out. The results have been incorporated into the "Regulatory Affairs" instruction, which regulates the creation and change of labels and product information. The Quality Assurance Department systematically processes violations of compliance in cross-disciplinary projects. After a single case analysis, preventive or corrective measures are introduced as necessary. Support is being provided to help countries and regions meet compliance requirements in specific projects.		95/96, 98/99
New objective: Expansion of sustainable **procurement management.**	The Bayer policy guidelines for procurement support the principles of the UN Global Compact, our values and leadership principles, and the Bayer Human Rights Position. The Bayer Procurement Community is also developing a code of conduct for suppliers, which is to be implemented in phases from 2009. Various training and communication activities have been introduced to raise awareness for sustainability among purchasers.		21
New objective: Formulation, communication and implementation of the **company's stance on human rights**	The Bayer Human Rights Position was published in May 2007 and is a globally valid Group directive (updated version since January 1, 2009). An information brochure for managers was distributed in all German-speaking countries in 2008; the content of the Position is integrated into our employee training courses.	 	75

* Continuous development

Objective	Implementation status	Achievement 2008	More on page
Area of action: Social responsibility			
Worldwide promotion of environmental knowledge among young people. Expansion of cooperation with the United Nations Environment Programme (UNEP), including establishment of youth environmental networks and capacity building programs in Asia, America, Africa and Europe.	At the start of 2008, our contract with the UNEP was extended for another three years. Bayer has increased its funding by €200,000 to €1.2 million a year. Activities sponsored in 2008 include the establishment of a youth environment network in North America, the preparation of a network in Europe and the extension of existing networks in Asia, Latin America and Africa. A dozen regional environmental conferences in Asia, Latin America, North America and Africa received financial and organizational support from Bayer. So, too, did the Tunza International Children's Conference 2008 in Stavanger, Norway, which attracted 1,000 participants. Bayer and UNEP once again organized the International Children's Painting Competition on the Environment, with record involvement. South Africa became the 18th country to join the Bayer Young Environmental Envoy Program.		79
Strengthening the basic understanding of natural sciences in schools by extending to other countries the **"Making Science Make Sense"** program founded in the United States.	In 2008, Denmark was the 11th country to join Bayer's international educational initiative.		78
Promotion of access to school and vocational education for children and young people, particularly in newly industrializing and developing countries.	The "Learning for Life" initiative under the BCS child care program in India has been extended. Continuation of training of teachers and pre-school staff at the Monheim site in Germany for the promotion of natural sciences among young children. The "Baylab plants" international laboratory for school students opened in November 2008, and a child care center is under construction at the Monheim site.		47, 67, 76
Promotion of education in sustainable development and improvement of environmental awareness in newly industrializing countries (capacity building) in line with the voluntary undertaking by the chemical industry based on the Johannesburg Declaration and the declaration adopted by the International Conference on Chemicals Management (ICCM) known as the Strategic Approach to International Chemicals Management (SAICM). Development of a training program and support for the establishment of a Chair for Sustainable Development at Tongji University in Shanghai, China.	Professor Zhao Jianfu has been named as the chair holder. In his work he will focus on climate research and climate impact research.		7

Objective	Implementation status	Achievement 2008	More on page
Area of action: Social responsibility			
Support for education, science and research. Stronger focus of foundations on promoting knowledge and increasing the budget.	In 2008, the sponsorship activities of the Bayer Science & Education Foundation included the presentation of the Bayer Climate Award, which has a prize fund of €50,000, the award of five Bayer Climate Fellowships for school students, each endowed with €5,000, the support of 47 scientific school projects totaling around €500,000, and the award of student grants totaling around €140,000.		78
Promotion of solutions as a contribution to the UN Millennium Development Goals for tackling poverty, lowering child mortality and improving health care for mothers.	In cooperation with the German Foundation for World Population (DSW), Bayer has initiated a pilot project in Uganda to raise awareness and improve knowledge of reproduction and sexuality among schoolchildren and to improve access to methods of family planning.		39, 41
Investigation into whether the duration of **treatment for tuberculosis (TB)** can be reduced by around half by using the active substance **moxifloxacin**.	The Phase III study REMOXTB is scheduled to run until 2011. If the clinical trials are successful, the intention is to have moxifloxacin approved for the treatment of TB and made available to patients in developing countries at reduced prices.		40
Responsible approach to gene technology.	The Bayer Position on Gene Technology and specific regulations in the subgroups and service companies are being implemented.		98
Reduction in the number of occupational injuries with days lost per 1 million hours worked (MAQ <2).	The occupational injury rate was cut by 8.3 percent in 2008 compared with the previous year.		72
Consistent implementation of our corporate values in the area of equal opportunities for all, regardless of gender, nationality, color, religion, sexual orientation or age.	Our Corporate Compliance Policy and the Bayer Human Rights Position are being applied and monitored throughout the Group. We have implemented a globally harmonized compensation system for the Group Leadership Circles and included behavior with regard to diversity in the 360° Feedback process. A project to achieve a sustained increase in the proportion of women in top management positions has been started in the BHC subgroup.		66/67
Area of action: Responsibility for the environment			
10 percent reduction in the discharge of TOC (total organic carbon) and nitrogen into receiving waters per metric ton of sales product (base year 2005).	TOC emissions have been reduced by around 10 percent compared to 2007. Nitrogen levels remain roughly on a par with the previous year.		88
30 percent reduction in VOC (volatile organic compound) emissions per metric ton of sales product (base year 2005).	VOC emissions increased by about 10 percent compared to 2007 due to the marked increase in production at the BCS site in Vapi, India. Tests are ongoing into the technical possibilities for reduction.		87
Compliance with a maximum limit for ODS (ozone-depleting substance) emissions of less than 20 metric tons per year (CFC-11 equivalents) (base year 2005).	ODS air emissions amounted to 17 metric tons in continuing operations in 2008.		86

Objective	Implementation status	Achievement 2008	More on page
Air emissions: **BMS:** 25 percent reduction worldwide in specific greenhouse gas emissions (CO_2 equivalents in metric tons) per metric ton of sales product between 2005 and 2020. The by-products sodium hydroxide and hydrochloric acid, which occur during production, are not considered because they will in future occur in much smaller amounts thanks to measures aimed at enhancing energy efficiency. The trade products are also not considered. The reduction of specific emissions is recognized as an adequate and ambitious emissions objective in this energy-intensive segment because it enables tough energy efficiency targets to be achieved while also increasing sales.	From 2007 to 2008, the specific greenhouse gas emissions of BMS (CO_2 equivalents in metric tons per metric ton of sales product) fell from 0.95 metric tons of CO_2 equivalents per metric tons of product to 0.90 metric tons of CO_2 equivalents per metric tons of product. Compared to 2005 (1.07 CO_2 equivalents per metric ton of product), the fall amounts to 15.9 percent.		84-86
BCS: 15 percent absolute reduction in greenhouse gas emissions (CO_2 equivalents in metric tons) worldwide between 2005 and 2020.	From 2007 to 2008, the greenhouse gas emissions of BCS rose slightly from 0.85 million to 0.87 million metric tons of CO_2 equivalents. This is a rise of 2.2 percent compared to 2005 (0.89 million metric tons in CO_2 equivalents).		
BHC: Five percent absolute reduction in greenhouse gas emissions (CO_2 equivalents in metric tons) worldwide between 2005 and 2020.	At BHC, the greenhouse gas emissions from 2007 to 2008 fell from 0.57 million to 0.56 million metric tons of CO_2 equivalents. This represents a reduction of around 4.3 percent over 2005 (0.585 million metric tons of CO_2 equivalents).		
Greenhouse gas emissions from **Bayer Group** to stay at 2007 level up to 2020 according to today's estimates despite expected growth in production.	For the Bayer Group as a whole, the greenhouse gas emissions fell from 8.15 million metric tons of CO_2 equivalents (2007) to 7.57 million metric tons of CO_2 equivalents (2008). Compared to 2005 (8.15 million metric tons in CO_2 equivalents), the fall amounts to 7.1 percent.		
Reduction in the volume of hazardous production waste to less than 2.5 percent per metric ton of sales product.	In 2008, production waste requiring monitoring in continuing operations came to 3.05 percent per metric ton of sales product compared to 2.59 percent in 2007. This rise can be attributed primarily to the BCS sites in Dormagen, Germany; Kansas City, United States; and Muttenz, Switzerland, and the BHC site in Bergkamen, Germany , where the quantities of products and active substances grew significantly.		89/90

Progress report on the implementation of the principles of the UN Global Compact

Since 2000 Bayer has supported the UN Global Compact in its goals of raising standards in the fields of human rights, labor rights and environmental protection and of fighting corruption. The following table shows the activities and management systems at Bayer that support the 10 principles of the UN Global Compact and the results which were achieved in the period under review. Information on the Global Compact can be found at **www.unglobalcompact.org**

	Systems	Measures 2008	Achievements 2008
Principle 1: Support of human rights	■ Human Rights Position (p. 75) ■ Procurement Community Policy (p. 21) ■ Guide: "Requirements for our suppliers" (p. 76) ■ Corporate Compliance System (p. 59)	■ Strategy development and expansion of our global commitment in the field of health care provision (p. 36–41) ■ Distribution of Bayer brochure on human rights (p. 75) ■ Development of a code of conduct for suppliers (p. 21)	
Principle 2: Exclusion of human rights violations	■ Corporate Compliance System (p. 19) ■ Procurement management (p. 21) ■ Human Resources Governance Code in China (p. 76)	■ Risk analysis in Procurement (p. 76) ■ Dialogue with politicians and NGOs on implementing employee rights in China (p. 75/76)	
Principle 3: Observance of the right to freedom of association	■ Group works councils (p. 65) ■ Bayer European Forum (p. 65) ■ Human Rights Position (p. 75)	■ Expansion of Bayer European Forum to include Eastern European countries (p. 65) ■ Appointment of employee representatives in China (p. 76)	
Principle 4: Abolition of all forms of forced labor	■ Human Rights Position (p. 75) ■ Corporate Compliance System (p. 59) ■ Procurement management (p. 21)	■ No measures necessary	
Principle 5: Abolition of child labor	■ Human Rights Position (p. 75) ■ Corporate Compliance System (p. 59) ■ Procurement management (p. 21)	■ Expansion of program system for countering child labor in India (p. 76/77)	■ Renewed confirmation by audits that there is no systematic child labor in the supply chain for cotton seeds in India (p. 77)
Principle 6: Elimination of discrimination	■ Human Rights Position (p. 75) ■ Social Charter (Sustainable Development Report 2006, p. 51) ■ Bayer Diversity Policy (Sustainable Development Report 2007, p. 62) ■ Bayer Diversity Councils (p. 66) ■ Corporate Compliance Policy (p. 59)	■ Adoption of the Declaration of Diversity at Bayer (p. 66) ■ e.g. the Women's Leadership Initiative at Bayer HealthCare (launch 2009, p. 67) ■ Diversity management in the United States, Sandwich Generation Network Group and mentoring programs (p. 66)	■ Continued increase in percentage of women in senior management positions (p. 67)
Principle 7: Precautionary environmental protection	■ HSEQ management systems (p. 19, 51/52) ■ Group regulation: "Ecological Assessment of New Investments" (p. 90)	■ e.g. regular HSE audits (p. 51) ■ Training in methods of sustainable agriculture worldwide (p. 46/47)	■ Successful pre-registration of more than 1,000 substances under REACH (p. 22, 93)
Principle 8: Specific commitment to environmental protection	■ Group Sustainability Program (p. 104) ■ Bayer Climate Program (p. 30–35) ■ CEO Water Mandate of the UN Global Compact (p. 44/45) ■ Statement of the Caring for Climate initiative of the UN Global Compact (p. 26)	■ e.g. application of the Bayer Climate Check (p. 33) ■ First Bayer Climate Award (p. 30/31) ■ Introduction of the Waste Water Recycling Tool (p. 45) ■ Investigations into pharmaceuticals in the environment (p. 46, 97/98) ■ Development of the Green Bayer Data Center Program (p. 35)	■ Reduction in total greenhouse gas emissions of 7.1 % (p. 84) ■ Reduction in emissions of carbon monoxide, nitrogen oxides, sulfur oxides and particulates (p. 88) ■ Reduction in phosphorus discharges into surface water of 21 % (p. 88)
Principle 9: Diffusion of environmentally friendly and technologies	■ Core business of BTS, BMS and CURRENTA (p. 16/17)	■ Development of innovative wastewater treatment processes (p. 45/46) ■ Construction of a production facility for manufacturing carbon nanotubes (p. 57)	■ Completion of the world's largest hydrochloric acid recycling plant in Shanghai, China (p. 33) ■ Start-up of an energy-efficient production facility for MDI (p. 33) ■ Potential energy savings of €1 million through special CURRENTA employee campaign (p. 35)
Principle 10: Measures to fight corruption	■ Corporate Compliance Policy (p. 59) ■ Code of conduct for responsible lobbying (p. 60) ■ Code of the "Voluntary Self-Monitoring by the Pharmaceutical Industry" (FSA) association (p. 97)	■ Corporate compliance campaign and training sessions (p. 59) ■ Entry in lobby register of the E.U. (p. 60)	■ Increase in proportion of employees to undergo training in corporate compliance to 77 % (p. 59)

MASTHEAD

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Financial Calendar

Q2 Interim Report	July 29, 2009
Q3 Interim Report	October 27, 2009
Annual Stockholders' Meeting 2010	April 30, 2010
Sustainable Development Report 2009	scheduled for May 2010

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Forward-looking statements

This Sustainable Development Report may contain forward-looking statements based on current assumptions and forecasts made by Bayer Group or subgroup management. Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in Bayer's public reports, which are available on the Bayer website at www.bayer.com. The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments

Important information

The names "Bayer Schering Pharma" or "Schering" as used in this publication always refer to Bayer Schering Pharma AG, Berlin, Germany, or its predecessor, Schering AG, Berlin, Germany, respectively.

Main risks from law suits

A detailed description of the main risks arising from the law suits beyond those cited in this report can be found in the Annual Report 2008.

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* Partly covered
AR= Annual Report 2008;
All core indicators are included. Gaps in the numbering are due to the fact that GRI additional indicators are not included in the index.

GRI Application Level:	C	C+	B	B+	A	A+
Self evaluation						✓
Reviewed by third party external organizations						✓
Reviewed by GRI						

Global commitment to sustainability

Social responsibility and sustainability are integral to Bayer's corporate policy. This commitment is also evidenced by the company's participation in numerous initiatives and projects around the world. Logos relating to a selection of these activities appear in the left margin.

Bayer has long practiced the concept of Responsible Care. A member of the World Business Council for Sustainable Development since 1997, Bayer is also among the founding members of German industry's sustainable development forum "econsense." Bayer was one of the first companies to sign the new "Responsible Care Global Charter" in 2006.

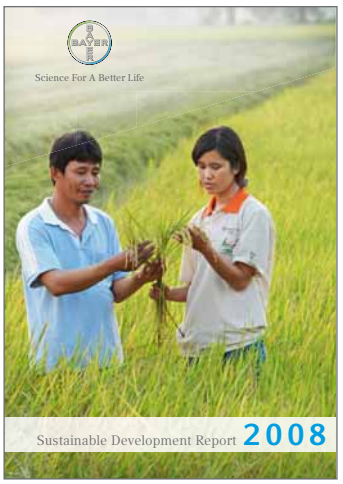
Bayer is listed in major indices and represented in investment funds that focus on companies pursuing responsible and sustainable corporate strategies. Examples are the Dow Jones Sustainability Indices, the FTSE4Good index series, the Storebrand Principle Funds and the Advanced Sustainable Performance Indices (ASPI) Eurozone. Bayer actively supports the Global Reporting Initiative as an organizational stakeholder.

The company places maximum importance on climate protection. For example, in 2007 Bayer again received the "Best in Class" award of the Carbon Disclosure Project and was the only European company in its industry sector to be included in the Climate Disclosure Leadership Index. Bayer is one of the 17 founding members of the climate protection initiative "3C: Combat Climate Change."

Bayer is also a founding member of the Global Compact initiative of the United Nations, actively promoting its principles through numerous projects. In Brazil, for example, Bayer supports the Abrinq Foundation in its efforts to combat child labor and cooperates with the non-governmental organization Agência Mandalla in the fight against hunger and poverty. Bayer's partnership with the United Nations Environment Programme (UNEP) is widely regarded as setting a new trend in public-private partnerships. One of the joint activities is the "Bayer Young Environmental Envoy" program, in which young environmental activists are invited to Germany to give them greater insight into related issues. This has now been extended to 17 countries on four continents.

Bayer set up the Global Exploration Fund together with National Geographic, the world's largest non-profit scientific organization. Since 2007 this fund has supported nine research projects aimed at protecting the quality of drinking water worldwide and enhancing supplies.

For years, Bayer has also been an active member of the Global Business Coalition on HIV/AIDS, Tuberculosis and Malaria, which is committed to the fight against these three epidemic diseases. The company is cooperating with the Global Alliance for TB Drug Development, a U.S. non-profit organization, on the development of a new remedy for tuberculosis.



Climate change, worsening growing conditions and an expanding global population are three factors that are diminishing the global supply of rice in particular. Food security is closely linked to agriculture, which in turn is dependent on adequate water supplies. Yet water is already short in many parts of the world. According to estimates by the United Nations, water shortages will assume critical levels in some regions in the coming years. Efficient water usage and water pollution control are therefore key issues when it comes to sustainable development. To reduce water consumption in rice growing, Bayer CropScience in Thailand is working with water-saving cultivation systems such as the direct seeding method. This consumes around 20 percent less water than the traditional method, which involves transplanting young rice plants to flooded fields. Here, Bayer CropScience employee Amena Prommin (right) and farmer Prasert Tempiyapon inspect a rice plant cultivated using the direct seeding method. Read more about this in the report starting on page 42.