



# Science For A Better Life

Bayer Sustainable Development Report 2006



# Sustainable Development Report 2006

This year's Sustainable Development Report continues our Group's longstanding tradition of environmental and sustainability reporting that began with the publication of our first environmental report in 1976.

The Sustainable Development Report 2006 is designed to give an insight into our sustainability activities to stockholders, business partners, employees and the media. However, the publication also addresses non-governmental organizations, suppliers and authorities with whom we want to engage in dialogue to develop solutions to ecological and social challenges.

The Report is also intended to demonstrate to the general public how we achieve a balance between ecological, economic and social needs and which steps we take to meet global challenges such as climate protection, clean water or human rights.

In this context we are committed to the ten principles of the United Nations Global Compact. Through this publication we also follow the OECD Guidelines for Multinational Enterprises, 2000 revision ("Disclosure"), and have aligned ourselves to the guidelines of the Global Reporting Initiative (GRI). An index at the end of the Report indicates where in the Report we provide information on individual GRI indicators, known as "G3" in their October 2006 revision.

In the selection of topics this year we took account of our ongoing dialogue with stakeholders, specific feedback on our previous Report and a recent stakeholder survey (see page 20). In each of the sections we also focus on a specific issue. We have selected these four topics because of their relevance to the Group; the statements were subjected to an assurance process by Deloitte (see page 81).

The statements provided here apply to all sites and activities of the Bayer Group. Our environmental and safety data cover all companies in which we have a share of at least 51 percent. The Report takes into account activities and data for the business acquired from Schering, Berlin, Germany.

This Report is published in German, English and Spanish. The editorial deadline was June 4, 2007. Our next Sustainable Development Report is due to be published in 2008.

[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: Under [www.sd2006.bayer.com](http://www.sd2006.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

	2005	2006	Change
	€ million	€ million	%
<b>Bayer Group</b>			
Net sales	24,701	28,956	+17.2
EBITDA <sup>1</sup>	4,122	4,675	+13.4
EBITDA before special items	4,602	5,584	+21.3
EBIT <sup>2</sup>	2,514	2,762	+9.9
EBIT before special items	3,047	3,479	+14.2
Income before income taxes	1,912	1,980	+3.6
Net income	1,597	1,683	+5.4
Earnings per share (€) <sup>3</sup>	2.19	2.22	+1.4
Gross cash flow <sup>4</sup>	3,114	3,913	+25.7
Net cash flow <sup>5</sup>	3,227	3,928	+21.7
Capital expenditures	1,210	1,739	+43.7
Research and development expenses	1,729	2,297	+32.9
Dividend per Bayer AG share (€)	0.95	1.00	+5.3
<b>Bayer HealthCare</b>			
Net external sales	7,996	11,724	+46.6
EBITDA <sup>1</sup>	1,280	1,947	+52.1
EBITDA before special items	1,487	2,613	+75.7
EBIT <sup>2</sup>	923	1,313	+42.3
EBIT before special items	1,177	1,715	+45.7
Gross cash flow <sup>4</sup>	923	1,720	+86.3
Net cash flow <sup>5</sup>	1,087	1,526	+40.4
Capital expenditures	225	576	+156.0
<b>Bayer CropScience</b>			
Net external sales	5,896	5,700	-3.3
EBITDA <sup>1</sup>	1,284	1,166	-9.2
EBITDA before special items	1,273	1,204	-5.4
EBIT <sup>2</sup>	690	584	-15.4
EBIT before special items	685	641	-6.4
Gross cash flow <sup>4</sup>	964	900	-6.6
Net cash flow <sup>5</sup>	904	898	-0.7
Capital expenditures	201	197	-2.0
<b>Bayer MaterialScience</b>			
Net external sales	9,446	10,161	+7.6
EBITDA <sup>1</sup>	1,721	1,499	-12.9
EBITDA before special items	1,764	1,677	-4.9
EBIT <sup>2</sup>	1,250	992	-20.6
EBIT before special items	1,293	1,210	-6.4
Gross cash flow <sup>4</sup>	1,254	1,166	-7.0
Net cash flow <sup>5</sup>	1,337	1,281	-4.2
Capital expenditures	642	753	+17.3

2005 figures restated.

<sup>1</sup> 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.

<sup>2</sup> EBIT as shown in the income statement.

<sup>3</sup> Earnings per share as defined in IAS 33 = net income divided by the average number of shares.

<sup>4</sup> Gross cash flow = income after taxes from continuing operations plus income taxes, plus/minus non-operating result, minus income taxes paid, 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.

<sup>5</sup> Net cash flow = cash flow from operating activities according to IAS 7.



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 leading supplier of high-performance polymer materials for a wide range of everyday uses. Products holding top 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 is engaged in process development and in process and plant engineering, construction and optimization. As the technological backbone of the Bayer Group worldwide, this service company offers integrated solutions throughout the life cycles of facilities, processes and products.

## Bayer Industry Services

Bayer Industry Services offers chemical and technical services including utility supply, waste management, infrastructure, safety, security, technical services, analytics and vocational training. This service company – a joint venture between Bayer and Lanxess – operates Bayer's Chemical Parks at Leverkusen, Dormagen and Krefeld-Uerdingen in Germany.

# 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, supported by three service companies. Our operating companies provide us with access to major global growth markets.

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 expertise 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. All these aspects define the fascination of Bayer.

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 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.



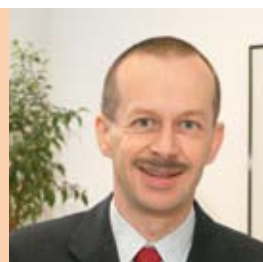
Science For A Better Life

4	Foreword by Bayer Management Board Chairman Werner Wenning
6	News 2006 to 2007
10	The company
<b>16</b>	<b>Strategy and Management</b>
16	Living innovation, sustainability and values throughout the Group
17	Sustainability management
19	Supplier management
20	Stakeholder dialogue
22	Focus on procurement: Managing sustainability criteria
24	Interview with Dr. Wolfgang Plischke, Management Board member responsible for Innovation, Technology and Environment
<b>28</b>	<b>Economic Responsibility</b>
28	Innovations create value
30	Competitive conduct
32	Contribution to regional economic development
33	Sustainability indices and sustainability funds
34	Focus on Bayer and Schering: Integrating strong corporate cultures
<b>38</b>	<b>Ecological Responsibility</b>
38	Today's solutions for tomorrow's problems
41	Solutions for global water management
42	Responsible handling of potential risks
46	Focus on climate protection: Improving energy efficiency with Bayer materials



The photo pages of this edition of the Report feature some men and women with completely different interests and personal circumstances. Yet one characteristic unites them – they all demonstrate high achievements in their studies or professions. That is also the reason why Bayer has rewarded each one in a special way. With a scholarship from the Bayer Foundations, the students included have been

<b>50</b>	<b>Employees and Society</b>
50	Respecting, challenging and supporting people
53	Embracing equal opportunity
54	Exemplary working conditions worldwide
57	Occupational safety and health protection
58	Our responsibility as a good corporate citizen
60	Focus on the food chain: Production of high-quality food
<b>64</b>	<b>Performance Indicators and Sustainability Program</b>
64	Management of objectives and performance indicators
67	Ecological indicators
76	Social indicators
79	Economic indicators
81	Assurance Statement by Deloitte
82	Group Sustainability Program for 2006 onwards
88	Global Compact
89	Masthead
<b>Back flap</b>	GRI Index
<b>Back flap</b>	Global commitment to sustainability/Financial Calendar



able to develop their specialist knowledge at renowned institutes around the world. Read their reports on this. Professor Magdalena Götz and Professor Alois Fürstner have enjoyed a great deal of success in their own scientific fields. Both researchers have received a substantial award from the Bayer Foundations for their pioneering work. Read more about the Group's Foundations on page 58 et seq. or on the Internet at [www.bayer-foundations.com](http://www.bayer-foundations.com)

# Successful sustainable development – in balance with social needs and goals

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## Dear readers,

Our company is coming off a record year 2006. We have also made a good start in 2007 and offer very attractive perspectives for the future.

Yet Bayer doesn't just measure success by good business figures. Anchored in our Mission Statement is the philosophy that our technological and commercial expertise involves a responsibility to work on behalf of humankind. And of course we uphold this responsibility with our products in the areas of health care, nutrition and high-tech materials.

We also want to become active in social issues and make a lasting positive contribution to sustainable, environmentally friendly development. We thus are committed to the principles of sustainable development and the United Nations Global Compact and expressly embrace our role as a socially and ethically responsible corporate citizen. Of special significance in this connection is corporate compliance, which involves the observation of our corporate guidelines. We do not tolerate illegal conduct anywhere in the world.

Numerous activities of our company are dedicated to an issue that is currently occupying the entire world: climate change. As you can read in detail in this Sustainable Development Report, we are very well positioned in terms of the climate-friendly deployment of resources and production efficiency. One of the accolades Bayer received last year as a result of these accomplishments was our inclusion in the Climate Leadership Index of the Carbon Disclosure Project – an internationally acknowledged ranking. Here we were named the world's best company in our sector.

Our products contribute in many ways to solving climate problems – in keeping with our slogan “Bayer: Science For A Better Life.” We recently initiated a comprehensive project, the Bayer Climate Challenge Program, which will aim to demonstrate how our company can make an even greater contribution to solving climate protection problems and dealing with the consequences of climate change.

Our commitment to environmental protection also includes our partnership with the United Nations Environment Programme (UNEP). The long list of cooperation projects maintained by these two partners is headed by Bayer's Young Environmental Envoy Program, in the context of which young people from around the world travel to Germany to learn about environmental protection in theory and practice.





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

Another highlight is on the horizon, as this year for the first time we will host a UNEP youth environmental summit in Leverkusen.

Bayer places special emphasis on numerous projects in the field of health care. For example, the company participates in the Global Business Coalition on HIV/AIDS, Tuberculosis and Malaria in order to intensify the fight against these three major epidemics. Bayer is also working together with the U.S.-based non-profit organization The Global Alliance for TB Drug Development on the development of a novel anti-tuberculosis drug designed to shorten the current duration of treatment. What's more, Bayer HealthCare is supporting the World Health Organization (WHO) in the fight against Chagas disease by providing 2.5 million tablets of the medicine Lampit as well as additional funding.

We also act as a good corporate citizen in the field of education. After all, Bayer's achievements as an inventor company are based on advances in science and research. That's why we support outstanding scientific achievements and talented young researchers, for example through awards and scholarships presented by the newly established Bayer Science & Education Foundation. A selection of the award-winners and scholarship recipients and their projects is presented in this Sustainable Development Report.

Our 2005 publication was last year named "Best Sustainable Development Report" by the German Chamber of Certified Accountants. We were very pleased about this. The jury found that we displayed a high level of honesty, used clear language and found a good way of dealing with critical themes. This year we have once again aligned our sustainability reporting to the guidelines of the Global Reporting Initiative (GRI). We are convinced that this time again, we are giving you interesting and meaningful insights into our company's multifaceted activities in the area of sustainability and corporate social responsibility.

A handwritten signature in blue ink, reading "Werner Wenning". The signature is written in a cursive style with a large, stylized 'W' and 'N'.

## News 2006 to 2007

### Award for commitment to climate protection

Once again, Bayer was included in 2006 in the Climate Leadership Index – the first global index of its kind – as it was in 2005. The Carbon Disclosure Project makes the awards to the world's best companies in climate protection in the relevant industry. Bayer was rated as “best in class” in its sector. Climate protection also plays an increasingly important role in the leading sustainability indices, in which the Bayer share is listed (see page 33).

### Class actions involving genetically modified rice

Since August 2006, numerous lawsuits, including putative class actions, have been filed by rice farmers and distributors against Bayer CropScience LP with Federal and state courts in the United States. The plaintiffs are suing the company, alleging that they have suffered economic losses after traces of genetically modified rice were identified in samples of conventional long-grain rice grown in the United States. Bayer believes it has meritorious defenses and intends to defend these cases vigorously. Because of the imponderables connected with these proceedings it is currently impossible to assess the scope of the possible liability.

### Start-up of new production plants in Shanghai

In September 2006, Bayer MaterialScience's production capacity on the site of the Shanghai Chemical Industry Park rose significantly when the existing facilities were joined by a world-scale polycarbonate plant with an initial capacity of 100,000 t/a,

a first polyurethane plant at this site with a capacity of 80,000 t/a, and a production facility for HDI (hexamethylene diisocyanate) with an initial capacity of 30,000 t/a. The new plants are part of the largest investment project Bayer has ever executed outside Germany.

### Human resources reorganized

Bayer is currently restructuring its human resources segment. The first step in October 2006 was the opening of the Human Resources Shared Service Center Europe (SSC Europe) in Leverkusen. The center will look after central HR services for the German sites and other European countries in which Bayer operates (see page 50). In April 2007, the SSC for America started up in Pittsburgh, while the center for Asia is set to open in 2008/2009.

### Award for equal opportunities

For its policy relating to equal rights for men and women in the employment world, Bayer received the rating “Total E-Quality” from the German association of the same name for the fourth time. At the award ceremony in October 2006, the jury praised the gender specific analyses of the performance assessments and Bayer's models for flexible working hours (see page 53).

### Award for Sustainable Development Report

For its Sustainable Development Report 2005, Bayer received the “German Environmental Reporting Award” (DURA) from the Chamber of Public Accountants in November 2006. The jury



Best in class: In 2006, Bayer was again rewarded for its efforts in the field of climate protection – the photo shows a plant in the Krefeld-Uerdingen Chemical Park.



Opening: Dr. Attila Molnar (left), CEO of Bayer Corporation, and HR head Jan Peters (right) in the new Shared Service Center in Pittsburgh.



Total E-Quality: Dagmar Diergarten, responsible at Bayer for equal opportunities, and Wolfgang Schenk from HR with the certificate.

especially underlined the clear language, the honesty in dealing with challenges and the description of the attainment levels of the company objectives. It also said that the Report clearly reflected the company's firm principles for preparing its balance sheets.

#### Product portfolio extended through Schering acquisition

The entry in the commercial register on December 29, 2006, marked the launch of the new Bayer Schering Pharma AG, Berlin, Germany. A comprehensive range of products from Schering from the fields of women's health care, diagnostic imaging, oncology and specialized therapeutics has now been added to the Bayer HealthCare portfolio. The takeover of Schering AG is the largest acquisition in Bayer's history (see page 34).

#### Support for climate initiatives

In February 2007, the Global Roundtable on Climate Change made an urgent appeal to politicians to formulate serious and scientifically founded targets for reducing greenhouse gas emissions in the period after expiry of the Kyoto Protocol. Bayer also signed the position paper "The Path to Climate Sustainability." A few weeks before, in January 2007, Bayer and a number of other companies publicly presented the project "3c: Combat Climate Change." To slow down climate change, the initiative sets out to help politicians set a global framework for reducing emissions that ensures fair competition for all companies (see page 38).

#### Stakeholders questioned

As a globally operating chemical and pharmaceuticals group, Bayer is constantly confronted with a wide variety of requirements. To document and evaluate them systematically, we conducted in March 2007 a worldwide online survey among some 500 stakeholders. You can read more about the survey and the results on page 20.

#### Publications on Trasylol®

Two separate observational studies reported on a possible correlation between the administration of Trasylol®, our product for use during open-heart surgery, and severe renal dysfunction and vasoconstriction (myocardial infarction and stroke). A follow-up study to one of them reported on a possible correlation between administration of this product and increased long-term mortality. Based on our study data and many years of experience with Trasylol®, Bayer believes that this product is a safe and effective medicine when used correctly. We are cooperating closely with the relevant regulatory authorities to resolve the questions that have arisen.

#### Fight against Chagas disease

Bayer HealthCare supports the World Health Organization (WHO) in its fight against Chagas disease. A new agreement to provide 2.5 million tablets of the drug Lampit® and additional financial support was signed in April 2007. As a result, the supply of Lampit® is secure for the next five years. This is the third agreement between Bayer HealthCare and the WHO to improve the supply of Chagas patients in Latin America with the effective medication – irrespective of the economic situation of the patients. Chagas disease is a fatal parasitic infection that is widespread in many countries of Central and South America.



Best sustainability report: Dieter Ulrich, President of the Chamber of Public Accountants (left), with Ursula Mathar and Michael Schade from Bayer.



Largest ever acquisition: With the entry in the commercial register on December 29, 2006, the new company, Bayer Schering Pharma AG, is launched.



Agreement: Arthur Higgins, Chairman of the Board of Management of Bayer Schering Pharma (left), and Dr. Jean Jannin from the WHO.



# Development.

The greatest experience during my scholarship was a birth I assisted at. Initially, I wasn't actually supposed to work in gynecology and midwifery at the University Hospital in Florianópolis, but rather in surgery. But I don't regret it – my time in Brazil developed not only my career but also my character. In the six weeks of my stay I learned how to improvise, keep calm and cope. Those are qualities that will benefit me in the future too.

## JOHANNES LORSCHIEDER

Medical student,  
scholarship from the Bayer Foundations for clinical  
practice at the Universidade Federal de Santa Catarina,  
Florianópolis, Brazil



## Responding to challenges

Health care, nutrition and high-tech materials are our core competencies. Although the major challenges of sustainable development differ in each of these areas, Bayer has a clear goal for all three: to provide innovative products that benefit people, improve the quality of life and create value.

Bayer AG has always been dedicated to the goal of ensuring sustainable development. Founded in 1863, the Bayer Group is headquartered in Leverkusen, Germany, and has around 350 companies on five continents. Including last year's acquisition of Schering AG, Berlin, Germany, the Group had roughly 106,000 employees worldwide at year-end 2006.

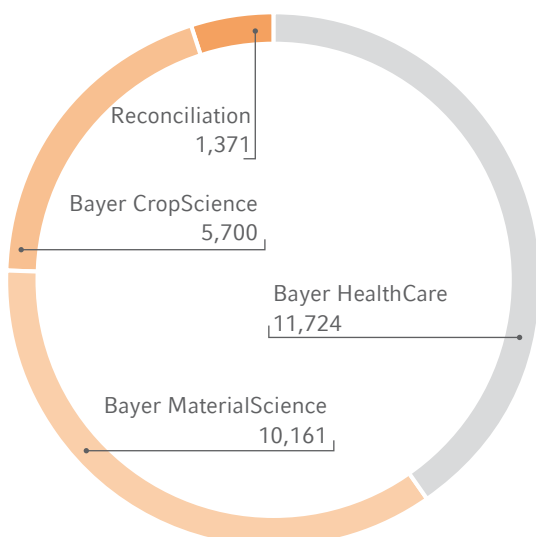
The Bayer Group is headed by a management holding company. This sets the strategic framework for the subgroups and service companies, which operate as independent entities. The operational business is performed by three subgroups:

Bayer HealthCare AG, Bayer CropScience AG and Bayer MaterialScience AG, while central service functions are grouped at three service companies: Bayer Business Services GmbH, Bayer Technology Services GmbH and Bayer Industry Services GmbH & Co. OHG. One of the main changes that took place in 2006 was Bayer HealthCare's acquisition of Schering, which now operates as Bayer Schering Pharma AG (see page 34).

The Bayer Group generated sales of around €29 billion with its portfolio of around 5,000 products in 2006 and Group net income increased five percent to €1.7 billion. That was good for the company's stock: The share price rose 15.2 percent during the year. Including the dividend of €0.95 per share paid in 2006, our stock achieved an overall performance of more than 18 percent. In the first quarter of 2007 too, Bayer stock made positive progress, with the share price on March 31, 2007 being 17.7 percent higher than the closing price on December 31, 2006.

A recent survey established that 73 percent of the capital stock identified was held by foreign investors, underlining the international orientation of the Group and the importance of Bayer stock on international finance markets. The countries with the most Bayer stock held were the United States and the United Kingdom.

**Sales by subgroup in 2006** (in € million)  
Total 28,956



**Bayer HealthCare:**  
Focusing on people



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

Bayer HealthCare believes that sustainable business means taking account of the needs of both present and future generations. This applies especially in health care, but also in environmental protection, safety and comprehensive product stewardship. Yet the social responsibility of our research-based company, which is one of the world's leading specialty pharmaceutical companies, goes well beyond these considerations.

Bayer HealthCare believes that it has an obligation to consider in full the ethical aspects of using modern biotechnology in medical applications, and to find solutions to enable as many people as possible to have access to life-saving drugs, particularly in developing countries. Another, increasingly important challenge facing the subgroup is the growing life expectancy in many societies and the associated increase in medical needs.

**Headquarters:** Leverkusen (Germany)

**Headcount:** 51,400 (2006), 28,200 (2005)

**Sites:** in over 100 countries

**Sales:** €11.7 billion (2006), €8 billion (2005)

**Specific directives:** "Policy on Health, Safety, Environment and Quality," 2004

**Management systems:** HSE systems for health, safety and environmental matters are in place at all sites worldwide. Our drug products are manufactured and monitored in compliance with GMP (Good Manufacturing Practice) standards.

**Website:** [www.bayerhealthcare.com](http://www.bayerhealthcare.com)

**Bayer CropScience:**  
For sustainable and efficient agriculture



Professor Friedrich  
Berschauer, Chair-  
man of the Board of  
Management of Bayer  
CropScience AG

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 biotechnologically optimized properties.

Bayer CropScience's technologies provide the basis for healthy nutrition and contribute to efficiency improvement and yield security of agricultural crops worldwide. Through various initiatives in rural areas, we promote good agricultural practices, for instance in capacity building initiatives or through partnerships.

Aspects such as environmental protection and human rights are integral components, in as far as they are within the subgroup's sphere of influence.

**Headquarters:** Monheim (Germany)

**Headcount:** 17,900 (2006), approx. 18,500 (2005)

**Sites:** in over 120 countries

**Sales:** €5.7 billion (2006), €5.9 billion (2005)

**Specific directives:** Bayer CropScience's voluntary self-commitment to quality, health, safety and environmental protection (QHSE), 2002; Policy guidelines and key requirements for responsible product stewardship, 2004

**Management systems:** Bayer CropScience has introduced an integrated management system for quality, health protection, safety and the environment that is in line with the global principles of Responsible Care and sustainable development. This system is continuously being developed further.

**Website:** [www.bayercropscience.com](http://www.bayercropscience.com)

**Bayer MaterialScience:  
Energy efficiency as an area of business**



Patrick W. Thomas,  
Chairman of the  
Board of Management  
of Bayer Material-  
Science AG

Like the other subgroups, Bayer MaterialScience holds to the belief that safety, environmental protection, product and process quality and economic efficiency are factors of equal importance in the drive for commercial success. Sustainability is therefore seen as a fundamental principle for all employees and characterizes both our production and our product portfolio. For example, materials from Bayer MaterialScience make a significant contribution to the improvement of energy efficiency in both building insulation and automotive construction.

Climate protection has become a major challenge for all sectors of industry. In the past Bayer MaterialScience has already endeavored to increase the energy efficiency of its production processes. At the same time, climate protection opens up new growth opportunities for Bayer MaterialScience, which it wants to utilize with innovative and energy-efficient solutions. In this way the subgroup can also make an important contribution to sustainable development.

**Headquarters:** Leverkusen (Germany)

**Headcount:** 14,900 (2006), approx. 14,100 (2005)

**Sites:** in over 30 countries

**Sales:** €10.2 billion (2006), €9.4 billion (2005)

**Specific directives:** "Policy for Health, Safety, Environment and Quality," 2004

**Management systems:** Based on the principles set out in the Responsible Care Global Charter, the company has an integrated management system in place covering all aspects of health protection, safety, environmental protection and quality.

**Website:** [www.bayermaterialscience.com](http://www.bayermaterialscience.com)

**Bayer Business Services:  
IT-based services**



Dr. Andreas Resch,  
Chairman of the  
Executive Board of  
Bayer Business  
Services GmbH

Bayer Business Services, as a Shared Service Center, performs IT-based services for the Group all over the world. It also offers these services to external companies and public authorities. Bayer Business Services focuses on the core areas of IT infrastructure and applications, procurement and logistics, human resources and executive personnel services, and finance and accounting. One of the services provided is the Bayer Site Information System (Baysis®) that Bayer Business Services has developed itself. This is a universal program for recording and evaluating environmental and safety data.

**Headquarters:** Leverkusen (Germany)

**Headcount:** 4,400 (2006), 4,300 (2005; figures excluding local services and trainee pool)

**Sites:** Argentina, Brazil, PR China, Germany, Singapore, Spain, United Kingdom, United States

**Specific directives:** Voluntary undertaking of Responsible Care by Bayer Business Services, 2003

**Website:** [www.bayerbbs.com](http://www.bayerbbs.com)



### Bayer Technology Services: Technological backbone



Achim Noack,  
Managing Director  
of Bayer Technology  
Services GmbH

Bayer Technology Services forms the Bayer Group's global technological backbone for process development and the planning, construction and optimization of processes and plant. 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, investing in state-of-the-art technology and planning and building facilities.

**Headquarters:** Leverkusen (Germany)

**Headcount:** 2,200 (2006), 2,100 (2005)

**Sites:** Belgium, PR China, Germany, Mexico, Switzerland, United States

**Specific directives:** Policy: "Health protection, safety, environmental protection and quality at BTS GmbH"; HSEQ management system for health protection, safety, environmental protection and quality

**Website:** [www.bayertechnology.com](http://www.bayertechnology.com)

### Bayer Industry Services: Chemical Park operator



Dr. Klaus Schäfer,  
Chairman of the  
Executive Board of  
Bayer Industry Services  
GmbH & Co. OHG

Bayer Industry Services – a joint venture between Bayer and Lanxess – is the operator of Germany's largest Chemical Park network, with sites at Leverkusen, Dormagen and Krefeld-Uerdingen. Bayer Industry Services offers chemical and technical services such as utilities, waste management, infrastructure, safety and security, technical services, analytics and training. The company serves more than 60 companies that have set up business in the Bayer Chemical Parks. In addition, the Bayer Chemical Start-Up Initiative helps young entrepreneurs to successfully implement their business ideas at one of the Chemical Parks. Among other tasks connected with personnel management in the Bayer Group, Bayer Industry Services handles the company suggestion plan, the "Bayer Ideas Pool."

**Headquarters:** Leverkusen (Germany)

**Headcount:** 6,600 (2006), 7,400 (2005; both figures excluding trainees)

**Sites:** Leverkusen, Dormagen, Krefeld-Uerdingen (all Germany)

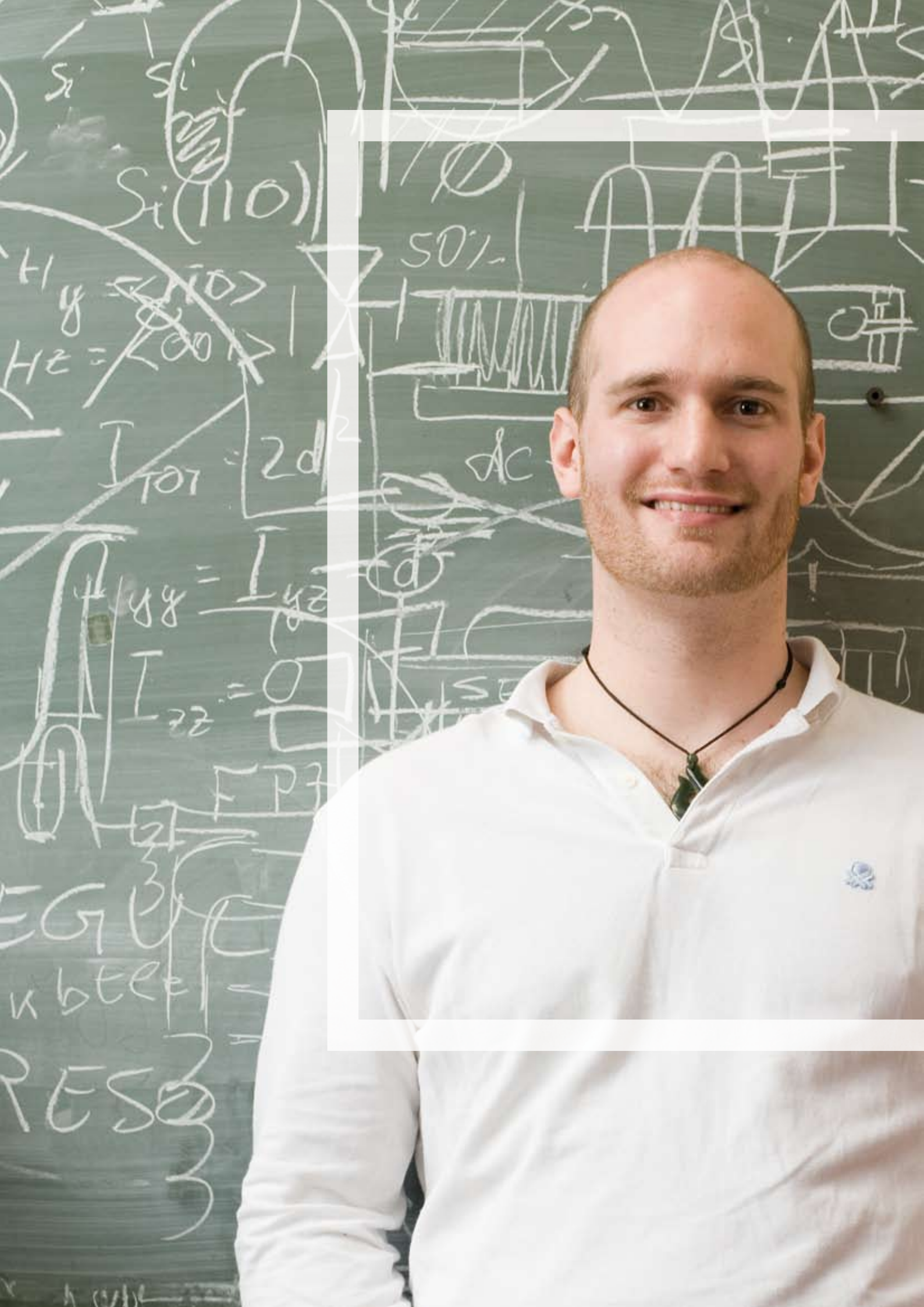
**Specific directives:** "Policy on Health Protection, Safety, Environmental Protection and Quality," 2004, "RC Commitment of Bayer Industry Services," 2003

**Management systems:** An integrated management system for health protection, safety, environmental protection and quality has been introduced. This system is continually optimized.

**Website:** [www.bayerindustry.com](http://www.bayerindustry.com)

#### WWW

1 Certifications and memberships of the sub-groups and service companies



$Si(110)$

50%

$$I_{TOT} = 2d^2$$

dc

$$I_{yy} = I_{zz}$$

$$I_{zz} = 0$$

FPT

EGU

nbtle

RESO

# Success.

It is an incredibly good feeling when the first functional test for some newly developed apparatus is successful, especially when it is witnessed by the renowned German physicist Prof. Richter, who teaches in Rome. I am writing my degree thesis in his working group without having to worry about how to pay my rent. Ideally, later on I would like to develop products in industry that derive their value from the service they provide and not from their price.

## **BENJAMIN BUICK**

Physics student,  
scholarship from the Bayer Foundations for an internship  
at the Tor Vergata University of Rome, Italy



# Living innovation, sustainability and values throughout the Group

Since 2004, our Mission Statement “Bayer: Science For A Better Life” has described our perspectives for the future, our strategy and our values. The values and leadership principles formulated in this Mission Statement serve as a basis for the day-to-day activities of our employees. Through dialogue with them and our external stakeholders, we aim to improve our sustainability management and align it to current challenges.

The values established in our Mission Statement include a will to succeed; a passion for our stakeholders; integrity, openness and honesty; respect for people and nature; and the sustainability of our actions. As a guideline for our corporate strategy, the Mission Statement shows our stockholders, customers and the public what they can – and should – expect from Bayer.

We have communicated to our new employees at Bayer Schering Pharma, Berlin, Germany, both our Mission Statement and the “Program for Legal Compliance and Corporate Responsibility at Bayer” (Corporate Compliance Program), a code of conduct that contains binding, Group-wide rules for our conduct in the market and toward competitors and each other (see page 30).

## Our Values

A will to succeed

A passion for our stakeholders

Integrity, openness and honesty

Respect for people and nature

Sustainability of our actions

## Corporate governance

Responsible corporate management (corporate governance) has had a high priority at Bayer for a very long time. The Board of Management and Supervisory Board were once again highly focused on complying with the requirements of the German Corporate Governance Code in 2006 – including in particular the new provisions introduced on June 12, 2006. As a result, we were able to publish a statement of compliance in December 2006: Bayer once again satisfies all recommendations of the Code.

In 2005 we commissioned corporate auditing firm PricewaterhouseCoopers (PwC) to review our risk management system. The report presented by PwC at the beginning of 2006 confirms that Bayer has undertaken the measures necessary to establish a suitable early warning system and that the monitoring system is suitable for identifying at an early stage developments that could endanger the existence of the company.

## WWW

- 2 Mission Statement “Bayer: Science For A Better Life”
- 3 Program for Legal Compliance and Corporate Responsibility
- 4 Corporate governance at Bayer

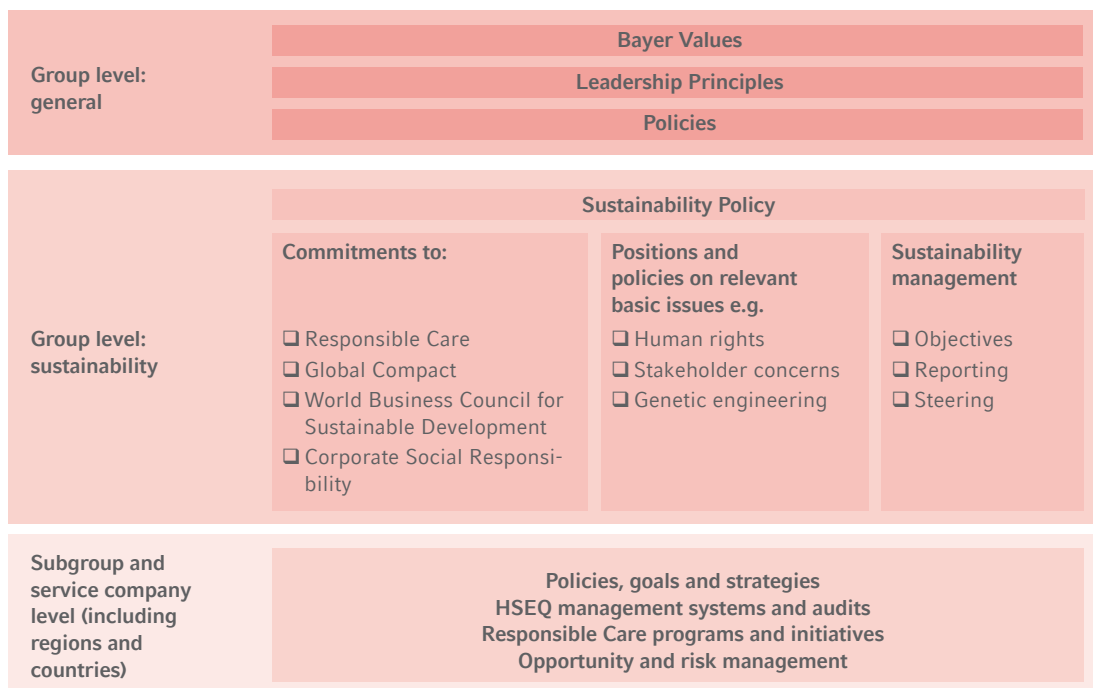
## Sustainability management

Our Group-wide values, leadership principles and policies are supplemented by the Bayer Sustainable Development Policy, which lays down our sustainability strategy. The Bayer Group and its subgroups and service companies have undertaken to pursue a sustainable and value-oriented business policy, in part through their commitment to the global Responsible Care initiative of the chemical industry and to the United Nations Global Compact. We also adopted a Group-wide “Bayer Human Rights Position” in May 2007 (see page 52).

Under the umbrella of the Group-wide sustainable development strategy, objectives are established each year and coordinated between all participants. The management systems and instruments in place throughout the Group must perfectly interlock to ensure that these objectives are met. After all, consistent steering is required if opportunities are to be taken advantage of and risks avoided.

Group-wide control of this task is handled by the Bayer Corporate Sustainability Board, the most important committee for sustainability management at Group level. The Bayer Corporate Sustainability Board is made up of the members of the management boards of the subgroups responsible for research and technology and the heads of the Corporate Center departments Corporate Human Resources & Organization, Communications and Environment & Sustainability. Chaired by the Group Management Board member responsible for Innovation, Technology and Environment, this body meets regularly to jointly establish the sustainability strategy and objectives, adopt Group sustainability-related directives and decide on key initiatives such as the signing of the international climate protection campaign “Global Roundtable on Climate Change” in February 2007 and our involvement in the “3c: Combat Climate Change” initiative in January 2007 (see page 38). A cornerstone in the implementation of these decisions is the Envi-

### Management of sustainability at Bayer



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

ronment & Sustainability Department, which cooperates closely with the sustainable development officers in the subgroups and service companies within the context of the Bayer Community Management concept: An internal Bayer Group policy governs cooperation between the various responsible parties in the subgroups and service companies through specialist committees. This ensures the optimal use of synergies within the Bayer Group and the coherent implementation of decisions.

The subgroups and service companies have established effective management systems for health, safety, environmental protection and quality (HSEQ). Also in place are systems and rules for specific requirements of individual subgroups and service companies, such as Good Manufacturing Practice (GMP) for drug products at Bayer HealthCare. Our “Health, Safety, Environmental Protection and Quality (HSEQ) Audits” Directive took effect in October 2005, according to which

the subgroups and service companies conduct HSEQ audits based on specific plans (see page 66). The holding company reserves the right to participate in selected audits and require that it be given access to audit reports.

A number of existing rules, such as the Directive on Transport Safety, were revised or replaced in the reporting period through the Community Management system. Rules governing health protection and workplace safety are particularly important, and have thus been adapted. In 2006, we also once again updated the rules concerning the storage of substances and products and process and plant safety.

#### WWW

- 5 Bayer Sustainable Development Policy
- 6 Implementation of Sustainable Development at Bayer (organizational chart)

### Our path to becoming a sustainable company:

	Before 2000	2000 – 2002
<b>Strategic steps</b>	<p><b>1986:</b> “Policy guidelines for environmental protection and safety”</p> <p><b>1994:</b> “Guidelines for Responsible Care in Environmental Protection and Safety” (Responsible Care initiative)</p> <p><b>1999:</b> “Guidelines for Legal Compliance and Corporate Responsibility at Bayer”</p>	<p><b>2000:</b> Bayer is a founding member of the U.N. Global Compact</p> <p><b>2001:</b> “Guidelines for Responsible Care in Environmental Protection, Health Protection and Safety”</p>
<b>Projects and measures</b>	<p><b>1987:</b> Launch of a DM 3 billion program to improve environmental protection</p> <p><b>1987:</b> Launch of a continuing education program on environmental protection and occupational safety</p> <p><b>1995:</b> Launch of the Agrovida program to improve the living and working conditions of rural laborers in Brazil</p>	<p><b>2000:</b> Registration of all production sites in the Bayer Site Information System BaySIS® introduced in 1999 to determine HSE key performance indicators</p>
<b>External evaluations</b>	<p><b>1999:</b> Bayer stock included for the first time in the Dow Jones Sustainability Index (DJSI) and the Store-brand Principle Funds</p>	<p><b>2001:</b> Bayer stock included for the first time in the FTSE4 Good Global 100 and in the ASPI Eurozone Index</p>

## Supplier management

The Bayer Group’s annual purchasing volume currently amounts to about €13 billion, which is distributed among approximately 40,000 suppliers. The roughly 1,000 employees of our global Procurement Community also evaluate supplier offers according to minimum standards as regards social, employee-related and ecological aspects as our Policy from 2005 stipulates.

In 2006, a cross-organizational-unit supplier survey process was initiated (see page 22), which is currently focusing on suppliers from the non-OECD countries. There we have begun surveying 143 selected suppliers about the basic principles of their sustainability strategy. These suppliers represent about 80 percent of our purchasing volume in the non-OECD countries, with the Bayer CropScience subgroup procuring many of these goods.

In addition to this cross-organizational-unit evaluation system, Bayer CropScience, for example, launched a supplier qualification project in China in 2005 that has since been introduced throughout that subgroup’s daily operations. Through this, Bayer CropScience checks which of its suppliers have acceptable HSEQ standards, and suppliers obtain feedback on their performance, suggestions for improvement and offers of training. Also in China, Bayer MaterialScience has established a team to closely check transport and distribution safety.

**www**

- 7 Procurement Community
- 8 Additional information on the projects of Bayer CropScience and Bayer MaterialScience in China

2003 – 2004	2005 – 2006	By 2010
<p><b>2003:</b> Development of a strategy for sustainable agriculture</p> <p><b>2004:</b> Formulation of a Mission Statement, Values and Leadership Principles for the Bayer Group</p>	<p><b>2005:</b> Directive on Health, Safety, Environment and Quality (HSEQ) Audits</p> <p><b>2006:</b> Sustainable Development Policy</p>	<ul style="list-style-type: none"> <li>• Further systematic configuration of our sustainable development policy, e.g. on the topic of human rights</li> <li>• Further development of our sustainability strategy including climate change strategy</li> </ul>
<p><b>2003:</b> Definition of key performance indicators for Health, Safety and Environment (HSE) to steer our HSE performance</p> <p><b>2004:</b> Sustainability Committees anchored in the Bayer Group organization, first meeting of the Corporate Sustainability Board</p> <p><b>2004:</b> Organizational stakeholder in the Global Reporting Initiative</p>	<p><b>2005:</b> Launch of systematic initiatives to reduce child labor in India including incentives, sanctions and the creation of educational opportunities</p> <p><b>2006:</b> Launch of the Group-wide innovation initiative “Triple-i”</p>	<ul style="list-style-type: none"> <li>• Implementation of Bayer’s new stance on genetic engineering</li> <li>• Extension of systematic dialogue and stakeholder engagement</li> <li>• Implementation of the aim formulated in Johannesburg to achieve globally unified classification and labeling of substances and preparations</li> <li>• Continuation of initiatives for sustainable management in the supply chain</li> </ul>
	<p><b>2005:</b> Inclusion for the first time in the Climate Leadership Index of the Carbon Disclosure Project</p> <p><b>2005:</b> Bayer presented with the Low Carbon Leaders Award by the climate protection organization “The Climate Group”</p> <p><b>2006:</b> German Environmental Reporting Award 2006 for the best sustainability report in Germany</p>	<ul style="list-style-type: none"> <li>• Continual improvement in strategy, initiatives, performance and reporting with the aim of achieving recognition among our stakeholders</li> </ul>

## Stakeholder dialogue

In addition to the continuous exchange of ideas with our employees, we aim to expand and systematize dialogue with investors, customers, government representatives, non-governmental organizations (NGOs) and consumer associations in the coming years. After all, not only does their opinion of our activities have an increasingly significant impact on our business success, through dialogue with these stakeholders we also hope to gain insight into how to further increase our contribution to sustainable development and thus reduce risks.

By learning to understand what drives our stakeholders, we gain insight into the justification and urgency of their demands, as well as their ability to influence our company. In this way we prioritize stakeholder demands and use them in the definition of our fields of action. In this connection, we

orient our decisions to short- and long-term business interests – including our reputation.

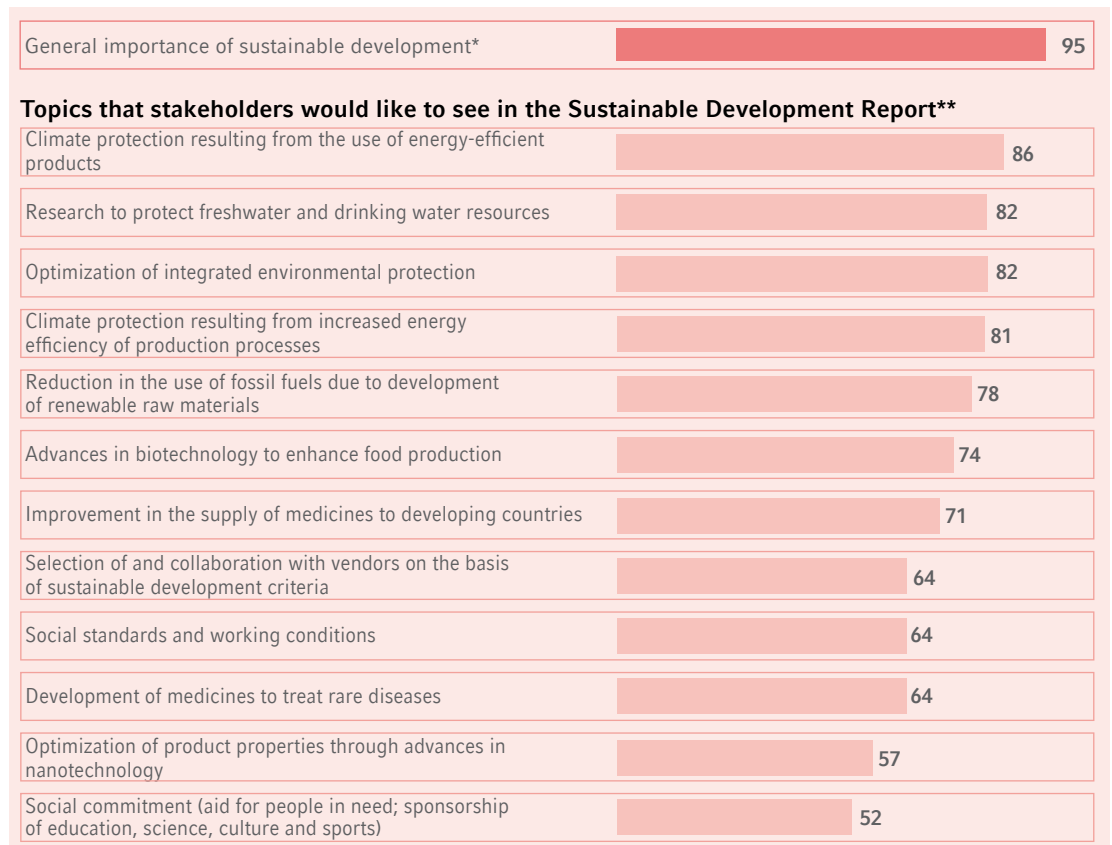
We also enter into dialogue with our stockholders each year at our Annual Stockholders' Meeting, where each stockholder is authorized to speak or make counterproposals.

### Stakeholder survey:

#### Tremendous interest in climate protection

To further improve our sustainability management, we carried out an online survey on the topic of sustainability in the spring of 2007 that provided us with important information concerning the demands placed by our stakeholders on reporting by the company. The global project addressed the entire spectrum of social groups. In cooperation with Globalpark GmbH, we surveyed representatives of non-governmental organizations, unions,

### Results of the stakeholder survey



\* Percentage of answers with ratings 4 or 5, with scale ranging from "1 = unimportant" to "5 = very important"

\*\* Percentage of answers with ratings 4 or 5, with scale ranging from "1 = should not be covered" to "5 = should be covered very widely"



authorities and media, along with employees, analysts, investors, customers, suppliers, consultants, scientists and politicians. The results of this study highlight the tremendous interest that our stakeholder groups show in this issue.

95 percent of those surveyed generally consider sustainable development in the chemical and pharmaceutical industry to be important or very important. Overall, the readers are in favor of reporting on the specified topics. In the stakeholders' opinion, there should be a primary focus on the issues of climate protection, freshwater and drinking water conservation and the improvement of environmental protection in production. More than half of those surveyed would like to see reporting focusing heavily or very heavily on the topic of corporate social responsibility.

Three quarters of those surveyed were familiar with the Bayer Sustainable Development Report. The readers pay close attention to the content, as more than two thirds said they read many of the articles in detail. With respect to the Sustainable Development Report's layout, the readers prefer a compact, concise presentation with graphics and short texts.

#### **Stakeholder dialogue:**

##### **Group-wide policy planned**

As we announced in the Sustainable Development Report 2005 (page 19), we have since begun implementing a Group-wide "Stakeholder Dialogue Directive." In this connection we received key input from the stakeholder survey. We plan to publish this document in 2007.

#### **Stakeholder engagement:**

##### **Broadly based solutions**

Stakeholder engagement at different levels is an integral part of Bayer CropScience's business approach. Bayer CropScience is committed to an open dialogue with stakeholders, consults with them and cooperates in multi-stakeholder initiatives, including public-private partnership projects (PPPs) to develop locally adapted solutions for agriculture, for example. In 2006, Bayer CropScience organized the scientific forum "Science and Society" on the topic "Caring for Future Needs." More than 100 lead-

ing scientists and representatives from different stakeholder groups participated in the discussions. These focused on global challenges such as climate change and population growth, and their resulting impact on natural resources.

An internal Bayer CropScience Policy on stakeholder engagement was drafted in 2006 with the help of all the regions. It is expected to be more widely communicated in 2007.

#### **Participation in associations: Learning from one another**

An important opinion-leading role is played by organizations – be they national, European and international industry associations or conventional non-governmental organizations. As a leading company in its industry sector, Bayer participates in numerous industry associations. We are also active in the Global Reporting Initiative (GRI). In October 2004, we became the first German company in our sector to join the GRI as an "Organizational Stakeholder," thus contributing our experience to the international discussion concerning the future of corporate sustainability reporting. Furthermore, Bayer participates intensively in the exchange of ideas between Global Compact members.

We are very pleased that the new U.N. Secretary-General Ban Ki-Moon is continuing this initiative of his predecessor Kofi Annan. We supported the establishment of the "Foundation for the Global Compact" in April 2006 with a donation. We eagerly await the announced publication of the "Business Guide to Partnering with NGOs," which we hope will provide us with further incentives for our stakeholder directive.

#### **www**

- 9 Bayer CropScience forum on the topic "Science and Society: Caring for Future Needs"
- 10 Membership of associations

Focus on procurement:

## Managing sustainability criteria

Bayer is one of the major purchasers of raw materials, goods and services in the world market today. This is why procurement plays a central role in the company's sustainability policy. The internal risk management processes undergo continual development and are designed to ensure that suppliers meet high social and ecological standards.



*“Procurement plays a central role in a company’s sustainability policy.”*

Professor Christopher Jahns from the European Business School (EBS) in Oestrich-Winkel

Bayer purchases 500,000 raw materials, products and services from 40,000 companies in 80 countries around the world. In 2006, the purchasing volume amounted to some €13 billion. These figures illustrate the key role procurement plays in the Group-wide sustainability policy. Professor Christopher Jahns from the European Business School (EBS) in Oestrich-Winkel, Germany, points out the importance of procurement for a company's value contribution, and believes that this contribution must be safeguarded accordingly. “This includes meeting specific requirements that include minimum social and ecological standards,” explains Jahns, Professor for purchasing, logistics and supply chain management. “A violation of these minimum requirements can have adverse effects on reliability of supply and on the image of the procurement department.” In addition, concrete requests come from customers to manage procurement according to sustainability criteria.

This is why Bayer takes great care when selecting its suppliers. Clear principles control cooperation with suppliers throughout the entire Group. “We expect suppliers to support the principles of our ‘Program for Legal Compliance and Corporate Responsibility’ and that they operate their business accordingly,” explains Dr. Udo Murek, spokesman for the Group-wide “Bayer Procurement Com-

munity.” “Our publication ‘Requirements for suppliers’ lets prospective business partners know that internationally recognized, ethical principles regarding human rights, working conditions, environmental protection and the fight against corruption must be upheld in areas that come under the Group's sphere of influence,” he adds.

Bayer also takes further precautions. The Bayer Procurement Community has launched a systematic cross-divisional procedure in which suppliers are questioned about the basic principles of their sustainability policy. Almost 95 percent of Bayer's purchasing volume derives from countries that are members of the Organization for Economic Cooperation and Development (OECD). “In the first step, we assume that these suppliers meet the minimum ecological and social standards,” explains Murek. “It is more difficult to establish whether suppliers from non-OECD countries with greater social and political risks meet these high standards. That is why we have started our survey with them.”

To ensure that suppliers indeed operate in accordance with Bayer's principles, the Supplier Relationship Management System (SUPREME) was introduced in spring 2003. “SUPREME allows Bayer to assess suppliers according to social commitment and ecological activities as well as to aspects of price and quality,” says Murek.

### Managing purchasing risks professionally

Professor Jahns believes that this type of system is “essential to make sure that all suppliers meet the minimum standards.” He helps companies such as Bayer to identify all their supply risks and, if necessary, introduce measures to safeguard their standards. “One of the biggest challenges in this respect is to convince companies of the importance of supply risk management in the first place,” explains Jahns. He is aware that as long as there are no problems that damage the company’s image, most believe that their suppliers’ commitments are sufficient. However, Jahns is convinced that a separate supply risk management system would pay off in the long term.

### Checking suppliers

The Bayer Group has already realized the expediency of introducing a supply risk management system. So that each subgroup does not have to develop its own supplier management system, the Global Community Support staff division of Bayer Business Services assumes this function for the entire Group. “When short-listing suppliers, purchasing agents must determine whether the company that wants to do business with us is committed to sustainability as we understand it,” explains Udo Murek. “If this is not the case, we usually exclude the supplier from the remaining selection process.” Criteria which we consider totally unacceptable are child labor and forced labor since they contradict our values and our Human Rights Position (see page 52).

Bayer assesses particularly important strategic suppliers approximately every three years. The aim is to establish long-term partnerships. “Before terminating an agreement with a supplier whose services are considered inadequate in the area of sustainability, we check ways in which they could improve the situation,” states Murek. “This is already a concrete component of our communications with our suppliers.” Projects by the Bayer CropScience and Bayer MaterialScience subgroups to qualify suppliers and monitor transport and distribution safety are already in place in China (see page 19). A consistent approach to suppliers and customized programs can make an important contribution to reducing child labor, even in a dif-

ficult social environment, as the programs that Bayer CropScience has undertaken with Indian cotton seed smallholders illustrate (see page 55 et seq.).

### Further developing supply risk management

Risk management in the Group’s procurement departments is to be revised by 2010 as part of the “Procurement Roadmap 2010.” The roadmap will focus on whether all the supply risks have been identified, whether the safeguards are working properly, and whether Procurement’s contribution to the Group’s social and ecological objectives has to be defined more precisely. At the same time, Murek believes it is important to take cooperation with suppliers to a new level, for example by involving them in development discussions and conducting internal and external audits. Bayer aims to develop its strategies in cooperation with external partners, including the European Business School’s Supply Management Institute headed by Professor Jahns and other industrial companies.

Jahns believes that a procurement department that champions this topic could play a pioneering role: “Supply risk management has not yet been established in most companies.” Bayer has already solved an important conflict of objectives that Jahns is familiar with from many other companies – in cases of doubt when procurement departments are faced with the question of whether they should choose the company offering the cheaper product or the one that complies with ethical principles, they can now make their decision based on clear in-house specifications. “Bayer places greater value on company principles relating to sustainability than on short-term profit,” says Murek.



*“SUPREME allows Bayer to assess suppliers according to social commitment and ecological activities as well as to aspects of price and quality.”*

Dr. Udo Murek, spokesman for the Group-wide purchasing organization, the “Bayer Procurement Community”

Bayer Management Board member Dr. Wolfgang Plischke on climate protection and other sustainability projects:

## Responsible action at all levels



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

**Dr. Plischke, the issue of sustainable development is playing an increasingly important role in public debate. What particular tasks do you see for your company and for society in this connection?**

We are confronted with a wide range of demands. In the current situation in particular, however, our society is faced with a major challenge – I'm talking about climate change, which will undoubtedly be the dominant ecological problem worldwide in the long term. Bayer has maintained an intensive commitment to climate protection in the past in the context of its sustainable development strategy. Nonetheless, it is essential that we contribute our expertise as an inventor company and problem-solver to work even more strongly in this area in the future. Against this background, we have established the Bayer Climate Challenge Program, which will definitely result in further innovative and economic approaches.

**When do you expect to see the first results here?**

I anticipate that specific findings and proposals will be presented by this fall. They will most likely involve further efficiency improvement for our processes – but I expect that they will also identify opportunities for more strongly linking successful sustainability management to our business.

**What role do innovation and technology play in this connection?**

A very important role. Just look at our innovative products such as thermal insulation materials in buildings and refrigeration appliances, as well as

lightweight materials in cars. Here we see considerable further development potential for a significant contribution to energy savings and resource conservation.

**These examples involve Bayer MaterialScience. Do the other subgroups also offer products that will help to protect our climate in the long term?**

I can give you a number of examples. For instance, products from Bayer CropScience play an outstanding role in the cultivation of many crops that are used as renewable and thus climate-friendly raw materials for a new generation of fuels: bio-fuels. In addition, our InVigor® canola seed is an ideal candidate for producing biodiesel because of its very high yields and the composition of its oil. These are merely two of many examples where climate protection plays a major part.

**Environmental scientists are becoming increasingly concerned about the global water crisis, which will become more and more acute as a consequence of climate change. Are you active in this area?**

Yes, and in different ways. First, we are constantly searching for means of further reducing water consumption in our production processes. And secondly, our research can also help – for example through the genetically engineered production of seed for stress-tolerant plants that require less water or can more easily cope with high temperatures. And we are also participating in the search for solutions to the global water problem beyond our own research activities.

**What efforts are you specifically referring to?**

I'm talking about our partnership with National Geographic, with whom we are jointly promoting innovative ideas to conserve drinking water via the Global Exploration Fund. Out of a total of 94 projects submitted, we selected nine research projects for financial support. Together with our partner, we are making available a sum of €250,000 for this purpose.

**The Bayer Foundations too for a long time have played an important role in connection with the issue of support for science. Why were two new foundations recently established?**

With the Bayer Science & Education Foundation and the Bayer Cares Foundation, we aim to intensify our support for education and science, as well as for social programs, and to pool our previous foundation activities. Through the Bayer Cares Foundation, we have established a special program to support charity work – particularly by our employees – in the communities where our production sites are located. The Bayer Science & Education Foundation supports school curricula and vocational training in the focus areas of science and medicine through scholarships and endowed professorships. This foundation also supports scientific symposia and important school projects at the Bayer sites.

**Bayer has also been supporting scientific education outside of its foundations. Will this change?**

Absolutely not, especially in light of the fact that we are very successful in this area. One example is our international "Making Science Make Sense" program. Several thousand Bayer employees in the United States volunteer their time to visit schools and demonstrate to the children how exciting science can be. Similar programs exist in Japan, the United Kingdom, Ireland and, since 2006, France as well, among other countries. In the United States we have been honored on several occasions for this initiative. In Germany, Bayer for many years has supported a prominent youth research competition. We also offer school classes the opportunity to supplement their science curricula with practical experience in laboratories specially equipped for this purpose. We plan to further expand these activities.

**With a further Bayer Group initiative – "Triple-i" – you aim to strengthen the innovative capability of the company as a whole. The goal here is to use the creativity of Bayer's employees around the world for the development of new business ideas. Have you been successful in this endeavor?**

Absolutely. We are very satisfied with the extremely high level of participation. More than 2,200 ideas have been submitted in the just over one year since the initiative was launched. This response underscores how well our employees are accepting the initiative. With their inspiration and ideas, they support the innovation capability of the enterprise as a whole. And since this initiative has been so successful, we will maintain it. We are planning to organize special Triple-i events and intensify our interaction with those submitting ideas.

**In closing, let's talk about the numerous joint projects you organize with the United Nations Environment Programme UNEP. The focus in recent years has been on the Young Environmental Envoys and the children's painting competition in particular. Are there new activities that are especially important to you?**

All of our projects are important to me, but I'd like to talk about two of them in particular. We are already looking forward to welcoming about 200 young people from more than 100 countries to Leverkusen at the end of August for a UNEP youth environmental summit. I also consider the current "Plant for the Planet: The Billion Tree Campaign" initiative of our partner UNEP to be very special. UNEP aims to plant one billion trees in 2007. Bayer will support this goal with several hundred thousand trees.

**Why do you consider this initiative to be so special?**

On the one hand, the planting of a tree has symbolic, life-giving meaning; on the other, it is also highly relevant to climate protection. Through this initiative, we are upholding our responsibility as a good corporate citizen. We are addressing the current challenges, and particularly climate change, as a sustainably operating and innovative company – with a view to the creation of value-added both for the company and for society at large.



# Award.

Regardless of whether cell death is caused by old age or injury, stem cells are on hand as a spare parts store for most organs. They help the body replace damaged tissue and dead cells, as stem cells have the ability to continue to divide and to reproduce all the cells of an organ. This property also makes them a source of hope to me in developing new therapeutic approaches for brain injuries. I am delighted my work has received recognition in the form of the Hansen Family Award.

## **PROFESSOR MAGDALENA GÖTZ**

Director of the Research Center for Environment and Health at the Institute for Stem Cell Research, Neuherberg, Germany; Chair of the Institute of Physiology at Ludwig-Maximilians University, Munich, Germany; received the Hansen Family Award in 2007.



## Innovations create value

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Our commercial success depends to a large extent on our innovative capability and the long-term focus of our corporate policy. In 2006, we rigorously pursued the optimization and strategic development of our portfolio. The year was dominated by the acquisition and integration of Schering.

Including the figures from Schering, Berlin, Germany, we spent €2.3 billion on research and development in 2006, putting us at the head of the German chemical and pharmaceutical industry. Alongside constant optimization of our product portfolio and production processes, special attention is paid to developing product innovations that strengthen our core business. On average, we submit three new patent applications every working day. That testifies to the achievements of our employees and especially of the more than 10,000 people who work in research and development.

All employees worldwide are expected to come up with innovative business ideas. The “Triple-i” initiative introduced throughout the Bayer Group in spring 2006 stands for inspiration, ideas and innovation. It has been extremely well received by our employees and around a year after its launch more than 2,200 suggestions for new products had been submitted. These are currently being evaluated. One proposal, for example, focuses on utilizing progress in cell therapy to develop new therapeutic agents. In future, encapsulated cells whose metabolic profile has therapeutic properties could be implanted without being rejected by the human immune system. Many of the ideas submitted relate to specific suggestions for new products in the subgroups and are currently being pursued further in the business units.

Other challenges which we are looking to meet with innovative business ideas are big issues

such as climate change, demographic trends and the related scarcity of natural resources such as water. Our aim is to contribute to sustainable development by introducing new medicines, innovative materials and products that secure yields and improve crop quality, and thereby to position Bayer on the markets of the future.

### **Innovations: Market success**

Further new products launched in 2006 are already proving very successful. One example is our new cancer drug Nexavar®, which generated sales of around €130 million in its first year on the market.

Active substances introduced by CropScience in its core markets since 2000 achieved their sales target of €1 billion in 2006. Constant innovations are being made in crop protection as a result of research and development in response to feedback from the markets and the registration authorities. Innovative products include, for example, seed dressings which allow very targeted use of crop protection products. At the same time, we often discontinue the sale of less suitable products by replacing them with others with improved biological efficiency and better environmental and health profiles. This includes the gradual replacement of WHO Class I formulations, an undertaking to which Bayer CropScience committed itself in 1995. All these measures optimize Bayer CropScience’s product range and are an important requirement for sustainable development in agriculture.



More detailed information on these and other successful products can be found in our Annual Report.

#### **Counterfeits: Action taken**

Counterfeit drugs have become a serious problem worldwide in recent years. They can pose a threat to the health of patients or even put lives at risk. For the manufacturers of the original products they result in a considerable loss of revenues and may cause damage to their reputation. The extent of counterfeiting activity and the products affected vary widely around the world. In the western world, for example, the most common targets are expensive prescription-only drugs and so-called "lifestyle" drugs.

Bayer has an extensive concept for countering counterfeit drugs. For example, it uses modern security technology for the packaging of Nexavar<sup>®</sup>, its new cancer drug, and Kogenate<sup>®</sup> for the treatment of hemophilia. Information on the possible risks of counterfeit drugs and how to recognize original products also plays a central role in Bayer Health-Care's security concept. A special website has been established to provide information for patients.

A strategy for combating counterfeit products is provided by Bayer Technology Services in the form of Protexxion<sup>®</sup>. This innovative identification technology for the forgery-proof authentication of objects and packaging was presented with the Hermes Award in April 2007. This is Europe's leading innovation prize.

#### **Opportunities for innovation: Biotechnology and nanotechnology**

Biotechnology and nanotechnology offer enormous opportunities for innovation. Already, every fourth pharmaceutical product introduced by Bayer is a biopharmaceutical based on active ingredients produced in bioreactors. Many new medicines, including products used to treat cancer, are monoclonal antibodies. These proteins and vaccines can also be generated in plants, an area where Bayer leads the world.

Rising production of biofuels from canola, sugar cane, soya, wheat and corn is opening up new

niche markets. Bayer sustainably supports the efficient production of these crops, for instance through seeds and crop protection. In addition, we have special expertise in the planning and construction of biofuel production facilities at our Chemical Parks. An investor is currently planning to build a facility for the production of biofuel in Leverkusen in Germany. Bayer experts are working on all stages of this construction project, from initial planning to start-up.

We are also convinced that nanotechnology offers attractive scope for innovation. Examples include dirt-repellent surfaces and self-regenerating coatings. In spring 2007, Bayer started production of carbon nanotubes which are marketed as Baytubes<sup>®</sup>. These minute tubes are prime examples of nanotechnology: Although their mass is only one-quarter of the mass of steel, they can withstand mechanic strain five times better. Applications include lighter, longer and thus more resistant rotors for wind turbines. When applying nanotechnology we also pay attention to the safety aspects of this new technology (see page 42).

[www](#)

- 11 Bayer's Annual Report
- 12 Information on WHO class chemicals
- 13 Counterfeit drugs

## Competitive conduct

A major focus of our lobbying activities in 2006 was the new European chemicals legislation, REACH (Registration, Evaluation and Authorization of Chemicals). REACH came into effect on June 1, 2007 and stipulates that producers and importers of chemicals must systematically test their impact on health and the environment. This Regulation relates to chemicals manufactured or imported in quantities of more than one metric ton annually. Across the EU it affects some 30,000 substances. Bayer companies have to compile information on around 700 chemicals and notify this to the European Chemicals Agency in Helsinki, Finland. The cost to Bayer in the next 11 years is expected to be in the upper double-digit million range.

Following seven years of preparation and tough debate, the REACH legislation is certainly a very comprehensive law. Compared with the original drafts, the final Regulation has achieved a reasonable balance between environmental considerations, the protection of health and economic requirements.

Major improvements were achieved with respect to registration in particular. The data level required for substances used purely as industrial intermediates has been adjusted. More data are required for substances produced or imported in quantities of 100 metric tons or more and for substances used in consumer products.

The main cause of concern is the new authorization process for substances with particularly hazardous properties. The new statutory substitution requirements will result in the replacement or banning of hazardous substances per se, even if they could be used safely.

### Political donations: Clear guidelines

The Bayer Group has issued a clear directive which states that no donations may be made to politicians, political parties or related institutions. In the United States, individual employees make private donations to the Bayer Corporate Political Action Committee (BAYPAC) which supports individual candidates for election to parliament. In 2005/2006

a total of US\$ 226,000 was donated to 240 candidates in various election campaigns. These donations are independent of party lines.

Providing financial support for specific patients' organizations on the basis of clear and transparent guidelines that prevent influence being brought to bear is an integral part of corporate policy at Bayer HealthCare. Bayer HealthCare also supports the European Federation of Pharmaceutical Industries and Associations (EFPIA) in its endeavors to draw up a corresponding self-commitment on the part of the industry.

As in the past, German employees who are elected to the European Parliament, German parliament, a regional parliament or local council are covered by our "Officeholders Directive" (see Sustainable Development Report 2005, page 31).

Bayer CropScience openly shares its views on current multinational policy issues and topics of importance to the company on the Internet under "Corporate Positions" as "To the point" discussions focusing on issues such as water, biodiversity and human rights.

### Group-wide compliance management: Systematic action to counter violations

Corporate compliance has become a central factor in the creation of value. Bayer AG, its subgroups (Bayer HealthCare, Bayer CropScience and Bayer MaterialScience) and its service companies each have a Compliance Officer and Compliance Committees. A working group at Group level ensures a constant exchange of information.

Their daily work comprises raising awareness of Bayer's code of conduct and training employees in specific aspects. They are also responsible for adopting effective controls and, if necessary, sanctions. If employees at the company's sites in Germany have reasonable grounds to suspect that the code of conduct is being infringed in their sphere of activity, they can call an external law firm – anonymously if they wish – via a special telephone hotline. Employees called the law firm in ten instances

in 2006, compared with nine cases in the previous year. The reports are passed on to the Compliance Officer at Bayer AG on an anonymized basis. Similar reporting facilities are being set up in other countries. In the United States, for example, there is a telephone hotline (“Integrity Line”) to an ombudsman which operates analogously to the German hotline.

Special attention is paid to infringements of anti-trust and anticorruption law because these can cause substantial financial damage to the company as well as damaging its reputation. Bayer has openly communicated violations and serious financial consequences, including the fact that two employees in the United States had been given prison sentences.

We have stepped up training in antitrust law and introduced more stringent internal regulations. Moreover, antitrust legislation was one of the issues addressed during “Compliance Awareness Week” in October 2006, when Bayer employees in the United States were given extensive information on legal conduct.

The state prosecutor in Cologne, Germany, is currently investigating allegations of overpayment and invoicing for services not rendered in the technical divisions of the company. These relate to employees of Bayer and external companies.

To reinforce its policy, Bayer has declared 2007 the year of anticorruption.

In Mexico, Bayer has a particularly good reputation for legal and responsible conduct. Evidence was provided by a report published by “Tranparencia Mexicana,” the national section of Transparency International, in January 2007. Bayer came out top in the chemical/pharmaceutical industry category in Mexico and was ranked fifth overall.

**Political lobbying: Reorganized**

To step up our activities to represent the Bayer Group’s interests at political level, we have reorganized this area internally and have set up a Politics

Community Council (cc Politics) to structure and coordinate our activities in this field. It draws on information, for example, from our liaison offices and Senior Bayer Representatives, who help place our views in the political debate.

The current political issues have been identified, evaluated and assigned to the responsible experts (caretakers). The subgroups assume responsibility for issues closely related to their business. Overarching political issues of relevance to the entire Group are assigned to the relevant Corporate Center departments.

**www**

- 14 Bayer CropScience’s view on (multi-)national public policy issues
- 15 Corporate Governance Code

**Reorganization of Bayer’s political activities**



## Contribution to regional economic development

Bayer helps small to mid-sized suppliers get in shape for global competition through a range of projects designed to put its social and ecological requirements into practice. Without such partnership, globalization could easily result in further restriction of development opportunities in less advanced regions. One of these projects was completed in 2006 and a new one was started.

### Suppliers: Prepared for certification

Under the acronym BIGAS (Bayer CropScience Integrated Environmental Gains Along the Supply Chain for Sustainable Agriculture), Bayer CropScience and the Asia-Pacific Roundtable for Sustainable Consumption and Production (APRSCP) have established an initiative to help suppliers in the Philippines introduce social and environmental management systems. This initiative receives financial support from the German development financing agency DEG. 24 small to mid-sized agricultural suppliers on the islands of Luzon and Panay (Visayas) attended a range of seminars organized by a public-private partnership to help them prepare for certification under the Filipino version of British Standard 8555 (PNS BS 8555). 20 of them successfully passed the audit and have been awarded the certificate. The guidelines for the introduction of integrated management systems in agricultural organizations developed during the project were a completely new concept in the Philippines.

### Small-scale farmers: "Green World" launched

A similar public-private partnership project named "Green World" is run by Bayer CropScience and the German technical development agency GTZ in Kenya. It aims to train around 150 technical advisors and small distributors in good agricultural practices, including the responsible use of crop protection products. Once trained they will act as multipliers and by the end of 2007 about 4,000 small-scale farmers will have been reached through this process. The project started in 2006 and is initially planned to run for five years. Through the Green World project, Bayer CropScience also strives to support farmers and help them be able to produce more high-quality crops.

The high quality of the yields will increase sales opportunities and will therefore also improve their incomes and their livelihood as they will gain a long-term foothold in the important Kenyan export business. They will also have a competitive edge in local markets.

In addition, Bayer signed a Memorandum of Understanding with Tongji University in Shanghai in 2006 to found a Chair for Sustainable Development and establish a special training program. Focusing on developing and newly industrializing countries, students from China and other countries are to be given management know-how that is essential for maintaining sustainable development processes.

## Sustainability indices and sustainability funds

Bayer is included in a number of indices and investment funds which only list companies that apply the principles of sustainable development. This is an acknowledgement of our corporate strategy. In addition to purely economic criteria such as return on investment, a long-term responsible approach to resources and corporate governance criteria are important factors for investors looking to invest in sustainability funds.

In 2006, Bayer stock was again listed on the Dow Jones Sustainability Index (DJSI) World and the European DJSI STOXX. The company has been included in both indices as “best in class” since their inception. In last year’s review of the companies included in the DJSI, which is performed by the SAM Group in Zurich, Switzerland, Bayer obtained top scores for environmental protection and compliance with anti-trust law. It also ranks among the world leaders in product safety, employment relationships and sustainability reporting among other areas.

We have also been listed continuously on the FTSE4Good index series since 2001. FTSE, an independent company established in 1995 by the Financial Times and London Stock Exchange, is one of the world’s leading providers of bond and equity indices. Bayer’s place in the benchmark FTSE4Good Europe and FTSE4Good Global indices was confirmed by the half-year review in March 2007. These indices list companies with a particularly good performance in environmental protection, human rights and social standards.

In addition, in May 2007 Bayer was included in the new FTSE4Good Environmental Leaders Europe 40 Index. This lists the 40 largest companies in terms of market capitalization who fulfil the FTSE4Good’s environmental protection criteria.

As in previous years, in the latest sustainability reviews by Storebrand (Norway), Bayer is among the leaders in its sector.

In 2005, Bayer was included in the Climate Leadership Index, the first global index of its type, which is published by the Carbon Disclosure Project. In 2006, we were even rated the best company in our sector. In the year under review, more than 200 financial service-providers with assets under management of more than US\$31 trillion were involved in the Carbon Disclosure Project. They use the index as a basis for investment decisions. The index contains the top ten percent of the world’s 500 largest listed companies.

[www](#)

17 Bayer stock

18 Stock market indices which include Bayer

### Sustainability indices



Dow Jones Sustainability Indexes  
FUNDING 2006-12



FTSE4Good



FTSE4Good  
Environmental Leader



BEST IN CLASS  
environmental and  
social performance  
STOREBRAND



ASPI  
Advanced Sustainable Performance Indices

Bayer is included in a variety of indices and investment funds that single out companies with a sustainable and responsible corporate policy. These include the Dow Jones Sustainability Indices, the FTSE4Good index family, the Storebrand Principle Funds and the Advanced Sustainable Performance Indices (ASPI) Eurozone.

Focus on Bayer and Schering:

## Integrating strong corporate cultures

The acquisition of Schering AG, Berlin, Germany, for approximately €17 billion significantly changed the face of the Bayer Group in the past fiscal year. The new company, Bayer Schering Pharma AG<sup>1</sup>, Berlin, Germany, is one of the world's leading companies in the field of pharmaceutical specialties, and as such will strengthen the HealthCare business and thus the Bayer Group as whole. The key to economic success here is a smooth fusion process and the ongoing integration of the two corporate cultures.



*“The main priority in mergers is to ensure that the new company has the ability to make decisions and take action as well as to avoid creating a sense of insecurity among the employees.”*

Dr. Johannes Rüeegg-Stürm, Professor of Business Administration at the University of St. Gallen, Switzerland

Bayer quickly and vigorously embarked on the integration of Schering right from the first announcement concerning the acquisition on March 23, 2006. Bayer integration manager Lambert Courth, who had previously successfully handled the assimilation of Roche's self-medication business, underlined the importance of deadline pressure. He and his team, composed of members of both companies, were able to transfer all key functions into the new organizational and management structure as of February 1, 2007. “We've been working as one company ever since,” says Courth.

### **The goal is joint success**

Professor Johannes Rüeegg-Stürm, who teaches business administration at the University of St. Gallen in Switzerland, confirms the necessity for rapid integration: “It would naturally be preferable to first learn about all resources in detail in order to make optimal use of them. But the main priority in mergers is to ensure that the new company has the ability to make decisions and take action as well as to avoid creating a sense of insecurity among the employees.” Courth is convinced that Bayer has accomplished just that: “We were able to integrate Schering into the Bayer Group quickly.

Now we are well on the way to developing a cooperative, performance-oriented and clearly structured style of working.”

In order to succeed, it is crucial that everyone affected be convinced of the new company's chances on the market and actively contribute to the integration process. Professor Rüeegg-Stürm, who specializes in organizational behavior, regards the key task as convincing the involved employees of the strategic reasoning for the merger. “This reasoning is based on market demands and customer needs.” The main reasons for a takeover are usually new challenges in a changing environment, he adds.

### **Making the integration fair**

Bayer estimates that the merger will generate approximately €700 million in synergy effects per year. In addition, the company expects to reap sustained benefits from the expanded product portfolio and well-filled research and development pipeline. Right from the start, however, Group management has pointed out that the merger will yield not only opportunities but also the need to eliminate 6,100 jobs worldwide by 2009. Since fusion processes are associated with hardships

for individual employees, Professor Rüegg-Stürm always calls for the difficulties and the opportunities of corporate mergers to be spread across the entire workforce as fairly as possible. "This enables the company to lastingly secure its social capital, i.e. the voluntary loyalty and motivation of its employees." Courth can only confirm that statement. Company management remains aware of this challenge at all times, says the Bayer expert. And the management will stand by its promise to make sure that personnel adjustments are socially compatible and as balanced as possible.

1,500 of the jobs to be eliminated are in Germany. In March 2007, the Board of Management of the new Bayer Schering Pharma AG signed a company agreement with the Works Council. The agreement is initially valid until late 2009 and outlines the key points in the socially compatible elimination of jobs at the Berlin headquarters. It envisages part-time work plans for older employees and early retirements, severance agreements with compensation payments as well as part-time offers and an internal job center. Added to this are offers to transfer to new positions within the Bayer Group. The Group has assured the employees at Berlin headquarters that there will be no dismissals for operational reasons before mid-2008. Nor is there a "winning" or a "losing" side in the selection of managers for the new Bayer Schering Pharma AG, according to the integration specialist. "53 percent come from Schering, 47 percent from Bayer," says Courth. "I think that is a very balanced proportion."

#### Corporate culture as a success factor

The creation of a sustainable, joint corporate culture will play a decisive role in the success of Bayer Schering Pharma. Professor Rüegg-Stürm also regards a strong and sustainable corporate culture, conveyed through mutual respect and joint strategic challenges and attractive future areas of activity, as an important requirement for economic success. A strong corporate culture, according to Rüegg-Stürm, is the "life form of an organization" as expressed in "self-evident factors" such as "day-to-day approaches of cooperation and management applied in dealing with customer requests, suggestions for improvement and criticism."

The fact that both companies have developed similar "self-evident factors" is significantly simplifying the integration process, says Courth. These self-evident factors include basic management and behavioral principles such as those outlined in the Bayer Group's Mission Statement and Sustainability Policy as well as management systems for environmental protection and work safety. Courth is therefore convinced that a new "Bayer Schering Pharma culture" will develop, "uniting the strengths of both companies. It will be future oriented, committed to business success and inspire motivation to reach ambitious goals."

#### Uniting past tradition and future perspectives

Another goal of the Schering integration is to take people on both sides "into the new future." It is important to honor tradition while at the same time "taking leave of some things," underscores Rüegg-Stürm. The St. Gallen Professor adds: "Economic success depends just as much on employees' identification with the company as it does on their ability to accept new developments." During an integration process, it is therefore of great importance to shift focus onto the resources and strengths of both partners and to emphasize new possibilities and perspectives. Courth underscores this point as well: "Discovering common ground is just as important as a goal-oriented alignment. This is why we quickly initiated internal projects, e.g. on Bayer Schering Pharma corporate culture, in which employees from both companies are working together, applying their respective methods in an effort to reach the targets set."

1) 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. The reference to Bayer Schering Pharma AG or Schering AG also includes business conducted by affiliated entities in countries outside Germany. Bayer Schering Pharma AG and Schering-Plough Corporation, New Jersey, United States, are unaffiliated companies that have been totally independent of each other for many years.



*"We were able to integrate Schering into the Bayer Group quickly."*

Lambert Courth, in charge of integrating Schering into the Bayer Group



NEW YORK  
DOWNTOWN  
HOSPITAL

EMERGENCY  
911  
EMERGENZA





# Freedom.

The scholarship gives me a great deal of freedom. It also provides me with the extra investment that I need for the different stages of my clinical studies. My personal highlights certainly include my time in the Department of Surgery at New York Downtown Hospital. In my eight weeks here I have been able to broaden my specialist knowledge and gain an insight into the U.S. health care system. The positive experience with the country and its people has reinforced my decision to go abroad for a period after my exams.

## ARASCH WAFSAIDE

Medical student,  
scholarship from the Bayer Foundations for  
an internship at the Department of Surgery at  
New York Downtown Hospital, United States



# Today's solutions for tomorrow's problems

Bayer develops, utilizes and sells products and processes that enable us and our customers to use energy and material resources sparingly. A responsible approach to potential risks is particularly important for us.

Our environmental policy is currently centered around our commitment to climate protection. In 2006 – the year covered by this Report – we succeeded in keeping greenhouse gas emissions more or less constant despite a 4.4 percent increase in production volume (see page 65).

Bayer is participating in numerous international initiatives to support climate protection. In response to an urgent appeal by the Global Roundtable on Climate Change in February 2007, Bayer also signed the position paper “The Path to Climate Sustainability,” which calls on politicians to define serious, scientifically founded targets for reducing greenhouse gas emissions in the period after the expiry of the Kyoto Protocol (2012). It advocates a globally regulated climate protection policy that includes all the relevant nations, taking into account their respective capabilities. The reduction targets should not endanger economic development and economic growth. The Global Roundtable on Climate Change, which includes not only industrial companies but also many associations and scientific institutions, was initiated in January 2005 by Professor Jeffrey Sachs, Director of the Earth Institute at New York's Columbia University (United States).

In January 2007, Bayer and a number of other companies had publicly launched the project “3c: Combat Climate Change.” This campaign, too, aims to limit climate change and sets out to help politicians set a global framework for cutting emissions that offers all companies around the world fair competitive conditions.

Only recently, the Bayer Climate Challenge Program was established. It aims to identify solutions that will enable Bayer to contribute to climate protection and deal with the consequences of climate change (see pages 4, 24 and 46).

#### **Energy-saving innovations:**

##### **Tried and tested in Europe, introduced in China**

In the international research institutions, Bayer engineers are working intensively on developing new technologies that lower costs and reduce the burden on the environment. Bayer MaterialScience is currently testing, for example, innovative processes for the production of two polyurethane starting products in Antwerp (Belgium) and Dormagen (Germany). One is aniline, which is used for the production of diphenylmethane diisocyanate (MDI) and toluene diisocyanate (TDI). The two processes consume up to one third less energy than their conventional counterparts. The test phase has been successfully concluded and the processes will in future be deployed on an industrial scale at Bayer's site near Shanghai, China.

The world's largest hydrochloric acid recycling unit is under construction in Shanghai. It will be able to produce 215,000 metric tons of chlorine from hydrochloric acid every year and will use the oxygen depolarized cathode technology (ODC). The plant is scheduled to go on stream in 2008. A hydrochloric acid electrolysis plant using the ODC technology with an annual capacity of 20,000 metric tons of chlorine already went on stream in Brunsbüttel in 2003 (see also Sustainable Development Report 2005, page 64). The advantage of this

process is the enormous energy saving: Compared with the established membrane process, the ODC process requires about 30 percent less electricity. The technical principle corresponds to that of a fuel cell. By feeding in oxygen gas, the electrolysis can be performed at a far lower voltage.

We are currently further refining this process with the support of the German Federal Ministry of Education and Research (BMBF) to enable us to also apply the increase in energy efficiency to the production of chlorine from sodium chloride (chlorine-alkali electrolysis).

#### **Saving fuel:**

##### **Creative solution developed**

Our company contributes to climate protection not only by improving existing processes, but above all through its innovative products. Polyurethane insulating materials, for example, ensure that the amount of energy needed to heat or cool buildings is significantly reduced. Also, Bayer CropScience offers numerous solutions for use in the field of renewable raw materials (see page 24).

Another major challenge in this connection is to significantly reduce energy consumption in transport, because the number of vehicles and the amount of traffic is increasing at an enormous speed all over the world. Bayer MaterialScience experts are working on a particularly creative solution, although it is initially only suitable for niche markets: In conjunction with Swiss automotive visionary Frank M. Rinderknecht and his firm Rinspeed, they have developed a “glass” concept car with a completely transparent body and floor made of Makrolon® plastic. The two-seater fuel economy model is called “eXasis” and was presented for the first time at the Geneva Motor Show in March 2007 – 40 years after Bayer first attracted attention in the automotive industry in 1967 with its “K67” concept model, the world’s first all-plastic car.

The low fuel consumption of the eXasis comes from Bayer MaterialScience’s exceptionally lightweight but stable plastics. Nearly every part of the subgroup participated in the development of the vehicle, with products such as surface coatings and polyurethanes being involved.

#### **Customer relations: Competitive advantage through environmental protection**

Sony recently presented Bayer MaterialScience with the “Excellent Supplier Award.” Bayer MaterialScience is the main supplier of the flame-retardant polycarbonate blend Bayblend®, which is used, for example, in flat LCD TVs. Bayblend’s flame-retardant packages are free of bromium, chlorine and antimony. In addition, Bayer MaterialScience is listed with Sony globally as a “Green Partner” under the so-called “Green Partner Environmental Quality Approval Program.”

#### **www**

- 19 Greenhouse gas emissions under the GHG Protocol
- 20 “Global Roundtable Climate Change” initiative
- 21 “3C: Combat Climate Change” project
- 22 “eXasis” concept car

## Greenhouse gas emissions under the international GHG Protocol

To be able to compare the greenhouse gas emissions data from companies worldwide, which had previously been collected using a variety of different methods, the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) got together to develop an international standard known as the Greenhouse Gas Protocol (GHG).

The GHG Protocol takes into account not only the direct emissions of a company – i.e. all emissions connected with its own activities – but also indirect emissions resulting from the generation of electricity and heat by external suppliers. A third category covers extended indirect emissions from starting products, logistics, the utilization and disposal of a company's products, business travel and employee commuting.

A major change has been made to the definition of emissions limits: Conventional reporting is performed for a company's consolidated activities in accordance with its annual report. According to the GHG Protocol, the greenhouse gas emissions for all previous years must be related to a company's structure in the current year and must be retroactively calculated to take account of that structure. By doing this, the GHG Protocol should ensure that emissions and reductions can always be unambiguously accounted for. This is a challenge insofar as companies such as Bayer develop dynamically over the course of time: They take over other enterprises, sell parts of the company or carve out certain operations. Consequently, the greenhouse gas emissions data have to be recalculated retroactively each time.

## Measures to reduce greenhouse gas emissions

Since 1990, Bayer has carried out wide-ranging measures to reduce direct and indirect greenhouse gas emissions. Significant investments and efficiency increases have contributed to this.

Some milestones:

- ❑ Between 1997 and 2002, the chlorine-alkali electrolysis units were gradually converted from the mercury-cell to the membrane process (reduction: 0.4 million metric tons CO<sub>2</sub>e/year).
- ❑ Up to 1999, the heat network of the sites was optimized with the aid of the "pinch point method" (reduction: 0.5 million metric tons CO<sub>2</sub>e/year).
- ❑ In 2000, two outdated coal power plants were closed; since then, the power has been supplied by a modern gas and steam turbine plant from RWE AG (shift from 1.2 million metric tons direct to 0.6 million metric tons indirect CO<sub>2</sub>e/year)

Steps that were taken to reduce emissions in areas of production that now no longer belong to Bayer are, under the GHG Protocol, eliminated from Bayer's emissions data reports. Instead, any measures undertaken in newly acquired companies before their integration into Bayer are covered by the retroactive adjustment of the emissions at Bayer.

Another significant advance made by Bayer with regard to climate protection since 1993 has been the incineration of the N<sub>2</sub>O generated in the production of adipic acid, and the utilization of the resultant energy for the production process (4 million metric tons CO<sub>2</sub>e/year). In 2005, the plant was transferred to Lanxess following the carve-out and is now no longer considered in Bayer's figures.

## Bayer's greenhouse gas emissions according to the GHG Protocol

(in million metric tons CO<sub>2</sub> equivalents)

Greenhouse gas emissions	2004	2005	2006
Direct	4.30	4.06	4.05
Indirect	3.49	3.70	3.85
<b>Total</b>	<b>7.79</b>	<b>7.76</b>	<b>7.90</b>

## Solutions for global water management

Efficiency is also the key issue when it comes to one of our most precious natural resources, water. At present, some 70 percent of the world's fresh-water taken from lakes, rivers and aquifers is used in agriculture, and the figure is rising. Global warming will make the water shortage even worse. Bayer AG's three subgroups have initiated projects on sustainable water management in their different business units.

At Bayer MaterialScience, a new process has been developed for the production of polycarbonate, enabling considerable volumes of process water to be saved.

Bayer CropScience, too, must adapt to changes in cultivation methods or in the use of agricultural crops. To discuss the effects of increasing water shortages and possible countermeasures, Bayer CropScience organized a workshop in October 2006 attended by representatives from its many different departments as well as external stakeholders.

Bayer CropScience is already involved in numerous projects to foster the efficient use and protection of water. Here are some examples:

- ❑ Providing solutions for healthy plants as these use water more efficiently,
- ❑ Introduction of integrated water protection methods in the areas of research, development and product stewardship,
- ❑ Encouraging land management programs to support better water management.

### Supply networks:

#### Relined with new materials

In the United Kingdom, the provision of adequate drinking water supplies has become a problem, especially in the big cities. One of the reasons is old, leaking water pipes. In London, for example, one third of the expensively treated drinking water is lost because of leakages. A new coating system is now being used to reline damaged drinking water pipes on a permanent basis (see Sustainable Development Report 2005, page 61). Thanks to this coating, which is based on raw materials

from Bayer MaterialScience, pipelines can be relined permanently and also very much faster than before. The modern generation of inliners was used for the first time in 2005 in maintenance work in the United Kingdom. In 2006, the technology received the Queen's Award in the "Innovation" category, and, by the end of 2006, had also proved itself in other projects in Ireland, Norway, Spain and India.

### Pharmaceutical residues in the water:

#### Investigations continued

Before we launch a new product onto the market, we carry out wide-ranging analysis, in the course of which we investigate its eco-toxicological potential for example. That also applies to our active pharmaceutical ingredients. With the introduction of environmental risk assessments for the licensing of new drugs in the EU, which has been obligatory since the end of 2006, the effects on the environment are now also regulated. We also evaluate on an ongoing basis active ingredients that are already on the market, especially hormones, antibiotics and contrast media. Toxicologists and ecotoxicologists at our company are very much involved in the scientific evaluation of environmental risks of our active pharmaceutical ingredients by carrying out research of their own. Based on present knowledge, there is no reason to suppose that either the x-ray contrast media or the antibiotics or hormones constitute any risk to the environment.

[www](#)

23 Coating system for drinking water pipes

## Responsible handling of potential risks

The REACH Regulation requires all manufacturers and users of chemicals to accept responsibility for the safe handling thereof. As far as Bayer is concerned, this means that, for all substances and preparations we produce, we must provide product information and recommendations for their safe handling in all the applications known to us and should pass this on to downstream users. The same applies to our suppliers.

In order to implement the necessary registration, evaluation and, if necessary, authorization of chemicals in line with the Regulation, the Group Management Board is planning an internal Directive entitled "REACH Implementation in the Bayer Group," which will come into force in 2007. It will define responsibilities and necessary organizational and infrastructure conditions and give recommendations for implementation.

Pharmaceuticals, crop protection products and biocides are exempt from the compulsory legislation under the EU REACH legislation passed in December 2006 because they are already subject to their own comprehensive licensing regulations (see page 30).

### **Environment and health strategy: Prepared for dialogue**

The European Environment and Health Strategy published in June 2003 sets out to determine on a broad basis any connections between environmental influences (e.g. chemicals) and health impairments. This gave rise to the SCALE Initiative, which focuses on children as a particularly sensitive section of the population. SCALE stands for "Science, Children, Awareness, Legal instruments, Evaluation." In the first step, which is scheduled to last until 2010, the initiative will focus on gaining a better understanding of the causes of respiratory diseases, asthma and allergies, and cancer as well as development anomalies and hormone malfunctions in children. This year, the European Commission will publish an intermediate report. So far, the

priority has been on collecting data, but the phase of political evaluation and implementation is now about to begin.

With its product portfolio, Bayer contributes in many ways to improving the living conditions of children. Moreover, Bayer shares the opinion of the European Commission that evaluating the effects of industrialization and industrially manufactured substances is an important step towards safeguarding the health of children. We are convinced that this should be done on the basis of the existing risk assessments, which contain all the necessary elements to ensure the safe handling of chemical substances. At the same time, it is important, in the scientific studies on possible risks such as for children's health, to take account of all the key aspects. Through its commitment to many programs like the international chemical associations' Long-Range Research Initiative, Bayer is participating in important research projects in this field.

An important part of any product development is the evaluation of the benefits and possible risks of a new technology or a new product. Bayer has been involved, for example, for a long time in safety research in the field of nanotechnology. Through its active membership of industrial associations – Bayer is a founding member of the DECHEMA working group "Responsible Production and Use of Nanomaterials" – and its participation in publicly sponsored projects, the company is amassing a wealth of fundamental knowledge in this field. In Germany, it is involved in two ongoing projects, NanoCare and TRACER. Both projects are supported by the German Federal Ministry of Education and Research (BMBF) as part of its "WING" initiative ("Materials Innovations for Industry and Society") and focus on the safety aspects of nanomaterials. In addition, Bayer MaterialScience is currently implementing a product stewardship program for carbon nanotubes, Baytubes®, in which their mode of activity is being analyzed and clarified. This will make an important contribution

to the further development of the test methods needed to ensure product safety.

#### **Environmental compatibility:**

##### **New concept for sustainability check**

Based on our experience with the Bayer Eco-Check introduced in 2000 for assessing product risks, we are developing a new tool that will enable us to present our activities on sustainable development in an overall context and thus track the changing demands of our stakeholders.

Added together, the many measures implemented throughout the company make an important contribution to easing the burden on the environment. Bayer is active in a number of fields. For example, the media services provider Dynevo (a subsidiary of Bayer Business Services) has been certified by the Forest Stewardship Council (FSC) and the Program for the Endorsement of Forest Certification Schemes (PEFC), and can now offer its customers the printing of publications on FSC/PEFC-certified paper. In return, Dynevo had to prove that the company is able to track every single stage of the production of printed media printed on certified paper – from the forest enterprise via the paper manufacturer and paper wholesaler to the consumer.

#### **Genetic engineering:**

##### **Product safety ensured**

Safety and environmental compatibility are the overriding considerations for our genetically engineered products, too. We do not sell such products or processes unless their safety and environmental compatibility can be ensured to the extent made possible by state-of-the-art science and technology. This is the commitment expressed in our “Policy guidelines for responsible use of genetic engineering,” which were issued in 1998 and revised most recently in 2006/2007.

Kogenate® from Bayer HealthCare is one example of a successful health care product that has been produced for many years using genetic engineering methods. This drug product for the therapy of

hemophilia contains over 2,300 amino acids and is the most complex protein molecule being manufactured using this technology.

Our canola seed, sold under the brand name InVigor®, demonstrates convincingly that plant biotechnology is safe; it has held a leading position in growing regions in North America since it was launched ten years ago. This seed, developed by Bayer CropScience, combines high yields and tremendous resistance to disease and unfavorable weather conditions with LibertyLink herbicide tolerance, and has become the most successful canola variety in the United States and Canada. Moreover, strong demand in the food industry for oil pressed from InVigor® canola is being driven by its positive nutritional profile.

High-quality canola oil with tailored properties is not only a useful component in a healthier diet but also points the way to solutions for increasingly urgent questions surrounding the future, such as climate protection and raw material supply issues. Against this background, research activities at Bayer CropScience are focused particularly on increasing yields – also under difficult climatic conditions – and developing plants which can provide energy.

#### **Sustainable farming:**

##### **A balance between economy and ecology**

The aim of the products supplied by Bayer CropScience is to increase the productivity of crops, improve their quality, and reduce loss of yield due to pests, diseases and weeds. In this way, the company can contribute to making optimal use of natural resources like soil and water, thus creating an efficient agricultural basis for a healthy food supply. The principle of integrated crop management, which Bayer CropScience supports, helps to further this goal. Its objective is to combine cultivation techniques, crop rotation, the selection of crop varieties, fertilizers, crop protection products and harvesting techniques in a way that best suits the individual location. This also means for crop protection that biological, biotechnological and

chemical methods of pest and weed control must be used in concert with each other. Chemical crop protection is used in a very targeted way. Land use in the context of integrated crop management helps to maintain and establish habitats, for example by encouraging the creation of field margins, which in turn leads to sustained biodiversity.

#### **Crop protection products:**

##### **Support in dealing with obsolete stocks**

Large quantities of obsolete pesticides have accumulated particularly in those countries where procurement was governed by planned economies rather than in response to farmers' needs. In Africa, many stocks are left-overs from pesticide donations provided under international development assistance programs, often decades ago. The products come from a variety of manufacturers. Bayer CropScience has played an important part in ensuring that over 10,000 tons of these obsolete crop protection products have been disposed of safely since 1990.

Further progress is expected to be achieved by the "Africa Stockpiles Programme." This 15-year multi-stakeholder project, in which the World Bank, the UN Food and Agriculture Organization, the UN Environment Programme, the conservation organization WWF, the non-governmental organization PAN (Pesticide Action Network) and industry are involved, is intended to help with the disposal of obsolete pesticides from Africa. A meeting of all stakeholders, at which Bayer CropScience was also represented, was held in September 2006 in Cape Town, South Africa. Future action and specific measures to be taken were determined for the seven designated priority countries: Ethiopia, Mali, Morocco, Nigeria, South Africa, Tanzania and Tunisia.

#### **Animal studies:**

##### **Reduced as much as possible**

Studies involving animals – mainly rats and mice – are legally stipulated and will continue to be an indispensable part of developing safe new active substances and products. The requirements of the

EU's new REACH Directive in fact reinforce the need for these studies. This subject concerns all three Bayer subgroups. The company is part of a broad-based industrial coalition whose aim is to improve the welfare of animals used in studies and to continue reducing the number of animals used in each test (see also the Sustainable Development Report 2005, page 36).

ERAPharm (Environmental Risk Assessment of Pharmaceuticals) is a project supported by the European Union. Experts from Bayer Schering Pharma, Berlin, Germany, are involved in the project as scientific advisors. The emphasis is on identifying potential environmental risks associated with human and veterinary pharmaceuticals. The first results of the project will be presented at a conference in September 2007. The long-term impact of hormones is another important topic. Bayer Schering Pharma is carrying out ecotoxicology studies with fish to establish the effect of hormones on their development and reproduction. The objective of these studies is to evaluate concentrations of these substances which are relevant to the environment as they can be transferred to surface waters from effluent cleaning plants. Estrogens have been characterized in detail, and studies are now being expanded to cover progestins.

#### **Germany:**

##### **Current topics from the Chemical Parks**

The Trianel Group is planning, on behalf of public services and regional utilities, to build a coal-fired power plant in the Krefeld-Uerdingen Chemical Park. It will supply the Chemical Park with process steam and electricity, and local households and companies in the region with electricity. The benefit of combined heat and power units is their efficient, environmentally friendly generation of energy. When the project is finished, two older coal furnaces in the Chemical Park will be able to be switched off. The new power plant will have higher efficiency, better energy yield and – in relative terms – lower CO<sub>2</sub> emissions. The power plant will thus make an active contribution to climate and environmental protection. In the region, it could help to safeguard



the competitiveness of the site and thus help to save jobs. The permit procedure has been initiated by the Trianel Group.

Carbon monoxide (CO) is an important chemical building block. Bayer needs it to manufacture high-grade materials. To ensure a reliable supply of raw materials, Bayer MaterialScience has decided to build a 70 km pipeline for transporting carbon monoxide gas between the Chemical Parks in Dormagen and Krefeld-Uerdingen. To ensure safe operation of the pipeline, comprehensive safety precautions, a modern leakage alarm system and an emergency response plan will be put in place. Not only do these precautions go beyond the legally required level, the pipeline will also contribute to reducing emissions: With the aid of modern production processes, CO<sub>2</sub> generated in the Dormagen Chemical Park can be used for CO production and, for example, fed to the production plant in Krefeld-Uerdingen. This means an annual saving of 70,000 metric tons of CO<sub>2</sub> emissions. In addition to this, the pipeline will enhance the competitiveness and safeguard the future of the Chemical Park. In February 2007, Bayer received official approval for the plans to build the pipeline. The aim is to have the CO pipeline up and running before the end of this year.

#### **Mercury:**

##### **Solution to a global problem**

The increasing mercury content of the atmosphere is becoming a serious problem throughout the world, because the concentration of this toxic heavy metal is increasing by around 1.4 percent a year. More than 70 percent of it nowadays stems from the gases generated by industrial combustion processes (primarily coal), and less than 30 percent from natural sources.

To remove mercury from flue gas, use is generally made of activated carbon filters at the end of the flue gas treatment operation. However, the process is rather cost-intensive and, even in modern German power plants, reduces the mercury output by only 70 percent. In contrast, the Environmen-

tal Services Business Unit of Bayer Industry Services has been using a process of its own in its incineration plants that eliminates up to 99.9 percent of the mercury from the flue gases. The process is highly effective and also relatively inexpensive, with the result that this innovation from Bayer Industry Services has been put forward for the German Environmental Award 2007.

#### **www**

- 24 REACH legislation
- 25 NanoCare and Tracer projects sponsored by the German Federal Ministry for Education and Research
- 26 Bayer Group Position on the Responsible Use of Gene Technology
- 27 Further examples of biodiversity
- 28 Obsolete crop protection products
- 29 Africa Stockpiles Programme
- 30 Responsible approach to animal studies
- 31 ERAPharm project page
- 32 Construction of pipeline

Focus on climate protection:

## Improving energy efficiency with Bayer materials

Climate change is developing into one of the biggest threats to man and the environment. Bayer has been well aware for many years of the need to act, and is constantly striving to reduce greenhouse gas emissions in all its production processes. A far greater role with regard to climate protection, however, is played by some of the modern-day materials produced by Bayer MaterialScience that help to minimize the amount of energy consumed in buildings, appliances and vehicles.



*“Companies can and must solve the problems by becoming increasingly energy-efficient and developing new technologies.”*

Matthias Machnig, State Secretary at the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Matthias Machnig, State Secretary at the German Ministry of the Environment, speaks of “historic resolutions” when asked about the European climate protection targets. The EU has resolved to cut its emissions by the year 2020 to 30 percent below their 1990 level. Machnig is convinced that Germany, as Europe’s largest industrial nation, can assume a pioneering role in this: “The successes achieved by German industry in the field of energy efficiency show that investments in climate protection are well worthwhile from both an ecological and an economic point of view.”

Peter Vanacker, a member of the Executive Committee of Bayer MaterialScience and Head of the Polyurethanes Business Unit (PUR), can categorically confirm this: “Through our global environmental management system, we have been able to considerably reduce absolute and specific energy consumption.” Climate protection is not just a benchmark of the responsibility for tomorrow, underlines Vanacker, “because we also lower our energy costs in the process.” This is not exactly an unimportant argument, because chemical production is highly energy-intensive: At present, the provision of energy accounts for around five percent of overall production costs worldwide.

For the next few years, Bayer has therefore set itself an important goal: By 2015, the specific energy consumption and therefore also the volume of specific greenhouse gas emissions per metric ton of product sold will be cut by a further ten percent (based on 2005). One key area of investment will be that of gas phase phosgenation. “With this innovative process for the last reaction step in the production of toluene diisocyanate (TDI), we can achieve energy savings of around 40 percent,” explains Vanacker. TDI is a key raw material in the production of flexible polyurethane foam, which is used throughout the world in enormous volumes. “In addition to this, we are continuously optimizing our conventional production processes,” continues Vanacker, “for example through the use of waste heat to generate steam.”

### Climate protection: A growing market

Yet the positive economic effect of climate protection is not restricted to improved ecology in production. In fact, the demand for new technologies and materials is opening up new markets for innovative companies: “Market studies carried out by strategy consultants Roland Berger put the world market volume for energy efficiency technologies at around €450 billion,” says Matthias Machnig. “This shows that the assumption that growth

is bad for the environment is simply outdated: Companies can and must solve the problems by becoming increasingly more energy-efficient and developing new technologies." Peter Vanacker also sees such opportunities: "Our products can make a major contribution to slowing down climate change. Bayer MaterialScience, in particular, supplies materials that help to reduce power consumption in buildings and transport" – two areas to which State Secretary Machnig also attaches considerable importance: "In the entire building heating sector, at least 40 million metric tons of CO<sub>2</sub> a year can be saved throughout Germany through building modernization and renovation measures." The German government therefore quadrupled its subsidies for improving the energy efficiency of buildings to €1.4 billion in 2006.

#### Plastics enhance energy efficiency

Against this background, Peter Vanacker says that the most important product in the Bayer portfolio with regard to climate protection is raw materials for rigid polyurethane foam, which has been successfully used for many years to provide highly effective insulation in refrigerators, pipelines and buildings. The Bayer expert sees enormous market potential above all in the growth markets of Asia, the Middle East and eastern Europe.

"Since the manufacture of some of these materials uses up considerable amounts of energy," says Matthias Machnig, "it is important to look at the entire lifecycle of the product. After all, six percent of the crude oil consumed in Germany goes into the production of plastics." In turn, however, a large proportion of these plastics serves to reduce energy consumption. In the case of polyurethane, the lifecycle assessment is extremely positive: Vanacker estimates that the reduction of CO<sub>2</sub> emissions attributable to polyurethane insulation currently in place is at least 90 million metric tons a year.

In future, the field of application for polyurethanes will expand. For example, Bayer is working on processes for the more economical production of photovoltaic modules. "At present, the encapsulation of the solar cells in an aluminum frame accounts for around 30 percent of the

selling price of solar panels," explains Vanacker. "This problem could be alleviated by using a time, cost and energy-saving frame made of Bayflex® polyurethane foam." In addition, Bayer is switching over increasingly to the use of renewable raw materials, for example in the production of polyols, an important raw material for polyurethane. Some polyols already contain up to 25 percent sugar. "Fairly recently, successful trials have also been performed with the introduction of vegetable oils so that the content of renewable raw materials in some polyol grades could in future be increased to as much as 60 to 70 percent," adds Vanacker.

#### Fuel savings through lightweight materials

The second concern of climate protection experts is the worldwide increase in public and goods transport. In Germany, vehicles already account for around one fifth of total carbon dioxide emissions. The German Federal Environment Ministry wants to stimulate innovation in vehicle engineering at a European level: "The average CO<sub>2</sub> emissions of new cars should be lowered by an EU Directive to 130 g CO<sub>2</sub> per kilometer by 2012," says State Secretary Machnig.

Since the weight of a vehicle has a major influence on its fuel consumption, it opens up an enormous field of activity for Bayer: "We are performing intensive and successful research on new lightweight, high-performance plastics that further reduce the weight and thus the fuel consumption of vehicles," explains Vanacker. For every 100 kg of weight saved, consumption goes down by up to half a liter per 100 km.



*"Our products can make a significant contribution to slowing down climate change."*

Peter Vanacker, member of the Executive Committee of Bayer MaterialScience and Head of the Polyurethanes Business Unit



# Prize-winner.

The Otto Bayer Prize is one of the most renowned awards for scientists in Germany. Now to be among the winners fills me with pride and gratitude. Such awards are more than ever proof that basic research is receiving sufficient recognition. I very much hope that our advances in catalysis research will also help develop new active ingredients. The possibility of now being able to produce a natural anti-tumor substance synthetically is a good start.

## PROFESSOR ALOIS FÜRSTNER

Director at the Max Planck Institute  
for Carbon Research, Mülheim an der Ruhr;  
awarded the Otto Bayer Prize in 2006



## Respecting, challenging and supporting people

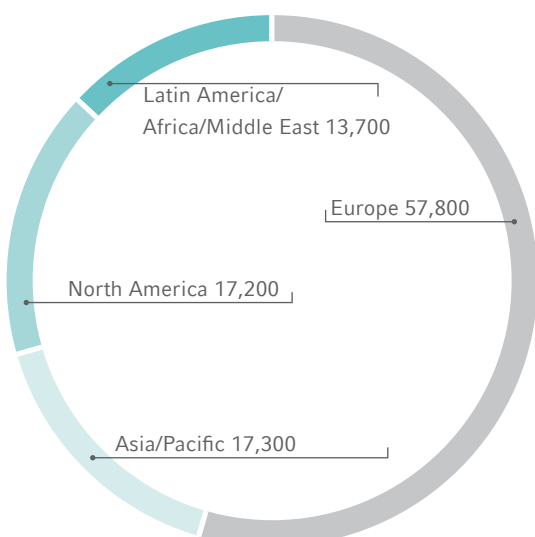
Bayer is a socially responsible company that respects and applies all international labor standards and offers its workforce a wide range of attractive additional benefits. Our CSR activities are also recognized worldwide.

Bayer's dynamic human resources policy was reflected in a number of far-reaching changes in 2006. In addition to mastering the biggest challenge – the integration of the employees of Schering, Berlin, Germany, into the Bayer Group (see page 34) – we adopted a Group-wide “Bayer Human Rights Position” in May 2007 (see page 52)

that was developed in harmony with our Sustainable Development Policy. This document establishes a foundation for the working conditions of our employees and specifies positions on matters such as harassment at the workplace, discrimination or child labor. We have also reorganized our human resources system across the Group. As a result, the following functions will be introduced by the end of 2009:

- ❑ “Human Resources Self Services” enable employees, for example, to use the intranet to change their own personal data, register their vacation dates and take advantage of company-sponsored social benefits and continuing education offers. This significantly simplifies these processes for the employees.
- ❑ Regional “Human Resources Shared Service Centers” (HR SSCs) serve as direct contact points for employees in all personal matters, and thus considerably shorten information paths in many cases.
- ❑ In the individual Bayer Group companies, “Human Resources Business Partners” have been advising management on strategic issues since October 2006. This ensures a close link between the new human resources organization and the operating units' needs.
- ❑ Since October 2006, four “Human Resources Centers of Expertise” integrated into the Corporate Center have developed strategies, concepts and instruments for all areas of the Bayer human resources organization. They ensure a globally uniform human resources policy.

**Employees by region** (Dec. 31, 2006)  
Total 106,000



We reached an important milestone in October 2006 with the launch of the Shared Service Center Europe (SSC Europe). The staff at the SSC in Leverkusen will initially be responsible for recruitment, payroll accounting, foreign transfers, performance evaluations and continuing education in Germany. It is planned for the SSC Europe to successively assume additional tasks for the Bayer Group in Germany and other European countries beginning in 2008. In April 2007, the SSC for America was successfully launched in Pittsburgh. The respective launch in Asia is planned for 2008/2009.

#### **Employees' rights at Bayer: Established worldwide**

At all international Bayer sites, employees have the right to elect their own representatives. Around the world, the working conditions of roughly two thirds of our employees are bindingly established in collective or company bargaining agreements. This applies to the approximately 41,000 employees in Germany, for example, who with only a few exceptions are subject to the collective bargaining agreements of the chemical industry. In Brazil, the conditions for all of our employees are based on a collective bargaining agreement, while this applies to 90 percent of our Chilean workforce and 85 percent of our employees in Venezuela. In the Netherlands, on the other hand, there is no collective bargaining agreement negotiated by unions; here, working conditions are agreed directly between management and the works council. These examples show that Bayer respects the employees' representatives as working partners.

Supplementing the national employee representation bodies, the Bayer European Forum (BEF) was established in 1992 as a platform for social dialogue between the employer's and employees' representatives from the European Bayer companies (see the Sustainable Development Report 2005, page 47). In 2002, the Forum adopted a social charter that defines minimum social standards for Bayer employees around the world. In November 2006, Bayer adopted a comprehensive Declaration on Diversity (see page 52).

#### **Vocational training opportunities: Agreed targets exceeded**

In the context of a vocational training initiative sponsored by the German government, the social partners of the chemical industry signed the collective bargaining agreement "Future Through Vocational Training" in 2003. According to the terms of this agreement, the companies agreed to increase the number of vocational training slots by seven percent through the end of 2007. The German chemical industry had already exceeded this target by 2006, increasing the corresponding figure by eight percent. Bayer played a role in this achievement in 2006 in Germany, employing more than 3,000 trainees at the German sites and with its German affiliates. Including the trainees at our sites outside Germany, the total number of trainees is well above what we actually need, at nearly 3,100. We also established 30 additional vocational training positions in 2006 as a contribution to the national pact between the German government and industry as regards vocational training and the development of young managers. Including the approximately 140 Schering trainees, about 1,050 young people began a vocational training course at Bayer in the summer of 2006. Thus we continue to fill more vocational training positions than the company requires to cover its own needs. For trainees to whom we are unable to offer a permanent employment contract, we provide active support in the search for a job through our trainee pool and the Bayer subsidiary job@active.

In the context of the Marketing and International Business Studies (MIBS) program, approximately 20 trainees each year take part in a course of study outside of Germany. In addition, about 20 trainees annually take part in exchange programs at Bayer Group companies outside Germany as part of their training.

**www**

- 33 Social Charter of the Bayer European Forum
- 34 Vocational training at Bayer
- 35 Jobs and career at Bayer

## Bayer Human Rights Position

### International framework and corporate management

Bayer supports the United Nations' Universal Declaration of Human Rights and a number of globally recognized declarations for multinational enterprises<sup>1</sup>. We also fully endorse the principles of the United Nations Global Compact initiative. Promoting human rights standards internally and throughout all of Bayer's business operations is in line with our company's Values and Leadership Principles and our Sustainable Development Policy. Bayer's commitment to foster the implementation of human rights is supported through our Program for Legal Compliance and Corporate Responsibility. It is in effect in all Bayer locations and it applies to Bayer's business operations worldwide.

We will use this position as a framework to guide our decision-making and constructive engagement within our sphere of influence, while the responsibility of the governments of the various countries for protection of human rights is respected.

### Employees: Working conditions

We provide our employees with fair and competitive compensation and benefits. Our wages meet or exceed local market conditions and thus ensure an adequate standard of living for our employees and their families. Our compensation systems are linked to company and individual performance. Pension provision is a key element of our total compensation packages worldwide.

We encourage our employees to fully utilize their potential by offering ample training and education opportunities. Access to qualification and training measures is based on the principle of equal opportunities for all employees.

We comply with all applicable laws and agreements on working time and paid leave. We respect the right to rest and leisure, including vacation with pay, and the right to family life, including maternity leave. Where possible we will aim to offer more flexible work patterns to enable our employees to balance company with personal demands.

### Harassment and discrimination

Equal treatment of all employees is a fundamental principle of our corporate policy. No person is to be unfairly disadvantaged, favored or ostracized because of ethnic or racial status, color, nationality, descent, religion, caste, gender, age, physical characteristics or appearance, sexual orientation, union membership, political affiliation, HIV/AIDS or parental status. Harassment of any kind is forbidden. We expect our employees to be friendly, objective and fair in their dealings with colleagues and third parties. Under comparable prerequisites, we provide equal pay for equal work.

### Freedom of association and collective bargaining

We are committed to an open and constructive dialogue with our employees and their representatives. Our employees are free to join organizations of their choice that represent them. These organizations may engage in collective bargaining according to the applicable legal regulations. At all Bayer sites worldwide, employees have the right to elect their own representatives. Employees who act as representatives are neither disadvantaged nor favored in any way. In locations where employees have decided not to appoint representatives, we will ensure direct and open communication between employees and management.

### Child labor

We follow a clear 'zero tolerance to child labor' policy in our business operations worldwide. We do not tolerate child labor in our supply chain either, where we take action against known cases of violations. Our efforts to fight against child labor are consistent with the ILO's<sup>2</sup> (International Labor Organization) core labor standards and the United Nations Global Compact principles.

### Health and safety

We ensure uniformly high health protection, safety, environmental protection and quality standards (HSEQ) at our sites through the implementation of appropriate management systems. HSEQ regulations are consistently applied worldwide to minimize the occurrence of accidents and incidents. Experts on occupational safety support line management in preventing illnesses and accidents by implementing appropriate measures. Our sites offer their employees an ample range of health care services, including measures going beyond health care at the place of work.

Bayer strictly believes that the respect for people is mandatory for business excellence. With this position we confirm our commitment to internationally recognized principles in the areas of human rights and labor conditions. We expect the conduct of our employees and business partners worldwide to reflect this commitment.

<sup>1</sup> e.g. "Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy" of the International Labor Organization (ILO), "Guidelines for Multinational Enterprises" of the Organization for Economic Cooperation and Development

<sup>2</sup> Minimum Age Convention 1973; (No. 138); Worst Forms of Child Labour Convention, 1999, (No. 182)



## Embracing equal opportunity

Our most important principles include equal opportunity for all employees at Bayer. In October 2006 in Warsaw, Poland, the leadership of the Bayer European Forum adopted the “Declaration on Diversity at Bayer,” in which all participants once again pledged their commitment to actively promote equal opportunity. The document thus once again underscores the principles of the Social Charter of 2002 and the Values and Leadership Principles of Bayer AG: The selection and advancement of our employees are determined solely according to their specialist qualifications, development potential and individual performance. The principle of fair and equal treatment for all employees is also an integral element of the new “Bayer Human Rights Position.”

Our special joint employer-employee committee, in which representatives of the company and the workforce from all German sites and subgroups participate, also provides important impulses for equal opportunity (see the Sustainable Development Report 2005, page 45). The effectiveness of this and other equal opportunity initiatives is demonstrated by accolades such as the award presented by the organization “Total E-Quality.” In October 2006 – as in 1997, 2000 and 2003 – Bayer was once again honored by this independent organization for its efforts to promote equal opportunity at the workplace for women and men. The jury was particularly impressed with the company’s gender-specific analysis of performance evaluations and its offer of flexible worktime models.

The German Equal Opportunity Act (AGG) came into force in August 2006. We took this as an opportunity to offer web-based training on this matter to all managerial staff in Germany.

In the United States, Working Mother magazine each year publishes an analysis of how companies help employees to balance career and family demands. In October 2006, our U.S. subsidiary for the fourth time placed among the country’s top 100 employers for working mothers. Bayer Corporation received top marks for childcare and in the categories “Family-Friendly Programs” and “Cor-

porate Culture.” The wide range of services offered by Bayer in the United States to employees with children include childcare and learning aids, as well as teleworking and part-time employment models.

The President and CEO of Bayer MaterialScience’s U.S. subsidiary was personally honored for his efforts to promote equal opportunity for the disabled: In February 2007, Greg Babe received the Tony Coelho Award, which is presented by Bender Consulting each year in the United States to a person from industry or politics who displays a particular commitment on behalf of people with disabilities.

Despite numerous acknowledged achievements and strict internal Bayer Group standards, we aim to improve further in the future. The last two managerial employee surveys provided us with valuable information about existing deficiencies and with proposals for change. We therefore are once again planning to carry out a survey of our more than 10,000 managerial staff worldwide in 2007.

[www](#)

36 Declaration on Diversity by the Bayer European Forum

## Exemplary working conditions worldwide

Our employees are essential to the success of our company. That is why, along with ensuring equal opportunity for our employees, we regard the individual advancement of their potential and the balancing of career and private goals as the crucial basis of our personnel development at all Bayer sites, including those in developing and newly industrializing countries. We received numerous national and international accolades in 2006 that testify to the successful implementation of these and other principles.

We received two awards in Asia, where we have been steadily expanding our business activities for a number of years. For example, the Corporate Research Foundation named Bayer one of China's best employers in 2007. An international jury had previously closely examined the working conditions, compensation systems, employee development and corporate culture of selected employers in the boom region of Shanghai.

Bayer is also one of the most popular companies in Indonesia. For the second time, we took second place in a survey on "Indonesia's Most Admired Companies 2006." BusinessWeek magazine asked about 1,500 managers, investors and journalists to rate companies with respect to the aspects quality, performance, Responsible Care and attractiveness as an employer.

We also believe that our role as a responsible employer involves providing our employees around the world with a high level of social safeguard. Our employees in every country in which we are present are health-insured according to the respective national laws. Wherever a state-run health care system is not in place or can only guarantee basic care, we endeavor to provide our employees with a higher standard of care. In Romania, for example, Bayer has signed an agreement with a private hospital administrator to provide modern basic medical care to our employees via these facilities. Bayer assumes the costs for this care.

In Brazil, too, Bayer assumes the costs of basic medical care for all its employees. We also offer a

more extensive medical care model in that country in connection with an employee contribution component. In Spain and Portugal, we supplement the benefit range of the national health system with accident insurance for all Bayer employees.

Significantly more than 80 percent of all Bayer employees worldwide have access to the company pension benefits of their employer, usually in addition to their state pension system. In countries where we maintain a large workforce, such as Germany, the United States, Brazil and Japan, the share of employees with company pensions is even higher, at almost 100 percent. Some of these pension systems involve mandatory contributions by the employees, while others involve a voluntary commitment. In Germany, for example, the employees are obligated to contribute to payments into the company pension funds.

### Shaping growth socially: The Chinese example

Our successful human resources policy in developing and newly industrializing countries is based on intensive dealings with the economic, political and cultural aspects of these countries. This also applies to the People's Republic of China, which for a number of years has been of central importance within our business strategy and as a production base. Our Bayer MaterialScience subgroup in particular is currently considerably expanding its production capacities there. At the Shanghai Chemical Industry Park alone, we will invest roughly €1.8 billion through 2009 – more than at any other site outside of Germany.

The massive build-up of production capacities in China of course also involves rapid growth in the size of our Chinese workforce. In recent years, the number of staff in China has increased by approximately 30 percent a year – from about 2,000 to currently 6,000 employees.

All of these employees have access to both state and company health insurance, as well as additional social benefits. For example, our Chinese employees are also paid wages on national holi-

days, and we have set up bus transfers to their places of employment, which in many cases lie a great distance from residential areas. In China as in all other countries, of course, working hours are established contractually; our employees there work 40 hours a week.

The strict observation of the respective labor law framework is, of course, obligatory for us in China as well. We have defined internal rules and standards for personnel management to supplement the labor law regulations existing in that country. For example, we have implemented a China-wide human resources governance code that establishes the fair, open and just treatment of all employees. Furthermore, we endeavor to introduce the Chinese employees to our corporate values in a gradual process. In this context, we proceed very carefully, taking into account unique cultural aspects. The cooperative management style practiced at Bayer changes antiquated mind-sets, enables participation and thus heightens the employees' motivation and loyalty. The low rate of employee fluctuation in China testifies to the success of a human resources policy oriented around local circumstances, such as we practice in many other countries.

The situation at our Chinese sites also serves as an example of our high global standards in the areas of occupational safety, environmental protection and sustainable development, which always satisfy or even exceed statutory requirements. For example, the Health, Safety and Environment (HSE) teams that we have introduced throughout China are not required by law. The activities of these teams represent an important contribution to the safety of our employees and the communities surrounding our sites.

In order to provide our employees with optimal support, we maintain a continuous commitment to their vocational training and continuing education. This naturally also applies to our employees in China, where we offer course programs that are specially tailored to all employee groups. New employees are first familiarized with our corporate values, the most important processes and our business ethics. The entire spectrum of continuing

education measures is open to the employees: from languages through technical and social skills to management expertise. Since 2002, Bayer has cooperated closely with local institutes of learning as regards the training of future employees. In a special Bayer class at Shanghai Petrochemical Academy, Chinese school graduates receive well-founded vocational training according to German curricula. This vocational training model provides all participants with numerous advantages: The students receive systematic vocational training, thus laying a strong foundation for their further career development. Furthermore, the attractive training system improves the facilities and appeal of the learning institute and Bayer gains qualified specialists for its ultra-modern production facilities. In addition, Bayer in this way makes an important contribution to the transfer of knowledge as regards vocational training and industrial production.

#### **Multi-stage program: Measures to address child labor**

Child labor is a very emotional matter in the context of which Bayer was just a few years ago subjected to criticism from certain non-governmental organizations. In 2002, Bayer CropScience bought the Indian seed company Proagro as part of the Aventis CropScience acquisition. As is customary in India, Proagro entrusts the production of its hybrid seed to farmers in whose fields seed for high-quality hybrid plants is produced by the hand pollination of two parental lines. Proagro is confronted with the problem that this task is often completed by girls and boys who – despite the government's compulsory education policy – are forced to contribute to the modest income of their needy families at the expense of their own school education.

Bayer strictly rejects child labor, as it contradicts the company's values and principles and our Human Rights Position. Just a year after the Proagro acquisition, therefore, Bayer CropScience began developing a multifaceted program of initiatives aimed at protecting children and combating poverty in India.

The program is based on a clear ban on child labor as well as on continuous information campaigns

aimed at changing attitudes among farmers, parents, children and members of the village communities. Farmers who produce cotton seed for Bayer CropScience must agree in their supply contracts not to employ children as laborers. Production without child labor is publicly rewarded.

The process begins anew each planting season. In order to ensure continuity, a graduated system of financial incentives and sanctions strengthens the honoring of contracts over a period of several planting seasons: The company pays a bonus on the purchase price that amounted to five percent in the 2005/2006 season and 7.5 percent in 2006/2007. Violations of the ban on child labor are met with graduated penalties which range from spoken warnings to cancellation of the contracts. These measures are clearly communicated to the farmers before the season begins. At the same time, they receive technical and financial support in the form of training measures to increase their productivity and thus also their profitability, advanced training in the proper handling and use of crop protection products and the opportunity to receive small loans at favorable conditions.

A further key element of Bayer CropScience's multi-layered program of initiatives is the cooperation agreement entered into in April 2005 with the Indian-based charity organization "Naandi," which means "a new beginning" in Sanskrit. The two partners regard qualified education as an opportunity for a new beginning and thus a chance to lastingly improve living conditions. First of all, therefore, Bayer CropScience has participated in the creation of education programs for children in the heavily agricultural state of Andhra Pradesh, as well as projects aimed at increasing awareness among parents about the need for a school education and supporting training and continuing education for teachers. A network of "Creative Learning Centers" prepares the children for attending state-run schools. Naandi has established a total of 19 such centers in Andhra Pradesh on behalf of Bayer. Almost every child who received instruction in the centers has gone on to attend a state-run school having completed the preparative course.

According to an Indian study, on average six or more children were employed per cotton field acre (approx. 0.4 hectares) industry-wide in the 2003/2004 planting season. In 2005/2006, the figure was roughly one child per acre for Proagro's suppliers, and the average declined significantly in the following year. During the 2006/07 season, no children were found in the fields of Proagro's contract partners in Andhra Pradesh during the last three checks carried out jointly with NGOs. For the monitoring period as a whole, fewer than two of every hundred field workers were under 15 years of age.

For monitoring and identification of further optimization potential, Bayer CropScience contracted the auditing firm Ernst & Young to review its program in 2006/2007. This company's intensive analyses have so far confirmed the significant decline in child labor rates for Proagro contract partners and the effectiveness of the monitoring system.

[www](http://www.bayer.com)

## Occupational safety and health protection

Throughout the Group, the injury rate rose slightly in the reporting period (see page 77). The occupational injuries and illnesses reported here are compiled worldwide in our Baysis® IT system according to Bayer's standard definitions.

Occupational safety and health protection are essential objectives for our Group. In 2006/2007, we reviewed our Group-wide regulations for these areas, supplementing them with specific targets and programs for overcoming weaknesses and for continual improvement. The Group-wide exchange of best practices as part of our internal Community Management program contributes to this.

Bayer MaterialScience received the Responsible Care Award 2006 from the Northern Section of the German Chemical Industry Association (VCI) for its occupational safety concept at the Brunsbüttel site. Bayer South East Asia was presented with the Achievement Award for Community Awareness and Emergency Responsible Care in Singapore in March 2007, and in April 2007 Bayer Taiwan won the Award of Outstanding Contribution from the Taiwan Responsible Care Association.

Bayer CropScience has established in a QHSE guideline the offer of medical examinations following a six-week absence due to illness. This offer is valid independent of whether the absence was due to a work-related accident or not. Furthermore, all Bayer CropScience sites are required to organize yearly initiatives on general health promotion. The spectrum of activities ranges from stress management through fitness courses to preventive medical check-ups and examinations for early detection of cancer.

Bayer HealthCare plans to update its HSEQ management systems in all sections by 2010.

The construction project at the Bayer Integrated Site Shanghai (BISS) in China was an outstanding success as far as occupational safety is concerned. Construction of the chemical industrial park began in 2001. In a total of 13.6 million working hours, there was not one single injury, even though more

than 4,000 people were working on the site at peak times. One of the biggest challenges was to sensitize the workers, who came from all parts of China, to the subject of safety.

On September 26, 2006, an intermediates tank belonging to Bayer MaterialScience exploded at the industrial park in Baytown, Texas, United States, resulting in the most severe accident during the reporting period. Bayer MaterialScience is investigating the precise cause of the incident together with the authorities.

### **Health care for the workforce: Investing in competitiveness**

Especially in the chemical and pharmaceutical industry, caring for the health of the workforce is of major importance. Bayer regards this not as a cost item but as a long-term investment in the productivity of the employees. Bayer Industry Services ensures that health management is organized on a holistic basis with particular focus on factors such as stress, working atmosphere and health risks.

Since January 2006, the Health Protection Department of Bayer Industry Services with the support of German consulting institute BRT has been offering seminars for supervisors throughout the Bayer Group to keep them informed of these health aspects. In all, around ten percent of employees with a management function have attended the 1.5-day workshops so far.

In the United States, Bayer is in the process of launching "Wellness Works" – a new health and wellness initiative for employees and family members insured through Bayer. The goal is to improve quality of life through targeted health courses and wellness programs, and thus reduce company spending on medical procedures.

## Our responsibility as a good corporate citizen

In 2006, we underscored our role as a responsible and socially committed company with a number of activities in the fields of education and research, environment and nature, health care and social needs, and sports and culture. In keeping with our goal of being a good corporate citizen, we further developed the contents of some of our main projects while expanding others to additional countries and also launching new initiatives. In this context, we pay heed to the balanced use of funding both in a thematic and a regional respect.

### Health projects:

#### New focus on family planning

The promotion at Bayer Schering Pharma, Berlin, Germany, of family planning programs in developing countries is a new focus of our social activities. Bayer is thus continuing a 45-year-old tradition at Schering with programs in more than 125 countries. By supplying hormonal contraceptive systems at cost price, we offered family planning options and a choice of contraceptive methods to many needy people in developing countries again in 2006. In cooperation with multilateral, state and private organizations worldwide, we provided about 60 million cycles of oral contraceptives and roughly ten million units of one- and three-month injectable contraceptives and organized accompanying information campaigns.

### Foundations:

#### Promoting science and social well-being

Carl Duisberg established the first Bayer foundation for medical students in 1923. In the decades that followed, a broadly based foundation culture developed under the Bayer name that concentrated on supporting education and science on the one hand and disabled athletes on the other. Bayer has now pooled and expanded its traditional foundation activities with the establishment of two new organizations, the Bayer Science & Education Foundation and the Bayer Cares Foundation.

Both foundations orient their philanthropic activities around the Bayer Mission Statement "Bayer: Science For A Better Life" and underscore Bayer's self-image as a good corporate citizen. The Bayer

Science & Education Foundation mainly aims to support talented schoolchildren, ambitious students and outstanding scientists. Personal commitment and specialist excellence are regarded as central criteria for selection. Activities that qualify for support could include such endeavors as school programs at our production sites, innovative projects initiated by students and scientific symposia. Bayer makes available an additional foundation budget of €10 million for school projects. The Otto Bayer Prize and the Hansen Family Award continue to be presented in recognition of outstanding research achievements in the fields of science and medicine. The Hermann Strenger Foundation sponsors foreign assignments by trainees.

The Bayer Cares Foundation aims to help improve living conditions at our sites and solve central social problems. A key role here is played by the sponsoring of voluntary commitment in the local communities surrounding our sites. Our newly established Corporate Volunteering Program provides funding and advice to employees looking to become involved in local charitable projects. A special area of focus involves support for retired Bayer employees who would like to contribute their expertise to international development efforts or to the provision of science education at institutes of learning. The Bayer Cares Foundation also provides donations to quickly help those placed in a position of need following natural disasters, for example. Bayer's traditional support for disabled sports will continue to be maintained in the future by the Herbert Grünewald Foundation. Bayer has recently consolidated its commitment to amateur and youth sports. In 2006, some 50,000 people were members of 27 company societies and 50 sports clubs. These receive funding of €14 million every year.

### Education projects:

#### Worldwide network set up

Our Making Science Make Sense program (MSMS) was initiated more than ten years ago to encourage interest in the natural sciences among U.S. school students. More than 1,200 Bayer employees now support scientific education in these

countries by regularly volunteering their time to help teach at elementary schools. In 2006, Bayer was awarded the Ron Brown Award for Corporate Leadership by the U.S. President for this initiative, the first non-U.S. company to receive this prize. In the meantime, this educational initiative has been extended to Bayer sites in France, Ireland, Italy, Japan and the United Kingdom.

Bayer signed an agreement in 2006 with Tongji University in Shanghai, China, to fund a Chair for Sustainable Development. Bayer will support this initiative with material and financial funding totaling US\$ 1 million for an initial period of five years.

As partner to the United Nations Environment Programme (UNEP), Bayer supported the organization of a global youth environmental conference in August 2006 in Malaysia, providing personnel, material and financial resources. Furthermore, the company provided funding to help develop the structures for the United Nations' global youth environmental activities through the establishment of additional regional networks for young environmentalists in Asia and the organization of the first ever youth environmental conferences in Latin America and Africa. The Young Environmental

Envoy Program, which in 2006 saw Bayer again invite about 50 young people from Asia, Latin America, Africa and eastern Europe to attend a week-long study trip to Germany, was expanded to include Malaysia, Vietnam and Turkey – increasing to 17 the number of participating countries. The company spent a total of €1 million last year on activities organized in the context of its successful partnership with UNEP.

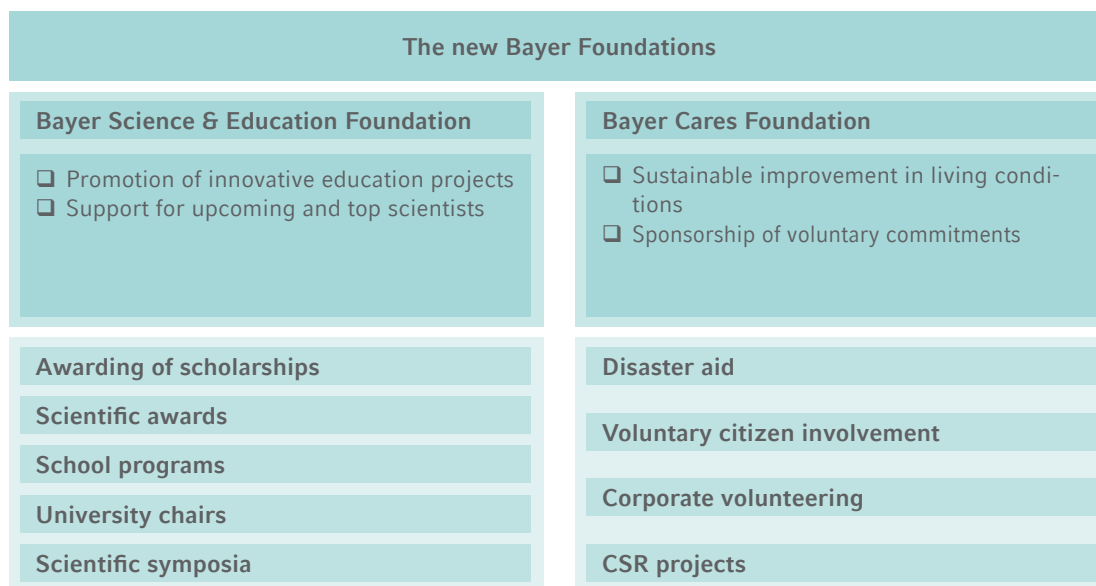
Together with National Geographic, the world's biggest charitable scientific organization, we last year supported nine research projects aimed at drinking water conservation from the jointly funded €250,000 Global Exploration Fund. This scientific collaboration is unique, as Bayer is the first private-sector partner with which National Geographic has entered into a theme-related partnership outside of its home country, the United States.

[www](#)

38 Bayer Foundations

39 Overview of international CSR projects

## Realignment of foundation management



Focus on the food chain:

## Production of high-quality food

Bayer is one of the world's major suppliers of crop protection products, seeds and plant biotechnology. The company helps its customers to produce the high quality expected by a growing number of consumers. The focus is always on observing good agricultural practice in the production of high-quality foods. These and the daily availability of fresh produce such as fruit and vegetables even outside regional growing seasons form the basis of a healthy diet.



*"We are finding that our customers are farming more successfully when we advise them in detail about safety, responsibility and quality."*

Aureliano de Barros Cavalcante, Manager of Juagro Comércio e Representações Ltda. in Juazeiro, Bahia, Brazil

By the time a food product lands in a shopper's basket it has already passed through many links in the food chain. Each of the stages on its journey "from farm gate to plate" helps to ensure the quality of the product; those involved include food producers, shippers, traders and processors. Bayer CropScience is initiating partnerships throughout the food chain; their aim is to provide the consumer with sufficient high-quality food all year round.

"We help the people who use our products to follow good agricultural practice in their efforts to produce the high quality demanded by consumers and food processors," explains Sagar Kaushik, Head of Marketing and Development at Bayer CropScience Asia Pacific in Singapore, summarizing the goal of the food chain partnerships. "Bayer CropScience works on projects with partners in the food chain, providing them with innovative products and its specialists' extensive knowledge of good agricultural practice, and also enabling them to collaborate with Bayer CropScience branches throughout the world."

### Safety for users

Innovative crop protection products make a major contribution to profitable farming and the cultiva-

tion of quality products. They protect harvests from pests, weeds and diseases, enabling farmers to cultivate a wide variety of fruits and vegetables profitably. "Without modern crop protection, over 50 percent of harvests would be lost," Kaushik says.

Yet Bayer CropScience is aware that the correct use of crop protection products is crucial. "This is why we give top priority to providing our customers with product information," Kaushik explains.

### Partnerships in all the world's regions

Bayer CropScience has routinely been training farmers to handle crop protection products for years. Training programs are in place in practically every country in which Bayer products are sold, with the majority being held in newly industrializing countries.

In Latin America, for example, the "AgroVida" training program has been running successfully since 1995. It targets mainly small-scale farmers and agricultural workers, but also welcomes dealers, teachers and students.

"In another partnership, 'Distribuição Brazil,' Bayer CropScience communicates to Brazilian



farm-product dealers the basics of sustainable agriculture and the safe use of crop protection products,” explains Aureliano de Barros Cavalcante, Procurement Manager at JUAGRO, a company that sells farm products and services including crop protection products in Brazil.

The dealers act as multipliers and pass on their knowledge to their customers, the farmers. “In addition to information about new and innovative products and how to use them throughout the season until the produce is harvested, dealers are also taught how to use crop protection products safely and learn about the quality requirements that farmers have to meet if they want to export their produce,” he reports. Aureliano de Barros Cavalcante is convinced that the program is a good idea: “We find that our customers are farming more successfully.”

Another example is China, where experts are training a growing number of dealers every year as part of the “Bayer Key Retailer” project; the dealers subsequently pass on their new-found knowledge to their customers, the farmers. Bayer CropScience set up the “Green World” project in Kenya in the summer of 2006, and is now training local farm-product dealers to provide better support for small-scale farmers in their efforts to meet the strict requirements imposed by European food importers on agricultural produce from Kenya.

#### **Trade with illegal crop protection products**

Global agriculture and the food-processing industry is facing a major challenge that has been very difficult to overcome in the past: the proliferation of counterfeit and imitation crop protection products. It is estimated that in Europe between five and seven percent of the crop protection products in circulation are counterfeit or do not have regulatory approval; in Asia the figure is between ten and 20 percent. In Brazil, de Barros Cavalcante believes that counterfeit products “are one of the main problems facing producers and users of crop protection products today.” He estimates the proportion of counterfeit and smuggled products in Brazil at around 30 percent.

“The active ingredients in counterfeit products usually don’t comply with the exact, carefully opti-

mized specifications of original products, or they contain substances which do not have regulatory approval and which may be highly toxic or completely ineffective,” Sagar Kaushik explains. In addition to quality problems that operators may encounter, counterfeit crop protection products may pose a risk to the health of farmers and consumers and a hazard to the environment.

#### **Raising awareness of the problem**

Bayer CropScience is expending major effort on the development of innovative products, particularly packaging solutions, which it is hoped will make illegal trade more difficult (see page 29). But the companies cannot solve this problem on their own. Kaushik wishes that the authorities would make a greater effort to help beat the people who manufacture and deal in illegal crop protection products. In many regions of the world Bayer is working with national and international associations which represent the crop protection industry to raise the authorities’ awareness of the problem. De Barros Cavalcante points to the partnership with Distribuição Brazil, through which meetings, advertisements and press liaison work are organized to educate farmers about the risks associated with products of unclear origin. He is certain “that the number of counterfeit Bayer CropScience products on the Brazilian market has been declining since this project was launched.”

Partnerships between agriculture and the food industry can help to suppress the use of illegal crop protection products in the longer term.



*“We help the people who use our products to meet the wishes of the end users and food processors and thereby to maximize their sales opportunities.”*

Sagar Kaushik, Head of Marketing and Development at Bayer CropScience Asia-Pacific in Singapore



# Recognition.

The fact that a Bayer Foundation is supporting me is major recognition for what I have achieved in my studies. And what is particularly nice is that it relieves a burden from my parents, who have another three children to look after. I wanted to do my clinical practice in Rarotonga because here I see different disease profiles than at home. Medicine here is not equipment-based. Your own senses are the instruments of choice for diagnosis. Basically all activities here are a new experience. The most important thing for me has to be the motto of the happy, friendly islanders: "Enjoy life."

## SABRINA HÖFER

Medical student, scholarship from the Bayer Foundations for clinical practice at Rarotonga, Cook Islands



## Management of objectives and performance indicators



*“Our self-commitment and increasing external requirements are, together, augmenting the meaningfulness of our performance indicators. This year, we have become one of the first companies to include indirect greenhouse gas emissions in our reporting and are thereby presenting a comprehensive climate balance sheet for our Group.”*

Dr. Wolfgang Grosse Entrup, Head of Environment & Sustainability at Bayer AG

With our Sustainability Program and this data section, we detail the Group’s most important objectives and performance indicators in the 2006 reporting period. These indicators comprise data for environmental, social, and economic performance. Our self-commitment and increasing external requirements are, together, augmenting the meaningfulness of our performance indicators.

This year, we have become one of the first companies to include indirect greenhouse gas emissions in our reporting and are thereby presenting a comprehensive climate balance for our Group. We have also decided to newly include the social security coverage of our employees worldwide. Progress rather than stagnation is at the heart of our commitment. And the performance indicators are the yardstick against which we allow ourselves to be judged. The latter also entails the subjection of our data to an independent assurance process.

Bayer has captured data from all of the relevant organizational units and companies worldwide in which the Group held a participating interest of at least 51 percent in 2006. The performance data for these affiliated companies have been fully consolidated, regardless of the exact share held by Bayer in each company. We have based our selection and measurement of these indicators on the international recommendations and current guidelines of the Global Reporting Initiative (GRI), the World Business Council for Sustainable Development (WBCSD), and the European Chemical Industry Council (CEFIC).

As in previous years, HSE data were captured using an electronic questionnaire and consolidated in our Group-wide site information system, Baysis®. We have used various internal systems to compile employee-related data.

The auditing company Deloitte was commissioned by the Bayer Group to perform an audit of the data capture and reporting processes in order to confirm their quality and credibility (assurance process). The audit was performed between February and May 2007. The Assurance Statement issued by Deloitte has been included on page 81 of this Report.

### Key changes in 2006

The acquisition of Schering AG, Berlin, Germany, was completed in spring 2006. In addition, a decision was taken to sell off the companies Wolff Walsrode and H.C. Starck belonging to Bayer MaterialScience, as well as Bayer HealthCare's Diagnostics Division. We have based our presentation of sustainability indicators on the requirements of financial reporting: Continuing operations are reported for 2006, meaning that Schering is included from June 23, 2006, while Wolff Walsrode, H.C. Starck and the Diagnostics Division are excluded. The values for the previous year 2005 have been similarly aligned.

To enable comparison with years prior to 2005 and to thereby increase the transparency of our reporting, we include for 2005 and 2006 an additional figure for the Group excluding Schering but including Wolff Walsrode, H.C. Starck and Diagnostics ("previous operations").

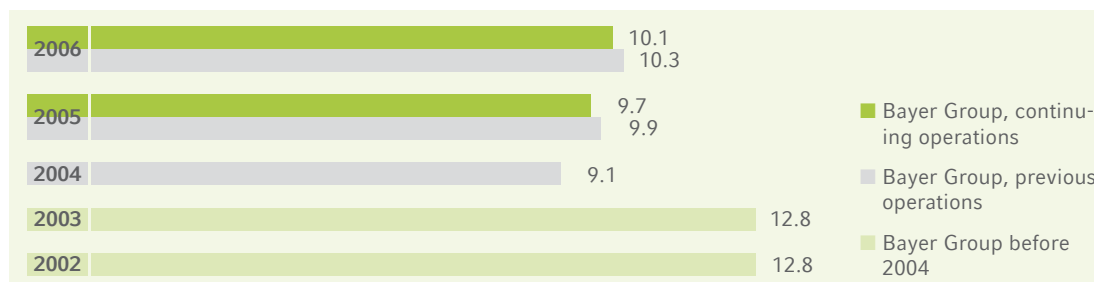
The effect of the carve-out of Lanxess AG on the development of HSE performance was shown in past Reports by presenting Lanxess's share separately for the reporting year 2004. In the following, we give figures for the Bayer Group for 2004 that exclude Lanxess but include Wolff Walsrode, H.C. Starck and Diagnostics.

### Classifying performance indicators

When interpreting changes in the figures over time, it should be borne in mind that these changes depend on various influences. In addition to technical measures aimed at reducing emissions, waste levels and resource consumption, fluctuations in production volume and structural changes also play a part. The latter include the acquisition and sale of sites in full or in part, as well as the outsourcing of upstream production services.

Structural changes through adaptation of the portfolio are highlighted in the following diagrams through the separate indication of previous and continuing operations, as mentioned above. In addition, we place the performance indicators in the context of production volume: Since there is a causal relationship between emissions, waste levels and resource consumption on the one hand and production on the other, the development of production volume gives an indication of the reasons for the way performance indicators have changed over time. The production volume of Bayer AG's continuing operations rose in 2006 compared to 2005. In some cases therefore, there was an increase in performance indicator values.

### Production volume (in million t/a)



### Management systems

Our objective is to address health, safety, environmental protection and quality (HSEQ) to an appropriate degree and to achieve a consistent level of HSEQ management throughout the Group. We have therefore continued to improve our established HSEQ management systems in 2006. These systems are subject to regular audits as set out in a Group-wide Audit Directive; this Report presents additional data for the first time to illustrate the percentage of sites with management systems that are subject to independent Bayer audits. This was the case for almost two thirds of the production sites in the Group's continuing operations in 2006.

Where it makes sense in specific locations, the internal audits performed on our management systems are supplemented by external certification. For example, we will also in future arrange certification in accordance with the environmental management standard ISO 14001. We are in an increasing number of cases arranging for certification in accordance with the equivalent standard for health and safety management, OHSAS 18001 (Occupational Health and Safety Management System).

### HSE audits (percentage of production sites)

	2004	2005	2005 cont.*	2006	2006 cont.*
Sites with a management system certified to ISO 14001 or EMAS standards	33	35	36	35	36
Sites with an environmental management system based on external standards**	38	39	40	43	43
Sites with a management system certified to OHSAS 18001	2	5	5	8	8
Sites with an HSE management system audited by Bayer personnel	-	-	-	56	62

\* continuing operations

\*\* "based on external standards" includes:

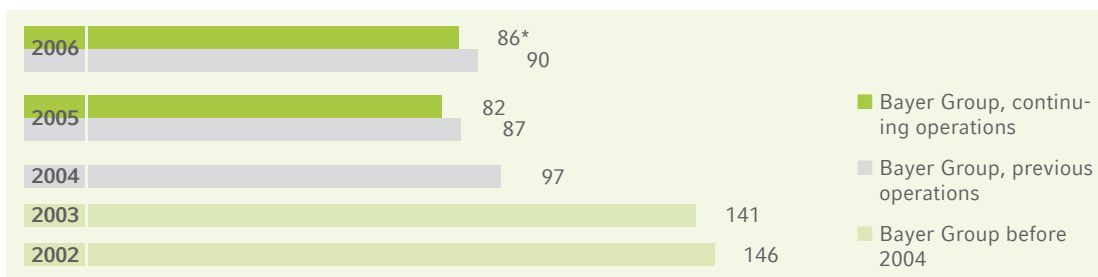
- management systems certified to ISO 14001 or EMAS
- systems and certifications in accordance with national standards, such as "Industria Limpia" in Mexico

## Ecological indicators

### Energy use

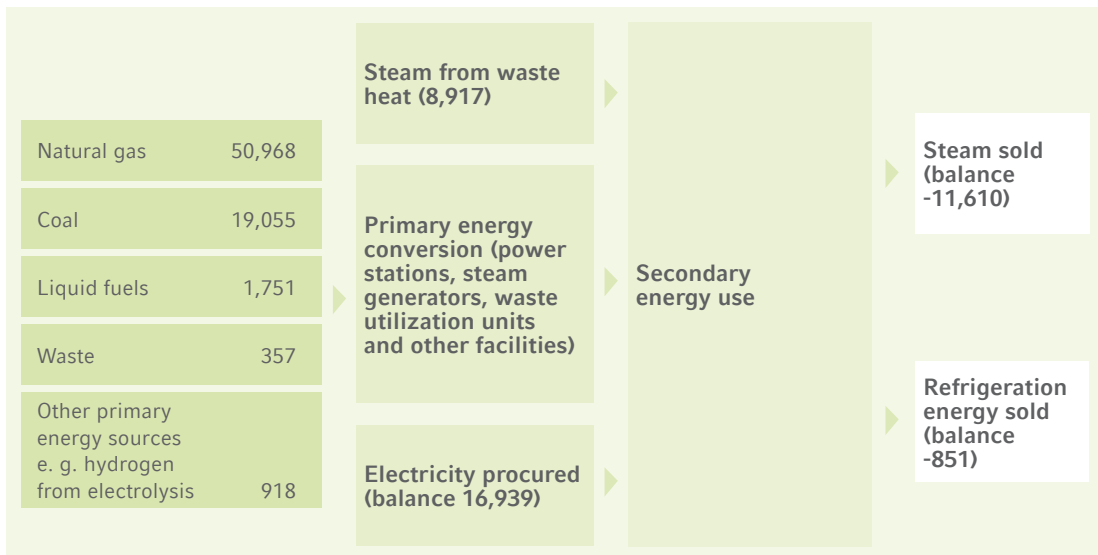
Energy use by the Bayer Group in 2006 increased by about five percent compared with the previous year (continuing operations). This correlates primarily with the production volume.

#### Energy use (in petajoule/a)



\* This figure differs from the one given in the Annual Report owing to improved knowledge.

#### Energy balance sheet (in terajoule/a)

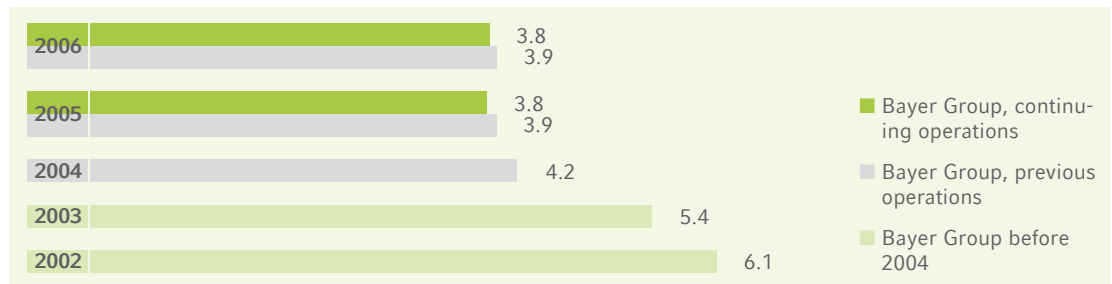


The total energy use for the Bayer Group of 86 petajoules (= 86,000 terajoules) is calculated from the sum of primary energy use, electricity procured and waste heat, minus the amount of steam and refrigeration energy sold on balance.

## Direct greenhouse gas emissions

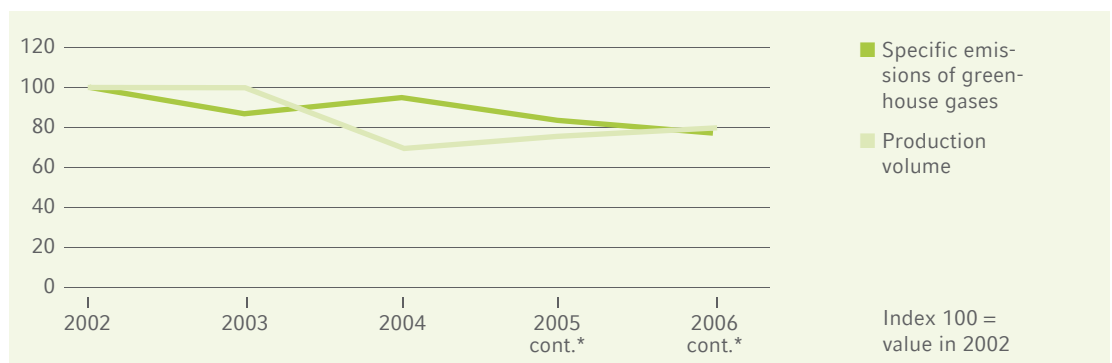
Direct emissions of greenhouse gases in 2006 remained at almost the same level as in 2005, despite an increase in production volume. Greenhouse gases include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), dinitrogen monoxide (N<sub>2</sub>O), halogenated hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). Using substance-specific equivalence factors, non-CO<sub>2</sub> emissions are converted to CO<sub>2</sub> equivalents. In 2006, 98.6 percent of greenhouse gas emissions were CO<sub>2</sub> emissions. These emissions are composed of emissions from power stations and from production and waste incineration plants in which the Bayer Group holds a participating interest of at least 51 percent. Dinitrogen monoxide (laughing gas) accounted for 1.1 percent of the emissions.

### Direct greenhouse gas emissions (in million t CO<sub>2</sub> equivalents/a)



In spite of an increase in production, specific greenhouse gas emissions have fallen by four percent (continuing operations). We are on course for our target of a ten percent reduction in specific emissions of greenhouse gases by 2015.

### Specific greenhouse gas emissions/production volume



\* cont. = continuing operations. For the sake of clarity, only data from continuing operations in 2005 and 2006 are presented in the above graph.

The figures from prior to 2004 include data from Lanxess, while Lanxess data are not included in the figures for 2004 and onwards. This is why the “Specific greenhouse gas emissions/production volume” graph shows a drop in production volume and an increase in specific emissions from 2003 to 2004. If Lanxess data had been included, the level of specific greenhouse gas emissions in 2004 would have been 75 percent.



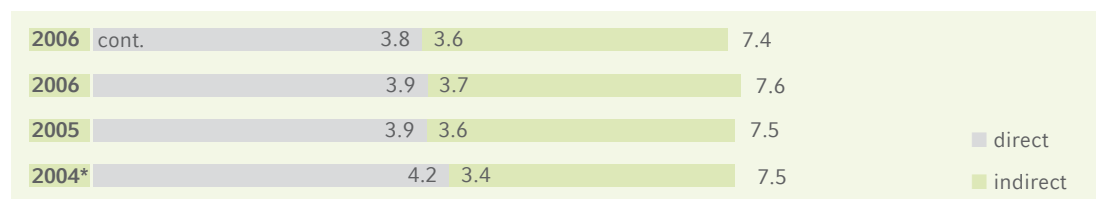
## Indirect greenhouse gas emissions

Bayer procures some of its electricity and steam from external suppliers. At the same time, we also sell off large amounts of these types of energy to external purchasers. We are including so-called indirect emissions for the first time in this Report; these are emissions that result from the external production of electrical and steam energy. These indirect emissions are calculated from the amounts of electricity and steam purchased and sold (excluding steam generated from waste heat) at each individual Bayer production site. Greenhouse gas emissions from the generation of electricity and steam result predominantly from the incineration of fossil fuels such as coal, oil or gas. Typically, CO<sub>2</sub> comprises more than 99 percent of all greenhouse gas emissions resulting from such combustion processes in terms of CO<sub>2</sub> equivalents. We have therefore restricted ourselves to CO<sub>2</sub> emissions in the calculation. Data from the energy balance sheet are used as the basis for the calculations (see page 67). These energy figures are multiplied by a specific emission factor to obtain the level of CO<sub>2</sub> emissions from external electricity and steam generation. Thus, indirect CO<sub>2</sub> emission levels are determined for each individual production site. These are then added together in order to calculate the total indirect CO<sub>2</sub> emissions. In order to ensure that energy passed on to other users or sold on is not included in the balance sheet, this energy is subtracted from the Bayer energy balance sheet up to a maximum level equal to the amount of energy purchased. The methodology used to calculate indirect carbon dioxide emissions is based on "The Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, Revised Edition," published by the World Business Council for Sustainable Development (WBCSD) in collaboration with the World Resources Institute (WRI).

In 2006, Bayer met about 20 percent of its energy requirements by purchasing electricity from external suppliers. Bayer is a net exporter of steam (excluding steam generated from waste heat<sup>1</sup>): In relation to its total energy use, Bayer supplies on balance around 13 percent in the form of steam to external purchasers.

It is clear from the results that total greenhouse gas emissions have remained more or less constant over the past three years. Since this was achieved during a period in which production volume was growing, specific emissions actually fell 13 percent between 2004 and 2006. To put it more simply, indirect emissions from the consumption of externally generated electricity and steam account for about the same amount of emissions again as Bayer's own direct emissions. In order to achieve our goal of further reducing greenhouse gas emissions, we have developed a climate strategy, further details of which are presented on page 38 et seq.

### Sum of direct and indirect greenhouse gas emissions (in million t CO<sub>2</sub> equivalents/a\*)



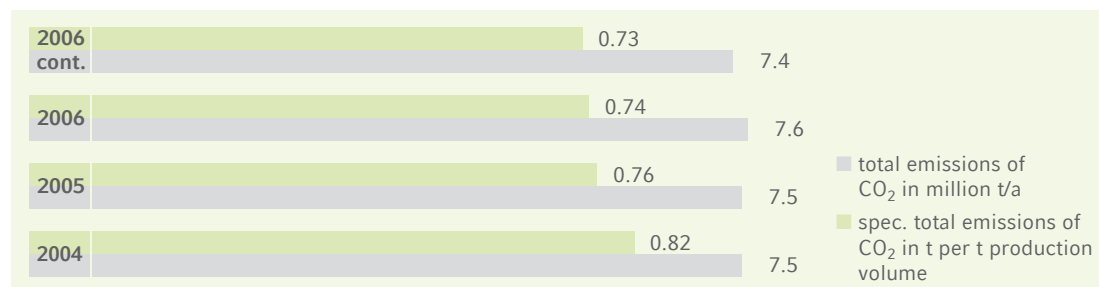
\* The summary parameters shown may differ from the sum of the partial amounts indicated owing to rounding-up effects.

**WWW**

**40** Detailed description of the methodology used for calculation, including the applicable emission factors

<sup>1</sup> Steam from waste heat is a separate item in the balance sheet, as this steam is generated by processes not primarily intended for energy generation (such as exothermic chemical reactions).

### Specific and absolute greenhouse gas emissions (direct and indirect)

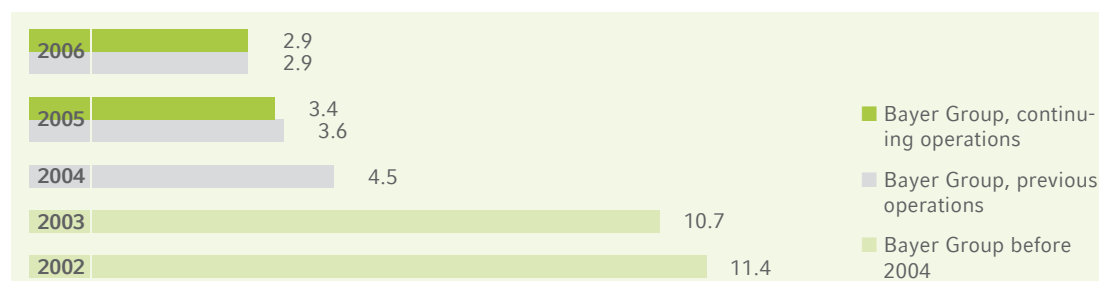


### Emissions of volatile organic compounds

Volatile organic compounds (VOCs) are organic chemicals with a specific vapor pressure that contribute to the formation of smog and ground-level ozone.

The downward trend identified in 2005 has continued. During the reporting year, VOC emissions fell by 15 percent in continuing operations. This positive development is primarily attributable to the continued efforts at the Vapi site in India.

#### VOC emissions (in 1,000 t/a)



### Other air emissions

Other emissions primarily include sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>), most of which originate from incineration processes, but some of which are also generated during production processes. Particulates are released both during energy generation and during production processes such as the pneumatic extraction of solid granules.

In order to be able to record comparative data regarding the harmful effect of substances on the ozone layer, each of these substances is categorized in terms of its ozone depletion potential and is presented as a relative quantity compared with the control substance trichlorofluoromethane (CFC-11) (equivalent). All of the substances that have the potential to cause damage to the ozone layer are then added together to give the total number of CFC-11 equivalents. In 2006, this figure fell by just under 25 percent. This reduction is attributable to process optimization measures, above all at the Vapi site.

**Further air emissions** (in 1,000 t/a)

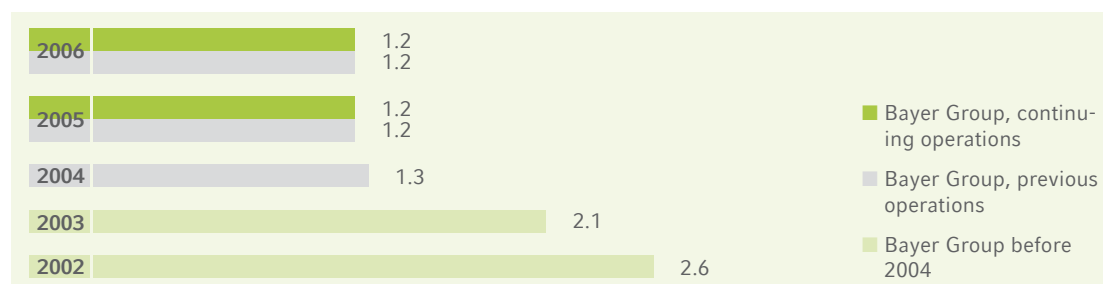
	2002	2003	2004	2005	2005 cont.*	2006	2006 cont.*
CO	3.0	-	1.9	1.9	1.7	2.4	2.2
NO <sub>x</sub>	9.4	6.7	4.3	4.5	4.3	4.1	4.0
SO <sub>2</sub>	7.4	5.9	4.2	4.5	4.5	3.8	3,8
Particulates	0.8	0.9	0.5	0.3	0.3	0.2	0.2
Ozone-damaging substances**	0.038	0.041	0.019	0.017	0.017	0.013	0.013

\* Bayer Group, continuing operations

\*\* in CFC-11 equivalents

**Water**

Water use by the Bayer Group in 2006 remained at the same level as in the previous year. Cooling water fed into production accounted for the highest share of this use at 0.75 million cubic meters (m<sup>3</sup>) per day. Since this water is merely heated up and not affected in any other way when used within the Group, it can subsequently be discharged back into the water supply without any further treatment, provided that the water is kept below a maximum safe ecological temperature. The sites take more than half of the water they need from surface water, with around one third being drawn from underground sources (generally groundwater).

**Water use** (in million m<sup>3</sup>/d)**Water use according to origin**

Bayer Group, continuing operations	2004	2005	2006*
Water use in million m <sup>3</sup> /d	1.3	1.2	1.2
of which from surface water	60 %	54 %	53 %
of which from bore holes/springs	33 %	35 %	35 %
of which from the public drinking water supply	5 %	2 %	2 %
of which from other sources (e.g. rainwater)	2 %	9 %	9 %

\* Since the individual entries are rounded off, the total does not equal 100 percent.

## Wastewater

The most important parameters used to record water pollution caused by Bayer are the total loads of phosphorus, nitrogen and organic compounds. In 2006, phosphorus discharge levels increased by about eight percent over the previous year (continuing operations). This increase is attributable to increased sales and a changed product mix.

The nitrogen load (nitrates and ammonium nitrogen) also increased in 2006, but continued to remain in a low range as previously. This increase can be explained by a capacity expansion at our Dormagen site and by the fact that more wastewater containing nitrogen has been generated by the waste air treatment system in one waste incineration plant in Leverkusen.

During the past year, the discharge of organic compounds into wastewater has remained at the same level as in the previous year. We have been using a different method of analysis since 2003: Because it is easier to determine the level of organic compounds in wastewater as total organic carbon (TOC), we no longer use chemical oxygen demand (COD) as an indicator.

Wastewater heavy metal levels fell during the reporting period. Discharge levels of inorganic salts remained roughly at the same level as in the previous year (all data regarding changes are taken from continuing operations).

### Emissions into wastewater

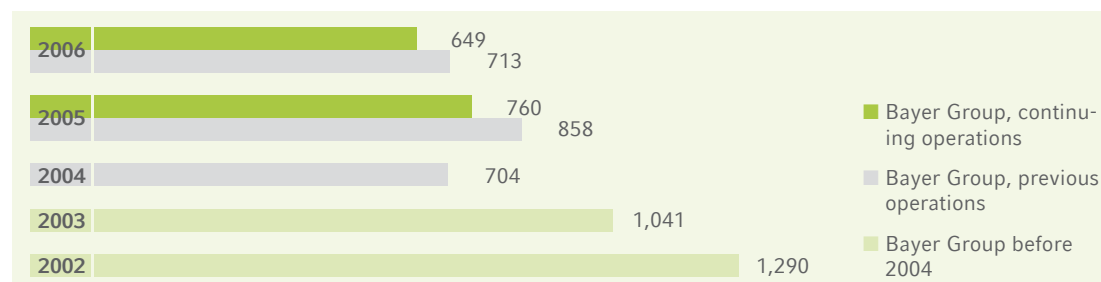
	2002	2003	2004	2005	2005 cont.*	2006	2006 cont.*
Phosphorus, 1,000 t/a	0.6	0.6	0.76	0.75	0.74	0.81	0.81
Nitrogen, 1,000 t/a	3.4	3.2	0.9	0.7	0.6	0.8	0.7
TOC, 1,000 t/a of total organic carbon	–	6.4	2.2	1.75	1.49	1.7	1.49
Heavy metals, t/a	30	29	28.2	12.0	11.6	9.3	8.0
Inorganic salts, million t/a	1.5	1.6	–	0.8	0.8	0.9	0.8

\* Bayer Group, continuing operations

## Waste

After the comparatively large amount of waste generated in 2005 resulting from large quantities of construction waste and excavated soil, the amount of waste generated in 2006 fell back to the 2004 level.

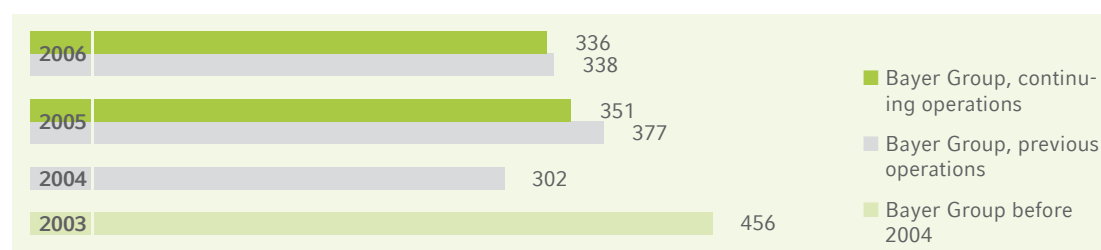
### Total waste generated (in 1,000 t/a)



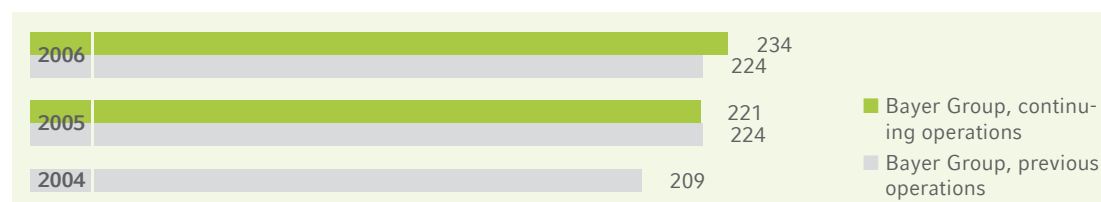
### Hazardous waste generated

We have been keeping Group-wide records of the amount of “hazardous waste” generated since 2003<sup>2</sup>. The definition of hazardous waste differs from one to country to another; the data captured for the Bayer balance sheet are therefore calculated in accordance with national definitions. In Germany, hazardous waste includes items such as sludge from the company’s own wastewater treatment processes, as well as distillation and solvent residues. After an increase in 2005 compared to 2004 due to isolated large amounts of excavated soil and construction waste, levels fell again in 2006. The increase in the amount of hazardous waste generated by production operations since 2004 can be attributed to the change in product mix.

### Generation of hazardous waste (in 1,000 t/a)



### Generation of hazardous waste in production processes (in 1,000 t/a)



<sup>2</sup> From 2003 the data capture procedure has been revised on successive occasions to bring it into line with current requirements.

### Waste disposal

The proportion of waste from Bayer's continuing operations removed to landfill sites fell. The proportions of incinerated and recycled waste each increased.

### Waste disposed of according to means of disposal

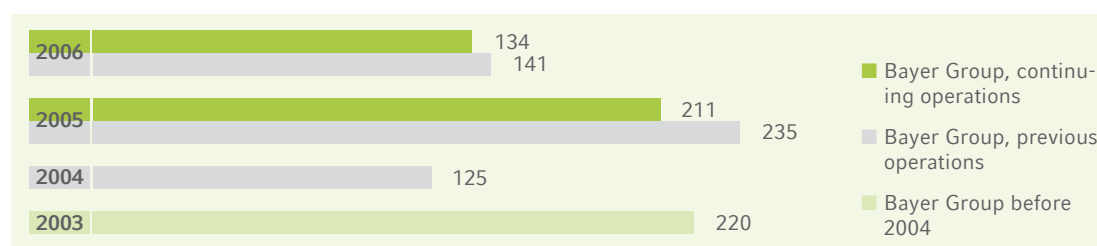
Bayer Group, continuing operations	2005	2006
Total amount of waste disposed of in 1,000 t	848	654
Removal to landfill sites	52 %	44 %
Incineration	28 %	32 %
Recycling	18 %	22 %
Waste that cannot be categorized definitively*	1 %	3 %

\* It was not possible to assign this waste to a specific category or the means of disposal could not be recorded. Proper disposal is also ensured in this case. In 2006, a large amount of wastewater containing a high degree of salt was generated at a former Schering site. This wastewater was subjected to chemical and physical treatment and was therefore not assigned to one of the categories recorded to date. We shall review the definition of means of disposal and thereby the allocation for future years.

### Hazardous waste removed to landfill sites

The amount of hazardous waste removed to landfill sites fell by almost 40 percent compared with the previous year. The figures for 2005 were affected by a comparatively large amount of mineral materials removed to landfill sites in excavated soil and construction waste.

### Removal of hazardous waste to landfill sites (in 1,000 t/a)



## Reportable environmental incidents

Since the reporting year 2003, we have described environmental incidents of a specific level of severity collectively as "reportable environmental incidents," based on a unified set of criteria. This designation covers incidents resulting in materials being released into the environment. Depending on the amount and nature of the material, the level of resultant damage, the impact on the local population, and press reporting, these incidents are divided into two categories:

**Level 1 incidents (severe environmental incidents):** This category is based on criteria such as costs in excess of €2 million resulting from damage to plants, rehabilitation costs, etc.

**Level 2 incidents (significant environmental incidents):** Examples of level 2 incidents include those that have resulted in costs of at least €100,000 and up to €2 million.

Up to 2002, we reported data on those incidents at production sites that had to be notified to the authorities based on local regulations. For example, in 2002, we recorded 53 “notifiable environmental incidents” and four “incidents resulting in damage.” Due to different definitions, comparisons with earlier years can only be made to a limited extent.

In 2006, there was a considerable increase in the number of environmental incidents from two to eight. These included two level 1 incidents and six level 2 incidents. All incidents have been subjected to a detailed analysis and appropriate measures have been implemented to avoid similar damage in the future.

### Environmental incidents and incidents resulting in damage (number per year)

	2002	2003	2004	2005*	2006*
Notifiable environmental incidents	53	-	-	-	-
Incidents resulting in damage	4	-	-	-	-
Reportable environmental incidents	-	21	6	2	8

\* Bayer Group, continuing operations

## Transportation incidents

We define transportation accidents as incidents if they occur during paid shipments of chemicals originating from Bayer while these shipments are outside Bayer sites<sup>3</sup>. Incidents are described as transportation incidents if they result in death or serious injury, if specified amounts of the chemicals being shipped are released into the environment, or if the incident results in severe traffic delays. Since the reporting year 2003, data for this parameter have been captured at all of the Group’s sites, including in locations such as warehouses.

The number of transportation incidents in 2006 was up from 2005, with nine incidents occurring in 2006 against three in 2005. The analysis of each individual case does not reveal any pattern that would suggest that any individual causes or circumstances behind transportation incidents are occurring more frequently than others. In this case, too, all incidents were analyzed and the appropriate steps taken.

### Transportation incidents according to means of transport (number per year)

	2002	2003	2004	2005*	2006*
Road	23	28	10	2	6
Rail	2	0	0	1	3
Inland waterways	0	0	0	0	0
Sea	0	0	0	0	0
Air	0	0	1	0	0
Pipeline	1	-	-	0	0
Total	26	28	11	3	9

\* Bayer Group, continuing operations

<sup>3</sup> Prior to the reporting year 2005, the definition of a transportation incident was based on the ownership of the goods being shipped. Accidents during shipments were only classed as transportation incidents if the goods being shipped were owned by Bayer.

## Social indicators

For the first time, we have collected data for the social security systems covering our employees (last updated on March 31, 2007). Data have been collected for 98,093 FTEs (full-time equivalents), that is 93 percent of 106,000 FTEs. All of our employees worldwide from whom data were collected using the questionnaire have contractually established work hours of at most 48 hours per week and health insurance. 85 percent of the employees are entitled to participate in a company pension program and 63 percent of the employees for whom data were collected are subject to collective agreements with regard to their working conditions (see page 54).

It has been established that not all employees in the various regions benefit equally from the generally high social standards of the Group. The task in the coming months will be to analyze the reasons for this and, if necessary, to formulate suitable objectives and measures.

### Regional distribution of social security indicators (in percent)

Region/Area	Percentage of full-time employees with contractually agreed working time of max. 48 hours per week*	Percentage of employees with health insurance**	Percentage of employees entitled to a company pension program or a pension program financed by the company***	Percentage of employees who are covered by collective agreements****, especially on wages and working conditions
Europe	100	100	91.2	92.6
North America	100	91	100	10
Latin America/ Africa/Middle East	100	100	53.4	42.4
Asia/Pacific	100	100	67	20.8
Total for Bayer Group	100	98.6	84.6	63.3

\* standard contract, excluding exempts, \*\* statutory or employer/employee-funded, \*\*\* also in addition to the statutory pension program, \*\*\*\* tariff or wage or shop agreements

Since 2005, we have been collecting data for indicators in the categories of diversity and opportunity, and of training and continuing education. Personnel expenditure in 2006 amounted to approximately €6,630 million, with 2.2 percent of this total, about €146 million, being devoted to employee training and continuing education, which equates to approximately €1,400 for each individual. The increase in personnel numbers seen in all regions can be attributed to the transfer of former Schering employees. Without the inclusion of the latter, staff numbers would have fallen in all regions.



## Further social indicators

Category	Indicator	2005	2005 cont.	2006 cont.
Diversity and opportunity	Percentage of women in senior management* within the Bayer Group	3.9	3.9	3.8
	Number of different nationalities in senior management within the Bayer Group	17	17	17
Training and continuing education	Training and continuing education costs as a percentage of total personnel expenditure	2.3	2.3	2.2
Employment	Number of employees per region (permanent and fixed term job contracts) as of the cut-off date (December 31, 2006)			
	Total for the Bayer Group	93,700	82,600	106,000
	Europe	52,400	45,700	57,800
	North America	16,200	13,100	17,200
	Asia/Pacific	13,900	13,200	17,300
	Latin America/Africa/Middle East	11,200	10,600	13,700

\* All positions in the Group Leadership Circle are classed as belonging to senior management. This equates to approximately 340 positions within the Bayer Group. The Group Leadership Circle consists of managers who perform a prominent function for the Group in the holding company, subgroups or service companies.

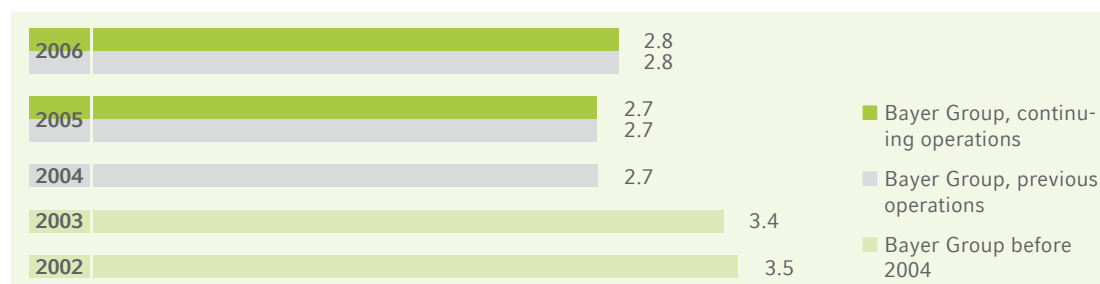
## Occupational injuries

The number of injuries resulting in days lost (MAQ, the number of occupational injuries resulting in days lost for every one million hours worked) is a key indicator. In 2006, this number increased slightly over the previous year to 2.8 injuries for every one million hours worked. This statistic includes injuries involving staff on fixed-term contracts, part-time employees and contractors reporting directly to Bayer personnel.

Reportable injuries include all injuries requiring medical treatment beyond first aid measures. These injuries are counted regardless of whether or not they resulted in days lost. This figure, which has been recorded for all sites since 2003, was 4.3 in 2006 (2005: 4.1).

For contractors<sup>4</sup>, the MAQ increased, returning to about the 2004 level. We shall carefully examine the reasons for this increase and work to further improve our safety management procedures for contractors.

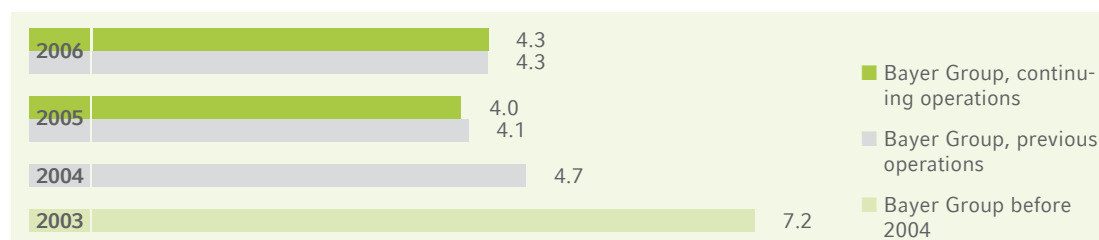
### Occupational injuries affecting Bayer personnel resulting in days lost (MAQ\*)



\* MAQ = injuries resulting in days lost for every one million hours worked (million working hour quota)

<sup>4</sup> The data provide information about occupational injuries involving employees of contractors who do not report directly to Bayer personnel. In order to be counted, injuries must have resulted in at least one day lost.

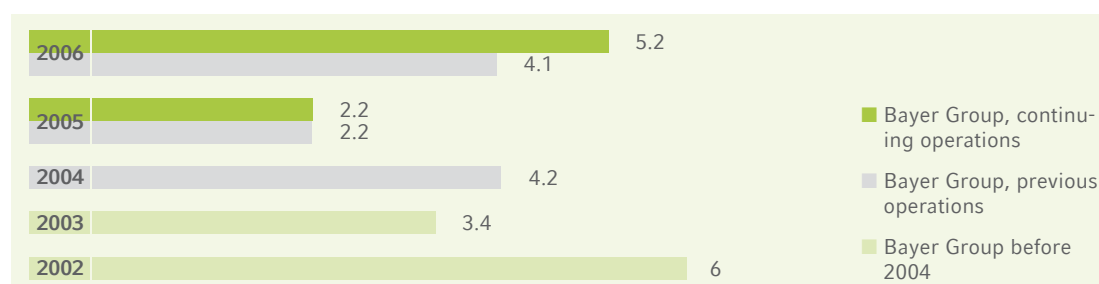
### Reportable occupational injuries affecting Bayer personnel (MAQ\*)



\* MAQ = injuries resulting in days lost for every one million hours worked (million working hour quota)

These data were first collected in the reporting year 2003.

### Injuries involving contractors resulting in days lost (MAQ\*)



\* MAQ = injuries resulting in days lost for every one million hours worked (million working hour quota)

## Fatal occupational injuries

Unfortunately, Bayer suffered nine fatal occupational injuries in 2006, five of which involved Bayer employees and four of which involved employees of contractors.

A total of five employees and contractors were killed in traffic accidents in various countries. The circumstances of the other four fatal accidents were as follows:

- An employee was killed in a forklift accident in a warehouse in Indonesia.
- A security guard working for a contractor was killed during a raid on a Bayer site in Pakistan.
- In Colombia, an employee working for a contractor fell from a 15-meter scaffold.
- In India, an employee working for a contractor died as the result of a snake bite he suffered while working.

None of the injuries was attributable to factors specific to the chemical industry.

### Fatal occupational injuries

	2002	2003	2004	2005	2006
Fatal occupational injuries	1	2	5	4	9
Bayer employees	0	1	4	3	5
Contractor employees	1	1	1	1	4

## Economic indicators

### Business sustainability

The significant increase in sales in fiscal 2006 was primarily due to the acquisition of Schering, Berlin, Germany. 2006 was also a particularly successful year in terms of after-tax income, with a 14.1 percent return on stockholders' equity. Moreover, important parameters for mid- and long-term business sustainability, such as personnel expenses and pension obligations, remained at a constant and healthy level. As a result of the Schering acquisition, net debt increased to €17.5 billion. However, despite the purchase price of approximately €17 billion for Schering, net debt rose by only €12 billion from the previous year.

#### Economic indicators (in € million)

	2002	2003	2004	2005	2006
Net sales	29,624	28,567	23,278	24,701	28,956
Sales outside Germany	86.4 %	85.8 %	86.9 %	84.4 %	84.4 %
Income (loss) before income taxes	956	-1,994	1,222	1,912	1,980
Income (loss) after taxes	1,063	-1,349	682	1,595	1,695
Return on stockholders' equity	6.5 %	-9.7 %	6.1 %	14.4 %	14.1 %
Personnel expenses of which pension expenses	8,176 544	7,906 531	6,026 771	5,318 1,009	6,630 1,414
Pension obligations*	13,375	14,192	15,025	15,561	16,708
Net debt	8,861	5,952	5,422	5,494	17,539

Figures for 2002 – 2004 as reported, 2005 figures restated (continuing operations).

\* present value of the defined benefit obligation for pensions and other post-employment benefits

### Income taxes

Included under income taxes are those paid or accrued in the individual countries, plus deferred taxes. The reduction in tax expense was principally due to the first-time recognition of deferred tax assets on loss carryforwards relating to structural changes in the Bayer Group, which were agreed with the relevant tax authorities.

#### Bayer Group income taxes (in € million)

Income taxes paid or accrued	(763)	(463)	2006	2005
Deferred taxes		(75)	2006	2005
Income taxes	(454)	(538)	2006	2005

## Net sales by subgroup and segment

The rise in sales in fiscal 2006 due to the Schering acquisition also contributed to substantial growth at Bayer HealthCare. This subgroup's sales from continuing operations grew by €3.7 billion (+46.6 percent) in 2006. The marked rise in the relative importance of the Pharmaceuticals segment was also attributable to the Schering acquisition and made Bayer HealthCare the largest subgroup in terms of sales. Following the Schering acquisition the pharmaceuticals business also gained significantly in importance for Bayer HealthCare, accounting for about two thirds of subgroup sales, compared to one half in 2005. Bayer HealthCare's stronger position did not mean, however, that this subgroup dominated the Bayer Group as a whole.

### Net sales by subgroup and segment (in € million)

	2005*	2005 share of Group	2006*	2006 share of Group
<b>HealthCare</b>	<b>7,996</b>	<b>32</b>	<b>11,724</b>	<b>40</b>
Pharmaceuticals	4,067	16	7,478	26
Consumer Health	3,929	16	4,246	14
<b>CropScience</b>	<b>5,896</b>	<b>24</b>	<b>5,700</b>	<b>20</b>
Crop Protection	4,874	20	4,644	16
Environmental Science, BioScience	1,022	4	1,056	4
<b>MaterialScience</b>	<b>9,446</b>	<b>38</b>	<b>10,161</b>	<b>35</b>
Materials	2,837	11	2,925	10
Systems	6,609	27	7,236	25
<b>Reconciliation</b>	<b>1,363</b>	<b>6</b>	<b>1,371</b>	<b>5</b>
<b>Group</b>	<b>24,701</b>	<b>100</b>	<b>28,956</b>	<b>100</b>

\* continuing operations

In 2006, the Bayer Group invested a total of €2,297 million in research and development (compared with €1,729 million for continuing operations in 2005). Of this amount, Bayer HealthCare accounted for 62 percent, Bayer CropScience for 27 percent and Bayer MaterialScience for 10 percent. Here, too, the increase at Bayer HealthCare is largely attributable to the acquisition of Schering.

### Research and development expenses (in € million)

Total	2006	2,297	2005	1,729
of which Bayer HealthCare	2006	1,426	2005	834
of which Bayer CropScience	2006	614	2005	664
of which Bayer MaterialScience*	2006	227	2005	214
of which reconciliation	2006	30	2005	17

\* without R&D together with customers

## ASSURANCE



# Independent Assurance Statement to Bayer AG Group Management

### Introduction

We have reviewed the data collection procedure and certain chapters of the Bayer AG Sustainable Development Report 2006 (the 'Report'). The Report and the subject matters reported are the responsibility of the Management of the Company. Our responsibility is to draw a conclusion based on our review.

We have based our approach on emerging best practice for independent assurance of Sustainability Reports, including ISAE 3000 ("Assurance Engagements other than Audits or Reviews of Historical Financial Information"), issued by the International Auditing and Assurance Standards Board (IAASB). The objective and scope of the engagement were agreed with the Management of the Company and included those subject matters on which we have concluded below.

### Procedures

Based on an assessment of materiality and risks, our work included analytical procedures and interviews as well as a review on a sample basis of evidence supporting the subject matters. We have performed interviews with management representatives and employees at Bayer AG Group headquarters and sub-group levels; and with respect to the HSE data procedures, at 10 reporting objects: Bayer Industry Services Dormagen (Germany), Bayer MaterialScience Dormagen (Germany), Bayer CropScience Dormagen (Germany), Bayer MaterialScience Niihama (Japan), Bayer Schering Pharma Bergkamen (Germany), Bayer Schering Pharma Berlin (Germany), Bayer CropScience Institute (United States), Bayer Business Services Leverkusen (Germany), Bayer Technology Services Caojing (China) and Bayer HealthCare Gaillard (France).

We believe that our work provides an appropriate basis for us to conclude, with a limited level of assurance, on the subject matters. In such an engagement, less assurance is obtained than would be the case had an audit-level engagement been performed.

### Conclusions

In conclusion, in all material respects, nothing has come to our attention that causes us not to believe that:

1. Bayer AG at Group level has applied detailed and systematic procedures, as described in 'Management of objectives and performance indicators' (pages 64-65), for the purpose of collecting, compiling and validating:
  - a. Health, Safety, and Environment (HSE) 2006 performance data from reporting objects,
  - b. Human Resources (HR) 2006 data on the total number, gender and nationality of the Group Leadership Circle; training and development cost; and total number of employees.
2. The HSE performance data and the HR data mentioned above have been appropriately presented in the Report (pages 65-78) in accordance with principles stated in 'Management of Objectives and Performance Indicators.'

3. HSE performance data from the reporting objects that we have tested has been reported according to the procedures noted in item 1 and is consistent with source documentation presented to us.
4. Bayer AG at Group level is implementing its Sustainable Development (SD) Policy as asserted by Management on the following subject matters:
  - a. Supply Chain Management (pages 22-23): The development and implementation of a management practice in accordance with stated policies and programs.
  - b. Integration of Schering AG (pages 34-35): The integration with Bayer HealthCare to Bayer Schering Pharma with respect to HR and HSEQ in accordance with the stated objectives.
  - c. Energy Efficiency and Climate Protection (pages 46-47): The Bayer AG position, 2015 objective, and actions stated with respect to Bayer MaterialScience assert the current SD Policy implementation level.
  - d. Food Chain Management aspects (pages 60-61): The development and implementation within Bayer CropScience of a management practice for customer training, product communication, and against illegal trade assert the current SD Policy implementation level.
5. Bayer at Group level applies a Sustainability Reporting practice in accordance with its objectives and principles for reporting, as described in the 'Sustainable Development Report 2006' at the front flap, and aligned with the GRI reporting principles. The GRI Index presented on the back flap appropriately reflects the extent to which the Report aligns with the indicators in the GRI Sustainability Reporting Guidelines. The references made in the "Global Compact Reporting" table on page 88 are consistent with the Report.

Copenhagen, June 4, 2007

Deloitte  
Statsautoriseret Revisionsaktieselskab

Preben J. Soerensen  
State Authorized Public Accountant  
Environment & Sustainability Services

## Group Sustainability Program for 2006 onwards

Our Sustainability Program is based around the key areas of innovation, product stewardship, excellence in corporate management, social responsibility and responsibility for the environment. Within each of these areas of action, specific measures are assigned to each objective to ensure that it is achieved by the deadline. The objectives of all the subgroups and service companies have been incorporated into the Group Sustainability Program. Their Boards of Management and Executive Committees are responsible for the successful implementation of the objectives.

### Our objectives by 2010 (unless indicated otherwise)

Objective	Measure	State of implementation <sup>*)</sup>
<b>Area of action: Innovation</b>		
Promotion of a culture of innovation so that creative business ideas beyond existing areas of work can become utilizable for the Group.	Long-term, Group-wide innovation initiative: Implementation of the "Triple-i" program (Inspiration, Ideas and Innovations).	
Promotion of research projects on protecting drinking water and freshwater.	Provision of funding and participation in project management for the National Geographic Global Exploration Fund set up by Bayer and National Geographic; in 2006/2007 initiation of socially relevant and innovative projects by external research groups on the new recovery, conservation and fair distribution of water resources.	Nine funded projects involving field research in Latin America, Europe, Africa and Asia initiated and supported with €250,000.
Contribution to safeguarding the food supply of a growing world population.	Further development of plant biotechnology; development of plants with improved stress tolerance of dry conditions and creation of health-promoting types of canola.	First results from field tests with stress-tolerant canola plants show a clear increase in yield.  Market launch of hybrid rice (Arize <sup>®</sup> ) in Asia (key countries). 20 percent increase in yield compared with the best non-hybrid variety.
Tapping potential of renewable resources.	Research work and technological developments for promising applications.	

<sup>\*)</sup> We report on the state of implementation for those objectives regarding which we have already achieved significant progress in the first year of the five year period.

Objective	Measure	State of implementation <sup>*)</sup>
Selective, resource-optimized production of active pharmaceutical ingredients.	Creation and preparation of therapeutic proteins from plants (plant-made pharmaceuticals).	
Provision of improved anticancer drugs.	Extension of indications of the anticancer drug Nexavar <sup>®</sup> to include liver, skin and lung cancer.	A Phase III study has shown that Nexavar <sup>®</sup> increases overall survival in patients with liver cell carcinoma or primary liver cancer by 44 percent. BHC is preparing applications for approval of the indication liver cancer for submission to the FDA and the European regulatory authority. Further studies in other indications such as NSCLC and breast cancer are ongoing.
Provision of a drug to combat dangerous circulatory disorders.	Provision of thrombosis prophylaxis in the form of the oral Factor Xa inhibitor (BAY 59-7939).	An extensive Phase III program with a total of around 35,000 patients is ongoing. The aim is to investigate the efficacy and safety of rivaroxaban in the prevention and treatment of venous thromboembolism and the therapy of stroke in patients with atrial fibrillation.
Extension of the duration of efficacy of Kogenate <sup>®</sup> , a drug recombinant to treat hemophilia.	New formulation based on liposome technology.	Clinical development (Phase I) in progress.
Molecular imaging.	Joint research and development within a partnership network to develop new methods for early detection of cancer, inflammatory processes in the nervous system, and Alzheimer's disease.	New objective.
Research into new methods of treating multiple sclerosis.	Development of Campath <sup>®</sup> to treat multiple sclerosis.	New objective.
Identification of new mechanisms of action for fertility control.	New approaches to non-hormonal contraception.	New objective.
Energy conservation by reducing the weight in vehicles using polymer materials, e.g. for windows and structural parts.	Pilot projects with selected car makers and suppliers, for example for roof modules.	Introduction of mass production for enhanced polycarbonate roof modules with a surface area of over 1 m <sup>2</sup> .
Preservation of vital resources by developing innovative polyurethane systems.	Ensuring the availability and high quality of water through the use of innovative and high-quality polyurethane systems for the simple, economical and time-saving rehabilitation of drinking water pipes.	Launch of the system in towns within a total of five European countries.

\*) We report on the state of implementation for those objectives regarding which we have already achieved significant progress in the first year of the five year period.

Objective	Measure	State of implementation*)
Energy conservation in production processes.	Optimization of a production process for monomeric MDI (MDI = methylene diphenyl diisocyanate, a raw material used to make polyurethane) for a new large-scale plant in China with a target energy saving of approx. 15 percent.	Construction is underway on a facility for the production of MDI compounds on a global scale, with an annual capacity of 350,000 metric tons. Commissioning of this Shanghai plant, which will be the largest of its type anywhere in the world, is scheduled for 2008.
Development of solutions for infectious tropical diseases such as malaria, dengue fever, etc.	Cooperation with stakeholders who are following holistic approaches, in order to broaden our spectrum.	New objective.

#### Area of action: Product stewardship

Ongoing work to secure substance information and its availability for all of our products.	Continuous updating of data records for own production > 1 metric ton, in line with changes to the product portfolio.	
Implementation of the objective formulated at the United Nations' World Summit on Sustainable Development in Johannesburg on the globally harmonized classification and labeling of substances and preparations.	Support of political interpretation and implementation in conjunction with other relevant regulations (GHS = globally harmonized system).	Implementation within Europe is supported by the committed cooperation of industry associations.
Improvement in biological effectiveness of crop protection products, coupled with a favorable environmental and health profile.	Management and further development of the Bayer CropScience product portfolio.	Market launch of innovative products <ul style="list-style-type: none"> <li>• Infinito® (fungicide): New active mechanism, high effectiveness against major potato diseases.</li> <li>• Atlantis® (herbicide): Dose is 1 percent of that required with the current alternatives.</li> <li>• Oberon® and Envidor® (insecticides): Do not harm useful insects.</li> <li>• New products that replace WHO class I chemicals (in this case carbamates and organophosphates).</li> </ul>
Permanent ongoing safeguarding of compliance with regulations on drug safety and quality assurance with regard to human drugs.	Implementation and monitoring of the policy on detailed information obligations, procedures and contact partners for drug safety and quality assurance.	
Ensuring environmental compatibility of pharmaceuticals.	Several measures, including a study program to assess the ecotoxicological characteristics of leavenogestrol.	New objective. Involvement in various projects, such as "ERAPharm." Development of methods for analyzing pharmaceuticals residue in (ground)water.

\*) We report on the state of implementation for those objectives regarding which we have already achieved significant progress in the first year of the five year period.



Objective	Measure	State of implementation <sup>*)</sup>
Timely implementation of the REACH Regulation in the Group.	Implementation of the Regulation in the subgroups; establishment of a Group-wide REACH platform.	New objective.

### Area of action: Excellence in corporate management

Employment: Ongoing improvement of internal work processes and employee motivation.	Continuation of regular worldwide satisfaction analysis of managerial staff; implementation of global leadership principles coupled with performance assessment, utilization of the experience gained from country piloted.	Setting of annual leadership objectives. <b>Basis:</b> Company-wide leadership principles. <b>Target group:</b> Entire management sector. <b>Consequence:</b> Evaluation of the extent to which principles have been achieved.
Management of process to implement the Directive on Health, Safety, Environment and Quality (HSEQ) Audits.	Implementation of subgroup-specific HSEQ management systems and complete auditing of these in all regions.	<b>BCS:</b> Continuous expansion and updating of HSEQ directives. Worldwide auditing of management system and other specific HSEQ aspects. <b>BHC:</b> Measurement of HSE performance by means of Group-wide indicators extended to acquired areas. <b>BMS:</b> Large-scale HSEQ audit measures in accordance with a set audit plan are routinely carried out.
Improvement of communication within the global Bayer organization.	Full implementation of English as Group working language among managers including through the introduction of broadly based training programs.	
Improvement of performance of all managers.	Further extension of 360° Feedback processes to include employees with managerial responsibility.	Continuous use of 360° Feedback processes for employees with managerial responsibility, targeted use of management audits by external consultants as an objective selection procedure for filling management positions (e.g. following reorganization or acquisitions such as of Roche and Schering).

<sup>\*)</sup> We report on the state of implementation for those objectives regarding which we have already achieved significant progress in the first year of the five year period.

Objective	Measure	State of implementation*)
<b>Area of action: Social responsibility</b>		
Worldwide promotion of environmental knowledge among young people.	Expansion of cooperation with the United Nations Environment Programme (UNEP), including strengthening of youth environmental networks and capacity building programs in Latin America and Africa.	Support for the establishment of the first UNEP youth environment networks in Latin America and Africa and two additional networks in Asia; expansion of the Young Environmental Envoy Program to include Malaysia, Vietnam and Turkey so that a total of 17 countries now participate.
Strengthening of basic understanding of natural science in schools.	Establishment in other countries of the “Making Science Make Sense” program founded in the United States.	Established in France, Ireland, Italy, Japan and United Kingdom.
Promotion of access to school and vocational education for children and young people, particularly in newly industrializing and developing nations.	Cooperation with regional organizations, initiating programs to protect and educate young people. Raising of awareness in relevant locations, such as India.	Launch of the “Learning for Life” program at Bayer CropScience in Andhra Pradesh (India): Integration of former child laborers into the public school system. Expansion of the program to include children of pre-school age.
Promotion of education in sustainable development and improvement of environmental awareness in newly industrializing countries (capacity building) in line with voluntary undertaking by the chemical industry based on the Johannesburg Declaration and the ICCM (SAICM).	Development of a training program and financial and HR support for the establishment of a Chair for Sustainable Development at Tongji University in Shanghai, China.	Memorandum of Understanding signed between Bayer and Tongji University.
Support for education, science and research.	Reorganization of Bayer Foundations focusing more strongly on promoting knowledge and increasing the budget.	Pooling of foundation activities through the establishment of the Bayer Science & Education Foundation and the Bayer Cares Foundation and boosting of the total foundation budget by Bayer.
Investigation whether the duration of treatment for tuberculosis can be reduced by around half by using the active substance moxifloxacin.	Bayer is collaborating with The Global TB Alliance to supply the active substance moxifloxacin free of charge for a global study program. If the trials are successful, the intention is to have moxifloxacin approved for the indication TB and to make it available to patients in developing countries at affordable prices.	Clinical study programs in progress in cooperation with the TB Alliance.
Responsible approach to genetic engineering.	Implementation of new Bayer position on genetic engineering and specific regulations in the subgroups and service companies.	

\*) We report on the state of implementation for those objectives regarding which we have already achieved significant progress in the first year of the five year period.

Objective	Measure	State of implementation <sup>*)</sup>
Occupational safety: Reduction in number of occupational injuries with lost days per 1 million hours worked (MAQ < 2).	Continuation of our consistent safety management approach.	
Diversity: Consistent implementation of our corporate values in the area of equal opportunities for all, regardless of gender, nationality, color, religion, sexual persuasion or age.	Consistent implementation of Group-wide Program for Legal Compliance and Corporate Responsibility of May 2004; full implementation of a globally harmonized compensation system for Group Leadership Circles 1 to 3.	Adoption of a joint declaration from employers' and employees' representatives in Bayer European Forum for continuation of commitment to diversity and equal opportunities within the company; survey of behavior with regard to diversity as part of the 360° Feedback process. Bayer HealthCare working group for implementation of equal opportunities policies set up.

### Area of action: Responsibility for the environment

Water emissions: Ten percent reduction in discharge of TOCs (total organic carbon) and nitrogen into receiving waters per metric ton of sales product.		TOC reduction compared with 2005: Five percent in continuing operations.
Air emissions: 30 percent reduction in VOC emissions per metric ton of sales product.		Reduction compared with 2005: 20 percent in continuing operations.
Air emissions: Further ongoing optimization of energy efficiency in our production plants with the goal of reducing emissions of greenhouse gases by ten percent per metric ton of sales product (by 2015).	For competition reasons we do not publicize our measures in this area.	Reduction compared with 2005: Four percent in continuing operations.
Air emissions: Compliance with a maximum limit for ODS emissions (Ozone Depleting Substances) of less than 20 metric tons per year (CFC-11 equivalents).		Gross value 2006: 13 metric tons in continuing operations.
Waste: Reduction in the volume of hazardous production waste to less than 2.5 percent per metric ton of sales product.		Gross value 2006: 2.3 percent in continuing operations.
Energy consumption: Ten percent reduction in specific energy consumption per metric ton of sold product by 2015.		

<sup>\*)</sup> We report on the state of implementation for those objectives regarding which we have already achieved significant progress in the first year of the five year period.

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

With our support of the United Nations Global Compact, we want to raise standards in the fields of human rights, labor rights and environmental protection. In the year covered by the Report, one of the main activities centered on cooperating with suppliers in India and China to strengthen human rights. Another related to the propagation of technical innovations to reduce CO<sub>2</sub> emissions. The following table shows which of the policies, programs and management systems already introduced at Bayer support the ten principles of the Global Compact, what practical measures we took last year in this respect, and to what extent we were able to register concrete achievements or results in the period under review. Information on the Global Compact can be found at [www.unglobalcompact.org](http://www.unglobalcompact.org)

	Systems	Measures	Achievements
<b>Principle 1:</b> Support of human rights	<ul style="list-style-type: none"> <li>❑ Human Rights Position (p. 52)</li> <li>❑ Procurement Community Policy (p. 19)</li> </ul>	<ul style="list-style-type: none"> <li>❑ Health care programs in the world's poorest countries (p. 7)</li> </ul>	<ul style="list-style-type: none"> <li>❑ Presentation of a human rights policy throughout the Bayer Group (p. 52)</li> </ul>
<b>Principle 2:</b> Exclusion of human rights violations	<ul style="list-style-type: none"> <li>❑ Supplier Relationship Management System (p. 22/23)</li> <li>❑ Human Rights Position (p. 52)</li> </ul>	<ul style="list-style-type: none"> <li>❑ Monitoring of the 143 most important suppliers in non-OECD countries (p. 19)</li> </ul>	<ul style="list-style-type: none"> <li>❑ Prevention of child labor among Indian cotton seed suppliers (p. 56)</li> </ul>
<b>Principle 3:</b> Observance of the right of workers and employers to freedom of association	<ul style="list-style-type: none"> <li>❑ Group Works Council (p. 51)</li> <li>❑ Bayer European Forum (p. 51)</li> <li>❑ Human Rights Position (p. 52)</li> </ul>	<ul style="list-style-type: none"> <li>❑ Careful encouragement of freedom of speech in China while observing the legal regulations (p. 55)</li> </ul>	<ul style="list-style-type: none"> <li>❑ Successful cooperation with employee representatives, e.g. in the Schering takeover (p. 35)</li> </ul>
<b>Principle 4:</b> Abolition of all forms of forced labor	<ul style="list-style-type: none"> <li>❑ Human Rights Position (p. 52)</li> <li>❑ Supplier Relationship Management System (p. 22/23)</li> </ul>	<ul style="list-style-type: none"> <li>❑ No measures necessary</li> </ul>	
<b>Principle 5:</b> Abolition of child labor	<ul style="list-style-type: none"> <li>❑ Supplier Relationship Management System (p. 22/23)</li> <li>❑ Human Rights Position (p. 52)</li> </ul>	<ul style="list-style-type: none"> <li>❑ Incentives and control system for suppliers in India (p. 56)</li> </ul>	<ul style="list-style-type: none"> <li>❑ Prevention of child labor among Indian cotton seed suppliers (p. 56)</li> </ul>
<b>Principle 6:</b> Elimination of discrimination	<ul style="list-style-type: none"> <li>❑ Social Charter (p. 51)</li> <li>❑ Human Rights Position (p. 52)</li> </ul>	<ul style="list-style-type: none"> <li>❑ Fair procedures in Schering integration (p. 34/35)</li> </ul>	<ul style="list-style-type: none"> <li>❑ Implementation of a HR Governance Code for all employees in China (p. 55)</li> </ul>
<b>Principle 7:</b> Precautionary environmental protection	<ul style="list-style-type: none"> <li>❑ Bayer Sustainability Check (p. 42)</li> <li>❑ HSEQ management systems (p. 66)</li> </ul>	<ul style="list-style-type: none"> <li>❑ e.g. restructuring of Bayer Sustainability Check (p. 42)</li> </ul>	<ul style="list-style-type: none"> <li>❑ e.g. increasing the number of production sites with certified HSE management systems (p. 66)</li> </ul>
<b>Principle 8:</b> Specific commitment to environmental protection	<ul style="list-style-type: none"> <li>❑ Group Sustainability Program (p. 82)</li> </ul>	<ul style="list-style-type: none"> <li>❑ e.g. support of 24 suppliers in the Philippines with the introduction of integrated social and environmental management systems (p. 32)</li> </ul>	<ul style="list-style-type: none"> <li>❑ e.g. further reduction in specific CO<sub>2</sub> emissions (p. 68)</li> </ul>
<b>Principle 9:</b> Diffusion of environmentally friendly technologies	<ul style="list-style-type: none"> <li>❑ Core business of BMS and BIS (p. 39, 41, 45–47)</li> </ul>	<ul style="list-style-type: none"> <li>❑ e.g. introduction of energy-saving oxygen depolarized cathode (ODC) technology for chlorine production in Dormagen (Germany), also in China (p. 38)</li> </ul>	<ul style="list-style-type: none"> <li>❑ e.g. reduction of the mercury content in flue gases by 99.9 percent using a new process in BIS facilities (p. 45)</li> </ul>
<b>Principle 10:</b> Measures to fight corruption	<ul style="list-style-type: none"> <li>❑ Conduct code (p. 30)</li> </ul>	<ul style="list-style-type: none"> <li>❑ 2007 – the year of anticorruption (p. 31)</li> </ul>	<ul style="list-style-type: none"> <li>❑ “Transparency International Mexico” study gives Bayer top results (p. 31)</li> </ul>

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June 2007

**Forward-Looking Statements**

This Sustainable Development Report contains forward-looking statements. These statements use words like “believes,” “assumes,” “expects” or similar formulations. Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, assets, development or performance of our company and those either expressed or implied by these statements. These factors include, among other things:

- downturns in the business cycle of the industries in which we compete;
- new regulations, or changes to existing regulations, that increase our operating costs or otherwise reduce our profitability;
- increases in the price of our raw materials, especially if we are unable to pass these costs along to customers;
- loss or reduction of patent protection for our products;
- liabilities, especially those incurred as a result of environmental laws or product liability litigation;
- fluctuation in international currency exchange rates as well as changes in the general economic climate; and
- other factors identified in this Sustainable Development Report.

These factors include those discussed in our public reports filed with the Frankfurt Stock Exchange and with the U.S. Securities and Exchange Commission (including our Form 20-F). In view of these uncertainties, we caution readers not to place undue reliance on these forward-looking statements. We assume no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.

**Important Information from Bayer AG**

This is neither an offer to purchase nor a solicitation of an offer to sell shares or American depository shares of Bayer Schering Pharma AG (formerly Schering AG). Bayer Schering GmbH (formerly Dritte BV GmbH) filed a tender offer statement with the U.S. Securities and Exchange Commission (SEC) with respect to the mandatory compensation offer on November 30, 2006, the time of commencement of the mandatory compensation offer. Simultaneously Bayer Schering Pharma AG (formerly Schering AG) filed a solicitation/recommendation statement on Schedule 14D-9 with the SEC with respect to the mandatory compensation offer. Investors and holders of shares and American depository shares of Bayer Schering Pharma AG (formerly Schering AG) are strongly advised to read the tender offer statement and other relevant documents regarding the mandatory compensation offer that have been filed or will be filed with the SEC because they contain important information. Investors and holders of shares and American depository shares of Bayer Schering Pharma AG (formerly Schering AG) will be able to receive these documents free of charge at the SEC’s website (www.sec.gov), or at the website www.bayer.com.

These documents and information contain forward-looking statements based on assumptions and forecasts made by Bayer Group management as of the respective dates of such documents. 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 Bayer Group and/or Bayer Schering Pharma AG (formerly Schering AG) and the estimates contained in these documents and to differences between actions taken by the Bayer Group with respect to its investment in Bayer Schering Pharma AG (formerly Schering AG) and the intentions described in these documents. These factors include those discussed in reports filed with the Frankfurt Stock Exchange and in our reports filed with the U.S. Securities and Exchange Commission (including on Form 20-F). All forward-looking statements in these documents are made as of the dates thereof, based on information available to us as of the dates thereof. Except as otherwise required by law, we assume no obligation to update or revise any forward-looking statement to reflect new information, events or circumstances after the applicable dates thereof.

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.

Please note that Bayer Schering Pharma AG is not legally related to Schering-Plough Corporation, New Jersey, United States. The two companies have been totally independent of each other for many years.

Index according to GRI (G3 core indicators)	Page
1. Vision and strategy	
1.1 Statement from the CEO or Chairman of the Supervisory Board	4/5
1.2 Key sustainability impacts, risks and opportunities	22, 34, 46, 60
<b>2. Organizational profile</b>	
2.1 Name of the company	front flap
2.2 Major brands, products and services	front flap
2.3 Business areas and operational structure	front flap, 10–13
2.4 Location of company's headquarters	10
2.5 Number and names of countries in which the organization's main operations are located (or with relevance to sustainability)	51, 54, 77, AR 134/135
2.6 Nature of ownership	10
2.7 Nature of markets served	AR 46/47
2.8 Scale of the reporting organization	10
2.9 Significant changes in company or ownership during the reporting period	65
2.10 Awards received in the reporting period	6, 7, 33, 53, 54, AR 210–213
<b>3. Reporting parameters</b>	
<b>Reporting profile</b>	
3.1 Reporting period	front flap
3.2 Date of most recent previous report	June 2006
3.3 Reporting cycle	annual
3.4 Contact point for questions regarding the report	back flap
<b>Scope and boundaries of the report</b>	
3.5 Process for defining report content, including prioritization	front flap, 20
3.6 Boundary of the report	front flap, 64
3.7 Indication of specific limitations on the scope of the report	64
3.8 Basis for reporting on joint ventures	front flap
3.9 Data measurement techniques and bases of calculations	64/65
3.10 Reformulations and changes in the depiction of information compared to earlier reports	40, 65, 69
3.11 Changes in the scope or measurement methods applied	40, 69, 76
3.12 Index according to GRI with page numbers	back flap
3.13 Verification: External assurance statements	81
<b>4. Management, obligations and involvement</b>	
<b>Management</b>	
4.1 Governance structure, including responsibility for sustainability	17
4.2 Independence of the Supervisory Board Chairman	AR 10, 14, 19
4.3 Governance body and/or independent members of management	AR 10–14
4.4 Mechanisms for stockholders and employees to provide recommendations to the Board of Management or Supervisory Board	20*
4.5 Linkage between executive compensation and achievement of sustainability goals	AR 16*
4.6 Processes in place for the governance bodies to ensure avoidance of conflicts of interest	30/31, AR 17
4.7 Expertise of the governance bodies in sustainability issues	17/18, 24/25
4.8 Mission statement, company values and codes of conduct	1, 16, 30, 52
4.9 Procedures of the Board of Management and Supervisory Board for overseeing ecological, commercial and social risks and opportunities	17/18
4.10 Processes for evaluating the performance of the Board of Management	82
<b>Obligations towards external initiatives</b>	
4.11 Implementation of the precautionary principle	19, 23, 42, 52, 57, 82–87
4.12 Participation in and support of external initiatives	5, 7, 21, 58, 88
4.13 Principal memberships in industry and business associations	21, back flap
<b>Stakeholder management</b>	
4.14 List of stakeholder groups engaged by the organization	20
4.15 Basis for identification of stakeholders	20*
4.16 Approaches to stakeholder dialogue (type/frequency)	20/21
4.17 Statements on key concerns raised by stakeholders	46, 55/56, 60/61, 67
<b>5. Performance indicators</b>	
<b>Economics</b>	
<i>Aspect: Business performance</i>	
EC1 Economic value generated and distributed	79*
EC2 Financial implications of climate change	24, 46, 47
EC3 Coverage of the organization's defined benefit plan obligations	76, 79
EC4 State subsidies/grants received	no data
<i>Aspect: Market conduct</i>	
EC6 Payments to local suppliers	32*
EC7 Senior management hired from the local community	no data
<i>Aspect: Indirect economic effects</i>	
EC8 Infrastructure investments and services provided primarily for public benefit	56, 58/59*
<b>Environmental performance</b>	
<i>Aspect: Materials deployment</i>	
EN1 Materials used by weight or volume	no data
EN2 Percentage of materials used that are recycled input materials	no data
<i>Aspect: Energy use</i>	
EN3 Direct energy consumption: primary energy sources deployed by company	67

Index according to GRI (G3 core indicators)	Page
EN4 Indirect energy consumption: primary energy sources used to produce energy procured	69*
<i>Aspect: Water</i>	
EN8 Total water withdrawal by source	71
<i>Aspect: Biodiversity</i>	
EN11 Use of land in protected areas	45*
EN12 Significant impacts of activities in protected areas	no data
<i>Aspect: Emissions, wastewater and waste</i>	
EN16 Direct and indirect emissions of climate-relevant gases	40, 68–70
EN17 Other indirect greenhouse gases, e.g. caused by business trips and employee commuting	no data
EN19 Emissions of ozone-depleting substances by weight	71
EN20 NOx, SOx, and other significant air emissions by weight	71
EN21 Total volume and quality of wastewater discharge	72*
EN22 Waste volume by type and disposal method	73/74
EN23 Releases of hazardous substances by number and volume	74/75
<i>Aspect: Products and services</i>	
EN26 Initiatives to mitigate environmental impacts of products and services	38/39, 41–45
EN27 Percentage of products whose packaging is reused	no data
<i>Aspect: Legal compliance</i>	
EN28 Fines/Sanctions for non-compliance with environmental regulations	AR 181
<b>Social performance</b>	
<i>Working conditions</i>	
<i>Aspect: Employment</i>	
LA1 Breakdown of workforce by employment type and region	50, 76*
LA2 Workforce fluctuation by age group, gender and region	55*
<i>Aspect: Codetermination</i>	
LA4 Percentage of employees covered by collective bargaining agreements	51, 76
LA5 Minimum notice period(s) regarding significant operational changes	34/35*
<i>Aspect: Occupational health and safety</i>	
LA7 Injuries, absentee rates and work-related fatalities	77/78*
LA8 Risk control with respect to serious diseases and relevant programs	no data
<i>Aspect: Training and continuing education</i>	
LA10 Training hours by employee category	51*
<i>Aspect: Diversity and equal opportunity</i>	
LA13 Diversity in senior management and employee structure (e.g. age/gender/culture)	77*
LA14 Compensation by gender and employee category	no data
<b>Human rights</b>	
<i>Aspect: Business practice</i>	
HR1 Investment decisions that include HR clauses or screening	no data
HR2 Percentage of suppliers that have undergone screening on human rights	19, 56*
<i>Aspect: Anti-discrimination</i>	
HR4 Incidents of discrimination and action taken	no data
<i>Aspect: Freedom of association and right to collective bargaining</i>	
HR5 Businesses with significant risk	55
<i>Aspect: Child labor</i>	
HR6 Businesses with significant risk and action taken	19, 22/23, 55/56
<i>Aspect: Forced labor</i>	
HR7 Businesses with significant risk and action taken	19, 22/23
<b>Society</b>	
<i>Aspect: Local community</i>	
SO1 Policy to manage impacts on local communities in areas affected by activities	no data
<i>Aspect: Corruption</i>	
SO2 Percentage and number of business units analyzed	no data
SO3 Percentage of employees trained in corruption prevention	no data
SO4 Action taken in response to incidents of corruption	no data
<i>Aspect: Political affairs</i>	
SO5 Public policy positions and participation in public policy development and lobbying	30/31, 38
<i>Aspect: Legal compliance</i>	
SO8 Fines/Sanctions for non-compliance with regulations	no data
<b>Product stewardship</b>	
<i>Aspect: Customer safety and health</i>	
PR1 Life cycle stages in which health and safety impacts of products and services are assessed	42–44
<i>Aspect: Products and services</i>	
PR3 Principles/Measures related to product information and labeling	60/61*
<i>Aspect: Advertising</i>	
PR6 Programs for compliance with laws and voluntary codes related to advertising	43, 60/61*
<i>Aspect: Legal compliance</i>	
PR9 Fines for non-compliance with laws and regulations concerning the use of products and services	AR 83–88, 128

Management approach	Economics	Ecology	Working conditions	Human rights	Society	Product stewardship
Targets and performance	1, 30/31, 33	1, 38, 41, 42	50	22, 55/56	1, 32, 58	1, 42–44
Policies	16, 17	11–13, 17	17, 51–53, 55	17, 52	17	11, 17
Responsibilities		17	17	17, 19	17, 59	17, 60/61
Opinion shaping		22–25	34/35, 55, 57	22/23, 52	25, 58, 59	60/61
Control mechanisms		11–13, 19, 52	11–13, 52, 57	19, 23, 56	58	42, 60/61
Supplementary information	28/29, 34/35, 46/47	20/21	20/21	20/21	20/21	20/21

AR = Annual Report 2006; \* = no complete presentation as per GRI criteria or only examples. All core indicators are included. The selection of indicators is based on a consideration of the relevance of the indicators and the availability of the data.

Jumps in the numbering are due to the fact that GRI additional indicators are not included in the index.

Application level for Bayer Sustainable Development Report 2006: self-assessment level B+.



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 in the order in which the activities are described below. See also page 33.)



Bayer has long practiced the concept of Responsible Care, and in 2006 was among the first signatories to the new Responsible Care Global Charter. A member of the World Business Council for Sustainable Development since 1997, Bayer is also a founding member of German industry’s sustainable development forum “econsense.” Bayer is active as an organizational stakeholder of the Global Reporting Initiative.



The company places maximum importance on climate protection. For example, in 2006 Bayer again received the “best in class” award of the Carbon Disclosure Project (CDP) and was ranked as the best-performing chemical company, retaining its place in the CDP’s Climate Leadership Index. Bayer was also one of the 17 co-founders of the climate protection initiative “3C: Combat Climate Change.”



Bayer is 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 also contributes projects of its own to the Brazilian government’s “Zero Hunger” program. 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, the program known as “Bayer Young Environmental Envoy in Partnership with UNEP,” has now been extended to 17 countries on four continents.



In 2006, Bayer funded nine research projects on global drinking water protection out of the Global Exploration Fund it set up jointly with National Geographic, the world’s largest non-profit scientific organization.



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, to develop a new remedy for tuberculosis.



### Financial Calendar

Q2 2007 Interim Report	August 7, 2007
Q3 2007 Interim Report	November 6, 2007
Annual Stockholders’ Meeting 2008	April 25, 2008
Payment of Dividend	April 28, 2008



## Science For A Better Life

Bayer Sustainable Development Report 2006



The two Freiburg medical students Frauke Schaffrath and Lars Röddiger (large photo) are being funded by a Bayer Foundation for their clinical practice at St. George's University General Hospital in Grenada. Sonja Tattermusch (small photo left), student of biochemistry, is writing her diploma dissertation at the Pasteur Institute in Paris, and ergotherapist Martina Knittel (small photo right) is working in a children's hospital in South Africa. Read more about the scholarship holders and the Group's foundation activities on page 3.

