

## Sustainable Development

Sustainable development is a key component of the Bayer Mission Statement and of our Values and Leadership Principles. Our commitment in this area is clearly defined in our Sustainable Development Policy and established within the Group by means of our corporate directives and policy statements. Various voluntary commitments, such as our signing of the Responsible Care Global Charter and our membership of the United Nations Global Compact, underscore our attitude to sustainability. Our existing committees for sustainable development and for health, safety and environmental issues continued their work in the reporting period. In 2008 we adopted an extended strategy for sustainability in procurement that we are implementing on a step-by-step basis starting in 2009. In 2008 we continued to implement both the Group-wide position on human rights developed in the prior year and the Bayer Climate Program, which is based on our new policy on climate change.

Both our corporate growth and our sustainability efforts are driven by our innovative capability. Bayer seeks innovative answers to global challenges such as climate change and the need to improve health care and food supplies. We are also addressing the challenges presented by the new agricultural economy. Here our aim is to help safeguard harvests and raise crop yields by deploying the latest crop protection methods and new solutions in the areas of plant biotechnology and breeding. Biotechnology and nanotechnology hold tremendous potential for significant new products and applications for health care, nutrition and environmental protection. Bayer has evolved corporate positions on the responsible use of these technologies of the future.

Innovation, product stewardship, excellence in corporate management, social responsibility and responsibility for the environment are the fields of activity covered in our Sustainable Development Program 2006+ ("Our goals for 2010"). This program – a yardstick for our sustainability performance management – incorporates the goals of all the subgroups and service companies. The respective management and executive boards are responsible for successfully implementing these goals.

Bayer has voluntarily pledged to observe the Greenhouse Gas (GHG) Protocol in its emissions reporting. Our direct greenhouse gas emissions declined in 2008, largely due to process technology improvements in connection with our climate program. Both direct and indirect emissions fell as a result of a lower total production volume at MaterialScience.

The figure originally stated in the 2007 Annual Report for direct greenhouse gas emissions in 2007 has been adjusted from 3.9 to 4.4 million metric tons of CO<sub>2</sub> equivalents because a nitric acid facility was newly included in the Bayer Group emissions statistics to comply with the guidelines of the GHG Protocol. This plant is operated by a third party but owned by MaterialScience. The fact that MaterialScience exerted operational influence at the facility by investing in emissions reduction measures, thereby modifying the process, obligates Bayer under the GHG Protocol to include this plant in its greenhouse gas emissions statistics.

Nearly all other key performance indicators held steady or further improved in 2008. The industrial injury rate fell once again, as did emissions of phosphorus, nitrogen and organic carbon. Use of resources remained constant, with energy use even declining. There was a considerable increase in reportable environmental incidents in 2008. Of particular importance to us is not just the absolute number – which remained relatively steady compared to the five-year average – but also the various reasons for, and effects of, the individual incidents. We are therefore analyzing and evaluating each incident in order to take the necessary action. There was an increase in the emission of volatile organic compounds due to a rise in production at one of our sites in Asia.

**Key Performance Indicators**

Category	Key Performance Indicator	2007	2008
Health and Safety	Industrial injuries to Bayer employees resulting in at least one day's absence (number of injuries per million hours worked)	2.4	2.2
	Reportable industrial injuries to Bayer employees (number of injuries per million hours worked)	3.7	3.6
	Major environmental incidents	3	7
	Transportation incidents	10	10
Emissions	Direct greenhouse gas emissions (CO <sub>2</sub> equivalents in million metric tons)*	4.4	4.0
	Indirect greenhouse gas emissions (CO <sub>2</sub> equivalents in million metric tons)*	3.7	3.5
	Volatile organic compounds (thousand metric tons/year)	2.9	3.2
	Total phosphorus in waste water (thousand metric tons/year)	1.0	0.8
	Total nitrogen in waste water (thousand metric tons/year)	0.7	0.7
	Total organic carbon (thousand metric tons/year)	1.8	1.6
Waste	Hazardous waste generated (million metric tons/year)	0.3	0.4
	Hazardous waste landfilled (million metric tons/year)	0.1	0.1
Use of resources	Water use (million m <sup>3</sup> /day)	1.2	1.2
	Energy use (petajoules [10 <sup>15</sup> joules])/year)	91.7	88.5

2007 figures restated

\*as per Greenhouse Gas Protocol

The key performance indicators for the “Employees and Society” area can be found in the preceding “Employees” chapter (see page 97). Our Sustainable Development Report, which is issued annually, is based largely on Version G3 of the Global Reporting Initiative (GRI) for sustainability reporting. The 2007 report covers all required indicators in full (Level A+, GRI-checked). Bayer’s Sustainable Development Report for 2008 is scheduled to appear at the end of May 2009.

Evaluating both benefits and possible risks is a key element in Bayer’s product development. We examine all Bayer products in applications known to us and monitor them with regard to possible health, safety, environment or quality risks, taking into account the entire value chain. In 2008 we updated both our directive on economical warehousing and the related instruction manual.

We are committed to product stewardship and also support the objectives of the E.U. chemicals policy (REACH), which are to ensure the safety of everyone who comes into contact with chemical products throughout their life cycles and to further improve consumer safety and environmental protection. To ensure the implementation of this policy throughout the Bayer Group, the Board of Management issued an internal directive in 2007 entitled “REACH Implementation.” The first step in implementing the REACH regulation – the pre-registration of all substances we manufacture in the E.U. or import from elsewhere – was successfully completed in 2008.

We also endorse the goals of the action plans of the E.U. and WHO Europe for improving health and the environment, which focus particularly on children’s health. It is essential here to look at all factors influencing children’s health and focus on relevant health problems. Decision-making must continue to be based on the scientific assessment of risk, which is increasingly based on human biomonitoring. We support scientifically sound human biomonitoring programs and have established a Group-wide position on this topic.

It is important to us that we participate in shaping external conditions. Bayer is keenly involved in the discussion surrounding environmental and consumer protection strategies and regulations at both the national and international levels.

## WORKING FOR CLIMATE PROTECTION

Bayer is permanently committed to addressing the major global challenge presented by climate change. In 2007 we launched the integrated Group-wide Bayer Climate Program, based on our new policy on climate change.

Bayer has set itself ambitious emission targets for the period from 2005 through 2020. The MaterialScience subgroup aims to lower its global specific greenhouse gas emissions per ton of products sold by 25%. CropScience plans to reduce absolute emissions worldwide by 15% and HealthCare by 5%. We currently expect that the Group's emissions will remain at the present level through 2020 despite increased production.

Initiated by the Group Management Board, the program comprises a package of measures to be implemented over a period of several years. Bayer has launched and is pressing ahead with groundbreaking projects such as the global "EcoCommercial Building" concept for zero-emissions office and industrial buildings, the development of stress-tolerant plants and the "Bayer Climate Check" for production processes.

Supporting initiatives play a significant role – including a new car policy, increased use of new telecommunications technologies, and the Bayer Climate Fellows program for dedicated school students.

Details on the Bayer Climate Program can be found in our brochures "Climate Change – We help with solutions" and "The Bayer Climate Program."

Bayer participates in the international dialogue through its membership of the business leadership initiative "3c: Combat Climate Change" and the Climate Change Dialogue of the World Economic Forum in Davos, Switzerland. The company has also joined the voluntary "Caring for Climate" initiative for U.N. Global Compact participants.

## SUSTAINABLE INVESTMENT

For many years Bayer stock has been included in numerous indices and investment funds that focus on companies with sustainable and responsible corporate policies.

Bayer has appeared continuously in the Dow Jones Sustainability Index World (DJSI World) since it was established in 1999. Our stock is also listed continuously in the benchmark series of the FTSE4Good indices, which has been published annually by the Financial Times and the London Stock Exchange since 2001. In 2007, we were additionally included in the newly established FTSE4Good Environmental Leaders Europe 40 Index, which lists European companies with optimal environmental management. The analysts of the Storebrand Principle Fund rated Bayer among the top companies in its peer group in their most recent evaluation in 2007, awarding it the ranking "Best in Class – Environmental and Social Performance." In addition, our shares have been listed in the French "Advanced Sustainable Performance Indices" (ASPI) Eurozone Index since 2001. In 2008 the Carbon Disclosure Project (CDP), an investors' organization, again listed Bayer in the Carbon Disclosure Leadership Index – the first global climate protection index – as one of the world's leading companies in the area of climate protection. Bayer is the only European chemical and pharmaceutical company to have been listed in this index four times in succession.

For more detailed information on sustainability, please refer to our Sustainable Development Report.



For more information on the Bayer Climate Program, go to [WWW.CLIMATE.BAYER.COM](http://WWW.CLIMATE.BAYER.COM)



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