



Sustainability Report

2023

Health for all, Hunger for none

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Making our Mission Matter, for People and the Planet

Dear Bayer stakeholders,

Last year, our company set off on a journey to focus the efforts of every Bayer employee solely on our bold mission: Health for all, Hunger for none. Those last six words aren't new to anyone who has followed Bayer over the past five years.

What's new is the unrelenting focus we're dedicating to them. We want every person, project and process in the company to be centered on that aspirational mission. Doing so will concentrate our efforts on growing more food while reducing environmental impact, and providing better health to a growing, aging population – all on a planet that just experienced its hottest year in recorded history.

The stakes are high. Last year, we conducted a survey of farmers around the world, our biggest survey of modern agriculture to date. 71% of them told us that they've already seen climate change impact their farms. On top of that, many of the world's most challenging diseases are without a proper treatment and billions of people lack access to essential medicines or healthcare services.

These are big problems. They demand big solutions. And the people of Team Bayer are committed to doing their part. If there's one thing I've heard from my colleagues in my first year with the company, it's been their deep passion to benefit people and the earth with their work.

Here's a look at a few highlights from last year:

- // In March 2023, we articulated a comprehensive strategy for better water use and quality across the agricultural value chain: We're promoting a different system for rice cultivation that allows farmers to reduce water usage up to 40%. That's a big deal for an essential crop that consumes around 40% of the world's irrigation water.
- // We also published our vision of a regenerative agriculture that enables farmers to produce more with less and that not only helps to conserve nature, but helps to restore, too. And we reached 53 million smallholder farmers.
- // We opened a cutting-edge production facility in Turku, Finland, to expand access to modern contraception. In 2023, we were already able to support 46 million women.
- // Through our initiatives and partnerships, we reached 75 million people in economically or medically underserved communities with self-care products. Further, we started to include our nutritious food portfolio – such as vegetables, fruits and grains – in our flagship nutrition access program The Nutrient Gap Initiative.
- // Finally, we're improving the footprint of our operations. We signed one of the biggest single renewable energy deals in the United States: a long-term renewable energy purchase agreement that will secure 40% of Bayer's global electricity demand in the future. Also, we once again reduced our own greenhouse gas emissions (Scope 1 and 2) and also cut greenhouse gas emissions along our value chain (Scope 3) by 6%. We're committed to tracking, reporting and validating our progress until we're Net Zero in 2050.



Through our expertise and solutions, we want to make an important contribution to the Sustainability Development Goals (SDGs) – guided by the principles of the UN Global Compact and in keeping with our mission of “Health for all, Hunger for none.” You can and should evaluate us based on the ambition again in 2024.

This is just a snapshot of the ways Team Bayer is bringing “Health for all, Hunger for none” to life. My colleagues will be the first to tell you that it's not enough. This report documents our major sustainability priorities, progress and projects from 2023 and beyond. I invite you to explore it, share feedback and partner with us in building a more mission-focused Bayer and a more sustainable future.

Sincerely,

Bill Anderson
CEO Bayer AG
Chief Sustainability Officer

About this Report

With this Sustainability Report, Bayer aims to provide transparent and in-depth insights into both its sustainability strategy and its sustainability performance. The report supplements the nonfinancial statement pursuant to the CSR Directive Implementation Act (CSR-RUG) that is published in the combined management report of the [2023 Annual Report](#).

The reporting period is the 2023 fiscal year. The closing date for all data and facts was December 31, 2023.

The Bayer Group's sustainability reporting has been aligned to the guidelines of the [Global Reporting Initiative](#) (GRI) and the 10 principles of the UN Global Compact (UNGC) since 2000. This report has been prepared in accordance with the GRI Standards. This report also serves as a reference for the questionnaire on the Communication on Progress in line with the UN Global Compact. We also take into account the relevant requirements of the Sustainability Accounting Standards Board (SASB). A [summarized index](#) according to the three SASB Industry Standards relevant to us – “Biotechnology & Pharmaceuticals,” “Chemicals” and “Agricultural Products” – can be found on our website. In our climate reporting we follow the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) and publish a [separate report](#) in PDF format also on our website. We also publish an overview of the Principal Adverse Indicators according to the Sustainable Finance Disclosure Regulation (SFDR) on our [website](#).

We also use, for example, the international recommendations and guidelines of the OECD and ISO 26000 as a guide when defining and selecting nonfinancial indicators and in our

reporting. In selecting and measuring our key data, we take into account the recommendations of the Greenhouse Gas Protocol with respect to greenhouse gas emissions and those of the European Federation of Financial Analysts Societies, the World Business Council for Sustainable Development, the European Chemical Industry Council (CEFIC) and the International Council of Chemical Associations (ICCA) with respect to other nonfinancial indicators.

Data collection and reporting thresholds

The selection of reported content is based on the results of our materiality analysis and the requirements of the GRI Standards.

Reporting of the Group's HSE data includes all fully consolidated companies in which we hold at least a 50% interest. Data on occupational injuries is collected at all sites worldwide. Environmental indicators are measured at all environmentally relevant production, research and administration sites. We consider all sites whose annual energy consumption is greater than 1.5 terajoules to be environmentally relevant.

Several indicators (particularly related to employees and procurement) are reported only for our significant locations of operation in line with the requirements of the corresponding GRI disclosures. In 2023, this covered 15 countries that accounted for more than 80% of total Bayer Group sales.

Where information is only relevant for parts of the Bayer Group, we refer to this. In addition, deviations are indicated in the footnotes of the relevant tables and graphs.

External verification

The auditing company Deloitte GmbH Wirtschaftsprüfungsgesellschaft (Deloitte), Munich, Germany, subjected this Sustainability Report of Bayer AG, Leverkusen, for the fiscal year from January 1, 2023, to December 31, 2023, to an audit with limited assurance.

Additional information

- // As the indicators in this report are stated in accordance with commercial rounding principles, totals and percentages may not always be exact.
- // References to websites are indicated by an underlined word.
- // This report is issued in German and English.

The Sustainability Report is published in PDF format together with the [2023 Annual Report](#), the SASB Index, the TCFD Report, the SFDR Index and the Sustainability Highlight Report on Bayer AG's [website](#).

The next Sustainability Report is due to be published in March 2025.

Sustainability Drives Value and Growth

A growing world population and the increasing burden on natural ecosystems are among the biggest challenges humanity is facing. This situation is further complicated by the ongoing war in Ukraine and other geopolitical conflicts, which are escalating. Furthermore, these crises clearly show how important it is to protect health and ensure food security worldwide – and how these goals are in jeopardy.

Our overall goal: from margin to impact

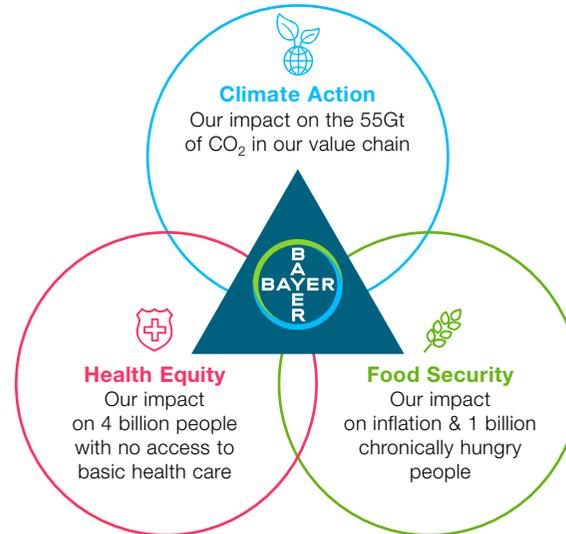
As a global leader in healthcare and nutrition, Bayer can contribute more than any other enterprise to solving global challenges through its business. With this goal in mind, Bayer is committed to ambitious targets that it aims to achieve through its own business activity and the endeavors of its employees.

To support Bayer's mission of "Health for all, Hunger for none," we defined three areas, where we have a significant impact and aim to both boost our ambitions and drive our business solutions forward:

- // Climate action
- // Health equity
- // Food security

Bayer is uniquely positioned to provide solutions to these challenges – alongside our partners.

Our Areas of Impact



We look at these areas of action from a holistic perspective, knowing there are strong interdependencies and that it is at the intersections where Bayer can make a scalable difference in ways that drive our business:

- // Climate change negatively impacts both the availability and nutritional value of staple food crops and vegetables. This creates a challenging cycle of growing more nutritious food without undermining our planet.
- // Health needs and access are challenged by climate change, with rising temperatures compounding health issues and new or more diseases. This creates a heavy burden for both people and health systems – and especially for people living in the global south.

// Food security fundamentally depends on the continuous development and advancement of sustainable agricultural innovations and on the health of farmers and communities who produce food – and in turn health is dependent on the availability of nutritious diets.

By addressing these areas with a clear focus on interdependence and our impact, we will contribute to closing the nutrient gap, strengthening regenerative agriculture and delivering solutions for people's health, in the face of the rapidly increasing temperatures worldwide.

Sustainability is part of our corporate strategy

Building on our mission of "Health for all, Hunger for none," we consider sustainability to be at the core of our corporate responsibility – and it also safeguards our future growth. Sustainability is therefore an essential component of our corporate strategy, our business activities, our corporate values, and the way in which we conduct our business. The following strategic sustainability targets apply as a guideline for the actions of all divisions:

- // Creating inclusive growth and added value for society and our investors
- // Reducing our ecological footprint
- // Embracing responsible business practices along our value chain

Our contribution to the Sustainable Development Goals

We align our own strategic sustainability targets with the global Sustainable Development Goals (SDGs) of the United Nations, which apply through to 2030. The global community lags behind its goals in many areas, which means that the contribution we as a company can make to achieving them becomes all the more important.

At Bayer, we are convinced that we can have a particular impact here, owing to our portfolio, our global reach and our innovative power. In this context, we consciously support those Sustainable Development Goals where there is a pressing need to act and where we can make the greatest impact through our businesses and their sustainability-focused transformation.



SDG 1 – No poverty

As farming is often the only source of income in low- and middle-income countries (LMICs), we help to fight poverty there through our engagement with smallholder farmers and by supporting women.



SDG 2 – Zero hunger

Our products and services help the global agricultural industry to increase production, and thus reduce food inflation, to feed a growing world population, while consuming fewer natural resources. This also benefits smallholder farmers in LMICs.



SDG 3 – Good health and well-being

Our products directly impact people's health. Some prevent diseases and others treat illnesses.

This applies worldwide – but particularly in LMICs, where we endeavor to make existing products and services accessible and affordable.



SDG 5 – Gender equality

We work to achieve gender equality in our business and through our supply chain. By providing modern contraception, we support women around the world in self-determined family planning. We also promote equal opportunity within our company.



SDG 6 – Clean water and sanitation

Our products and services help reduce future water consumption in agriculture. We strive to protect water resources, use them as sparingly as possible and further reduce water pollution.



SDG 13 – Climate action

We pursue a climate protection and decarbonization strategy that is aligned with the goals of the Paris Agreement. In our value chain, we promote resilient, low-emission farming that helps to capture CO₂ through new methods.



SDG 15 – Life on land

By reducing the environmental impact of crop protection products (Crop Protection Environmental Impact Reduction, CP EIR), we support sustainable farming that helps to protect the environment within our value chain and to conserve biodiversity.

Our strategic approach

Bayer aims to promote sustainable development worldwide in accordance with the SDGs, while at the same time focusing on the future in and aligning its businesses to grow in line with the sustainability targets. To achieve this, we link the concept of inclusive growth with a reduction in our ecological footprint based on responsible business practices along our entire value chain.

The Group-wide goals for inclusive growth and climate protection are accounted for in the long-term variable compensation (LTI) of our Board of Management and our LTI-entitled managerial employees. Our strategic focuses also address the demands increasingly expressed by the capital market that we transform our business from an ESG perspective (environmental, social and governance) and report transparently on this using key data. In doing so, we want to be trustworthy and binding in our actions in relation to our stakeholders.

Focus areas: added value for people and the environment

In 2019, Bayer initiated an ambitious program that combines inclusive growth with the reduction of our ecological footprint and aims to establish responsible business practices throughout our entire value chain. Bayer is thus living up to its responsibility toward the environment and society and has integrated this into its corporate governance (ESG).

Inclusive growth

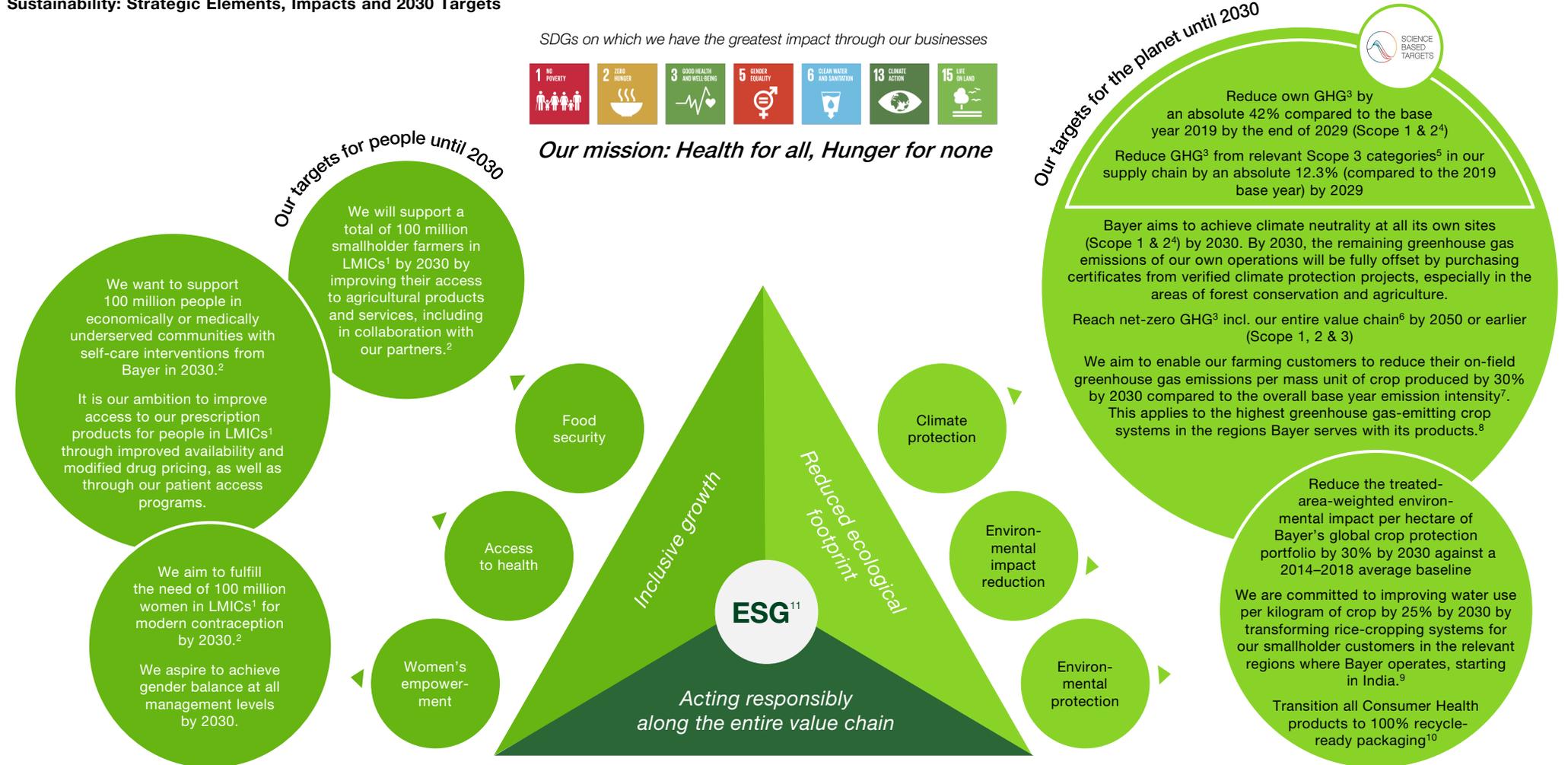
For Bayer, inclusive growth means not achieving objectives at the expense of others. We want the products and services we offer to enable growth and well-being worldwide – in line with our mission of “Health for all, hunger for none.”

Sustainability: Strategic Elements, Impacts and 2030 Targets

SDGs on which we have the greatest impact through our businesses



Our mission: Health for all, Hunger for none



¹ LMICs: low- and middle-income countries
² These targets are accounted for in the long-term variable compensation (LTI) of our Board of Management and our LTI-entitled managerial employees.
³ GHG: greenhouse gas emissions
⁴ Comprises direct emissions (Scope 1) and indirect emissions (Scope 2, market-based) from Bayer sites whose annual energy consumption exceeds 1.5 terajoules
⁵ In accordance with the criteria set out by the Science Based Targets initiative (SBTi), the following Scope 3 categories of the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting & Reporting Standard are relevant for Bayer: (3.1) purchased goods and services, (3.2) capital goods, (3.3) fuel- and energy-related activities, (3.4) (upstream) transportation and distribution and (3.6) business travel.
⁶ Entire Scope 1, 2 & 3 emissions. Scope 3 includes all categories defined in the GHG Protocol.
⁷ Our reduction target refers to an overall base year greenhouse gas intensity that includes the weighted emission intensities of 18 crop-country combinations. Base years are defined individually for each crop-country combination, using data from either harvest year 2020, 2021 or 2022 depending on the availability of data.
⁸ The crop-country combinations Italy-Corn and Spain-Corn were not selected based on these factors but were additionally included because data was already available.
⁹ Base year calculated with data from 2021, validation process still ongoing
¹⁰ Where safety permits and regulations allow
¹¹ ESG: environmental, social, governance

Access to healthcare

Millions of people still do not have access to basic medical care. As a leading pharmaceutical company, we believe we have a responsibility to improve access to healthcare for a growing world population. We reach people all over the world with the products and solutions of our Pharmaceuticals and Consumer Health divisions. As part of this, we also assess the needs of people in LMICs, for whom we want to make existing products and services accessible and affordable. At the same time, we are driving forward innovations to increase access to healthcare worldwide and thus improve people's health and well-being. In this way, we are making a significant contribution to the attainment of SDG 3 "Good health and well-being."

Food security: nutrition and agriculture

Hunger has increased worldwide in recent years, as the impact of climate change and the effects of armed conflicts are contributing to food shortages. In the area of agriculture and nutrition, our innovative products and services help to better feed the growing world population and fight hunger. In this way we are contributing to SDG 2 "Zero hunger" by targeting inclusive growth in LMICs. The 550 million or so smallholder farmers worldwide play a central role in improving the food supply in these countries. As farming is often the only source of income for many people there, our engagement with smallholder farmers helps achieve SDG 1 "No poverty."

Reducing the ecological footprint

We want to reduce our ecological footprint along our entire value chain. With our solutions for more sustainable farming, we play a key role in protecting the environment and biodiversity in accordance with SDG 2 "Zero hunger" and SDG 15 "Life on land." We aim to reduce the environmental impact of our crop protection products in farming and support the use of innovative cultivation methods. We are committed to improving

water use of rice crops for our smallholder customers by transforming rice cropping systems and are thus supporting SDG 6 "Clean water and sanitation."

Climate change mitigation

In view of advancing climate change and its devastating consequences for human nutrition and health, one area of focus for reducing the ecological footprint is an ambitious decarbonization strategy. Our targets are in line with the Paris Agreement. To this end, we pursue extensive measures to support SDG 13 "Climate action." For example, we are reducing our own greenhouse gas emissions (Scope 1 & 2) and greenhouse gas emissions along our value chain (Scope 3). Our reduction targets were confirmed by the [Science Based Targets initiative](#) (SBTi). We want to achieve net zero emissions in our entire value chain by 2050. Furthermore, we aim to enable our farming customers to reduce their on-field greenhouse gas emissions.

Climate change adaptation

We are also helping to increase the resilience of our customers against the effects of climate change. Among the approaches we are developing in this connection are transformative solutions that aim to enable agriculture to emit fewer greenhouse gases and instead contribute to efforts to capture CO₂. This makes agriculture an important enabler in the fight against climate change.

Water stewardship

As a leader in health and agriculture, we have an intrinsic motivation to address the water crisis and are qualified to take a holistic approach that views water as essential to health, agriculture and nutrition. We have therefore developed a water strategy and are committed to positively transforming water productivity in rice farming systems in water-scarce regions. We will also develop a methodology to assess water risks and data and incorporate this into our investment processes.

Responsible business practices

Responsible business practices along the value chain define our company values and shape the way we conduct our business – from our commitment to environmental protection to our endeavors in relation to gender equality and respecting human rights.

Gender equality

We promote diversity, equity, and inclusion (DEI) throughout Bayer, and this includes gender equality – SDG 5. We achieve the greatest impact through our business, particularly through our products to promote women's health and family planning and through our targeted support for female smallholder farmers as entrepreneurs in LMICs. We also promote equality in our own company and aim to achieve gender balance at all management levels by 2030.

Respect for human rights

We fully respect human rights and updated our human rights strategy in 2023 to address risks and effects in that area. The strategy supports the attainment of our company mission and the implementation of the SDGs. Bayer is a founding member of the UN Global Compact and respects the Universal Declaration of Human Rights of the United Nations.

Access to Healthcare as an Element of Sustainability

People in many parts of the world still do not have access to basic medical care, even though the need is high. Furthermore, regional and global crises continue to drive inequality in global society.

As part of our mission of “Health for all, Hunger for none” and the corresponding business strategy, we are addressing important medical needs and expanding access to our products and services, in both the prescription and the over-the-counter sector. We are thus helping to improve access to healthcare for a growing world population (→ SDG 3).

Many of our programs specifically focus on the health of women and children, thus also supporting gender equality (→ SDG 5).

Access to prescription medicines

With our prescription medicines, we make a valuable contribution to individual health and well-being, as well as sustainable development in general. This particularly applies to our globally leading products in women’s healthcare, including with respect to family planning, and in areas such as cardiovascular disease, eye diseases, cancer and neglected tropical diseases (→ SDG 3).

Modern contraception – a key factor

In many parts of the world, self-determination for girls and women depends largely on whether and when they start a family. Young women’s desire to participate in education can only be fulfilled if the advantages and opportunities of family planning are recognized and suitable healthcare services and contraceptives are available.

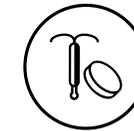
It is therefore not just a question of self-determined health, but also a human right to give women and girls the opportunity to choose the number, timing and intervals of their pregnancies. Data also shows that women who have access to contraceptives can strengthen their societal role, with a corresponding positive overall impact on their families, communities and society at large.

For many women, a lack of social acceptance of contraception – along with incomplete information or limited choices regarding the methods of contraception – is the biggest obstacle when it comes to deciding how to go about their own reproductive life planning. According to the United Nations, more than 218 million women in LMICs would like to prevent pregnancy, but do not have access to safe and effective family planning methods.

As a component of family planning, modern contraception plays a key role in improving the health, rights and economic situation of women around the world. It thus provides the foundation for more equality and affluence and plays a crucial role in enabling participation in better education and improving health (→ SDG 3) and reducing poverty (→ SDG 1) and hunger (→ SDG 2). Family planning also strengthens gender equality (→ SDG 5), which in turn promotes economic and social development. According to the United States Agency for International Development (USAID), investment in family planning is therefore a “best buy” for development.

Access to modern contraception

As a leading global pharmaceutical producer of contraceptives, we have been active in this field for many years. We aim to fulfill the need of 100 million women in LMICs for modern contraception by 2030. In 2023, we already reached 46 million women in LMICs.



Target 2030:

Fulfill the need of 100 million women in LMICs for modern contraception

- // Base year 2019: 38 million
- // Status 2020: 40 million
- // Status 2021: 41 million
- // Status 2022: 44 million
- // Status 2023: 46 million

To attain our target, we focus on the accessibility of our products and on measures for sustainable structure and capacity building. This also takes place through partnerships that we plan to expand further in the coming years.

Product accessibility

When choosing a method of contraception, a woman's personal circumstances can play an important role, as can personal preference and medical indications. Long-acting methods such as contraceptive implants or intrauterine systems are among the most effective reversible birth control methods and offer particular benefits in regions where there are gaps in medical care. These methods generally do not require any further effort for lasting, effective use following their insertion. We expect the demand for long-acting methods to further increase in the coming years.

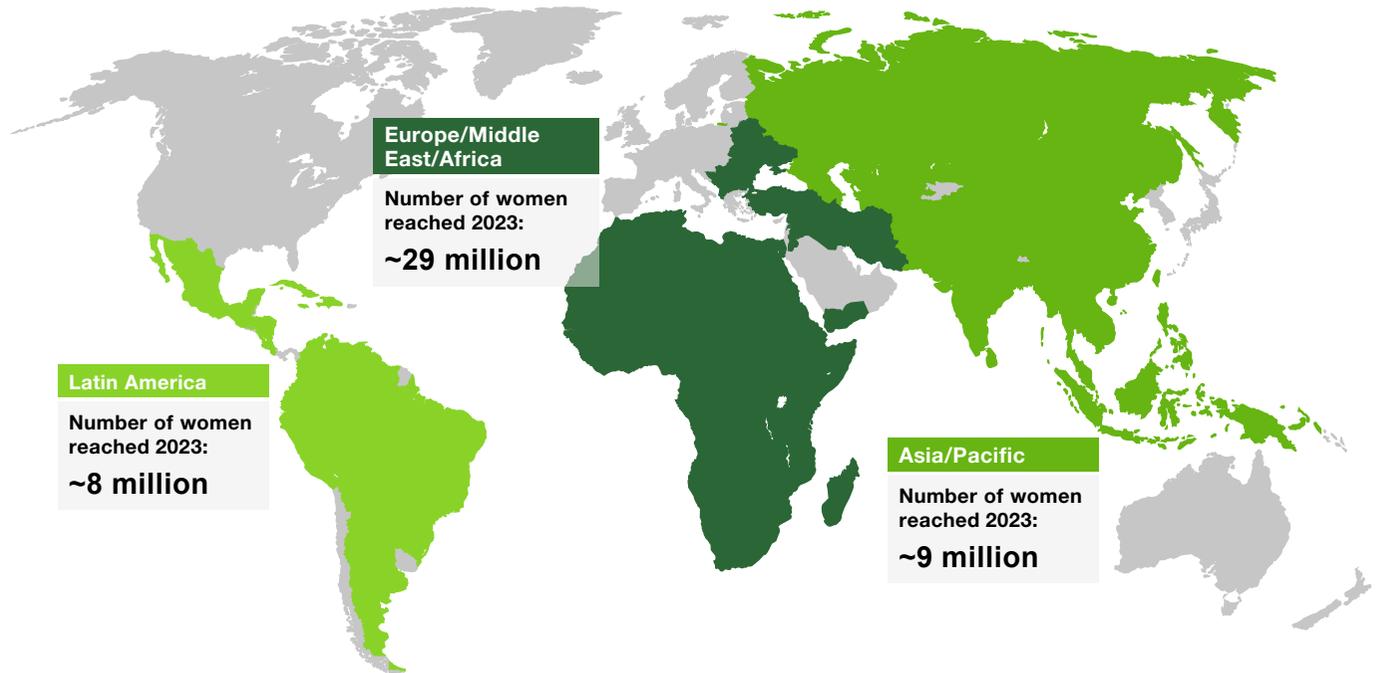
In LMICs with a local pharmaceutical market, where women must pay for contraceptives themselves, we aim to apply a fair pricing approach to enable more women to access these products.

We also cooperate with international family planning programs and aid organizations to enable women to freely access contraceptives. With this goal in mind, we provide our partner organizations with a broad range of contraceptives at low cost. An important role is played here by long-term contraceptives (implants, hormonal intrauterine systems) that can be found in the product catalogues of the United Nations Population Fund (UNFPA) and the United States Agency for International Development (USAID). For more information, please see Chapter 10. Social Engagement.

Expansion of production capacities

In 2021, we approved capital expenditures of more than €400 million to expand the contraceptive production facility at our site in Finland and build a new plant in Costa Rica. Planning and construction measures at both sites have since been continued as scheduled.

Access to Modern Contraception 2023



We inaugurated the production facility in Finland in September 2023. The production plant project in Costa Rica continues to go smoothly. Teams at both sites are collaborating closely to ensure the long-term provision of long-acting reversible contraceptives and thus achieve Bayer's corresponding sustainability target.

Capacity building

We see capacity building as an opportunity to develop knowledge, skills, engagement, structures and systems to strengthen the autonomy and resilience of local healthcare systems. To this end, we are active in numerous initiatives and collaborations worldwide. In addition to cooperating with our partners in education programs and campaigns such as World Contraception Day, we focus our capacity-building efforts on three main areas:

1. Urban areas

Together with the Bill & Melinda Gates Foundation, we support The Challenge Initiative (TCI). TCI is a global platform that supports the sexual and reproductive health needs of women and girls who live in low-income urban areas in Africa and Asia. We support this initiative regardless of whether Bayer products are used or not. We have also embarked on a range of digital partnerships with organizations such as UNFPA India, Life Yangu and Zuri Health to support further family planning options.

2. Rural areas

TCI's work has already shown that a positive impact can also be generated beyond urban areas in the connected rural regions. We will also continue to seek ways to further strengthen family planning options in rural areas in combination with our smallholder farmer program.

3. Humanitarian crisis situations

We want to cooperate more intensively with partners with a strong presence and experience in humanitarian crisis situations. At the interface between family planning and humanitarian aid, we want to support partners with Bayer's technological, logistical and medical expertise and meet the demand for information pertaining to family planning and sexual and reproductive health. Together with the German Red Cross (DRK), we are developing a family planning module for DRK deployments in immediate and emergency humanitarian aid and in ongoing crisis situations.

Differentiated pricing strategy

Our established approach to pricing and access to our prescription medicines not only ensures that our products are sold in reimbursement markets but is also geared

specifically toward enabling these products to be offered in LMICs while taking the local purchasing power into account. In this, we work together with patients, charitable organizations, governmental authorities and other players to enable easier, sustainable access to our products based on adjusted pricing.

For some of our most important products (Adempas™, Eylea™, Kerendia™, Kyleena™, Mirena™, Nexavar™, Stivarga™, Verquvo™ and Xarelto™), we have implemented the framework conditions for equitable pricing.

Further engagement

For more information on our additional activities in connection with neglected tropical diseases (NTDs), malaria and non-communicable diseases, please see the Focus on: Access to Healthcare chapter.

Access to self-care

More than half the world's population has no access to basic and essential health services due to insufficient income, health deserts and a lack of access to clinics, pharmacies or other treatment options. Consequently, billions of people must rely on self-care to prevent disease, maintain their health or treat illness.

We want to support 100 million people in economically or medically underserved communities with self-care by interventions from Bayer by 2030. As a leader in science-based self-care solutions, we are already present and investing in many countries and regions where self-care is a health lifeline. In 2023, we continued to make progress and expand partnerships to drive access to self-care.



Target 2030:

Support 100 million people in economically or medically underserved communities with self-care

- // Base year 2019: 41 million
- // Status 2020: 43 million
- // Status 2021: 46 million (total 59 million¹)
- // Status 2022: 49 million (total 70 million¹)
- // Status 2023: 51 million (total 75 million¹)

¹ Including our strategic investments in India

To achieve our target, we are adapting our brands, products and solutions to meet the medical, pricing, packaging and distribution needs of people in underserved communities. We have expanded our affordable portfolio across regions and increased its availability in channels where lower-income consumers shop.

To maximize our impact, we focus on key regions, namely LMICs in Latin America, Africa and Asia/Pacific, as well as underserved regions of the United States.

Nutrient Gap Initiative

One in three people in the world are surviving on diets that are lacking in the essential vitamins and minerals that are needed to enable them to grow properly, live healthy lives and raise a healthy family. The effects of this "hidden hunger" often worsen over time, can lead to long-term health problems and further accelerate the poverty cycle.

As a global leader in both agriculture and nutritional supplements, Bayer is uniquely positioned to help enable all people to have access to essential vitamins and minerals and improve their livelihoods. Launched in 2021, the Nutrient Gap Initiative (NGI) is Bayer's signature program to enable access to essential vitamins and minerals for 50 million people annually by 2030. The initiative addresses the main barriers to accessing micronutrients through interventions with accessible and affordable nutrition solutions, education and advocacy. Initially focusing on essential supplementation, the initiative was expanded in 2023 to include our food portfolio, which includes vegetables, fruits and grains.

To achieve these aims, we are forming strategic partnerships, for example with Vitamin Angels to reach four million women and their babies with essential pre-natals each year and with the last-mile health social enterprise reach52 to provide nutrition education to underserved communities. Moreover, we are leveraging the Better Life Farming Centers (see Transformation toward Sustainable Agriculture chapter) to advance access to vegetable seeds and nutrition education for smallholder farmers.

Bayer was ranked #1 in Nutrition in the 2023 Food and Agriculture Benchmark, which assessed 350 of the most influential food and agriculture companies around the world, up from #23 in 2021. The Nutrient Gap Initiative was highlighted as the leading practice for making nutritious food and solutions available.

Capacity-building partnerships

Partnerships help us provide people with access to essential self-care solutions and health education in contexts where self-care is often the only option available.

Vitamin Angels

Since 2020, we have been partnering with Vitamin Angels to reach underserved pregnant women, infants and children with multiple micronutrient supplements (MMS) and health education. In 2023, our partnership reached more than four million underserved pregnant women and their babies across 17 priority countries, including the Democratic Republic of the Congo, the Dominican Republic, Nigeria and the United States, bringing the total to 13 million women and babies since the start of our collaboration. In 2023, we also helped support Vitamin Angels and academic partners to develop a continuing medical education curriculum to train healthcare providers on the importance of micronutrients. This curriculum was launched in Indonesia, Mexico and the United States.

NGOs have also become important implementation partners for Vitamin Angels, helping to expand the reach of its activity into Central American communities. Through our partnership with Un Kilo de Ayuda, we also continued to drive education and promote culture of self-care through better nutrition among families in remote communities in Mexico.

reach52

We have also expanded our partnership with reach52, a social enterprise that delivers targeted, scalable health campaigns in emerging markets. Our partnership started in 2021

in Kenya, followed by South Africa and the Philippines, and then by Indonesia and India in 2023. We support reach52 in training community health workers to deliver health and self-care campaigns on pain management, nutrition, micronutrient deficiencies, family planning and maternal health. Together with reach52, we trained more than 1,300 community health workers between 2021 and 2023 and engaged with more than 290,000 residents. In addition, we have reached more than 380 communities to date via posters and community educational programs across the five countries.

In 2023, we intentionally focused on smallholder farmers whom we are already supporting through our comprehensive agricultural and livelihood solutions (please see section on smallholder farmers), as smallholder farmers' ability to feed their communities depends on their health. We are leveraging our portfolio and partnerships, including with reach52, Vitamin Angels and Better Life Farming Centers, to bring health equity to those who ensure food security, with pilot programs in India, Indonesia and Mexico.

Mujer360

In Latin America, we expanded the Mujer360 program in Central America beyond Guatemala and Honduras, adding Jamaica and Nicaragua. The program has partnered with local nongovernmental organizations (NGOs) since 2019 to provide health screening to women. The focus is on vaginal health and on training midwives, who act as healthcare contacts in remote communities. Since 2023, the focus has also included cardiovascular health.

Policy engagement

In 2023, Bayer continued to engage with the Global Self-Care Federation (GSCF), supporting efforts to raise the global agenda of self-care, promoting policies to support everyday health and contributing to multi-stakeholder action, a top priority and a key strategic endeavor for GSCF. A multi-faceted approach through the Self Care Coalition encompassed engagement with governments, the WHO and other influential multilateral organizations, academia, non-governmental organizations (NGOs), patient representatives and healthcare professionals, fostering a dynamic new coalition of allies.

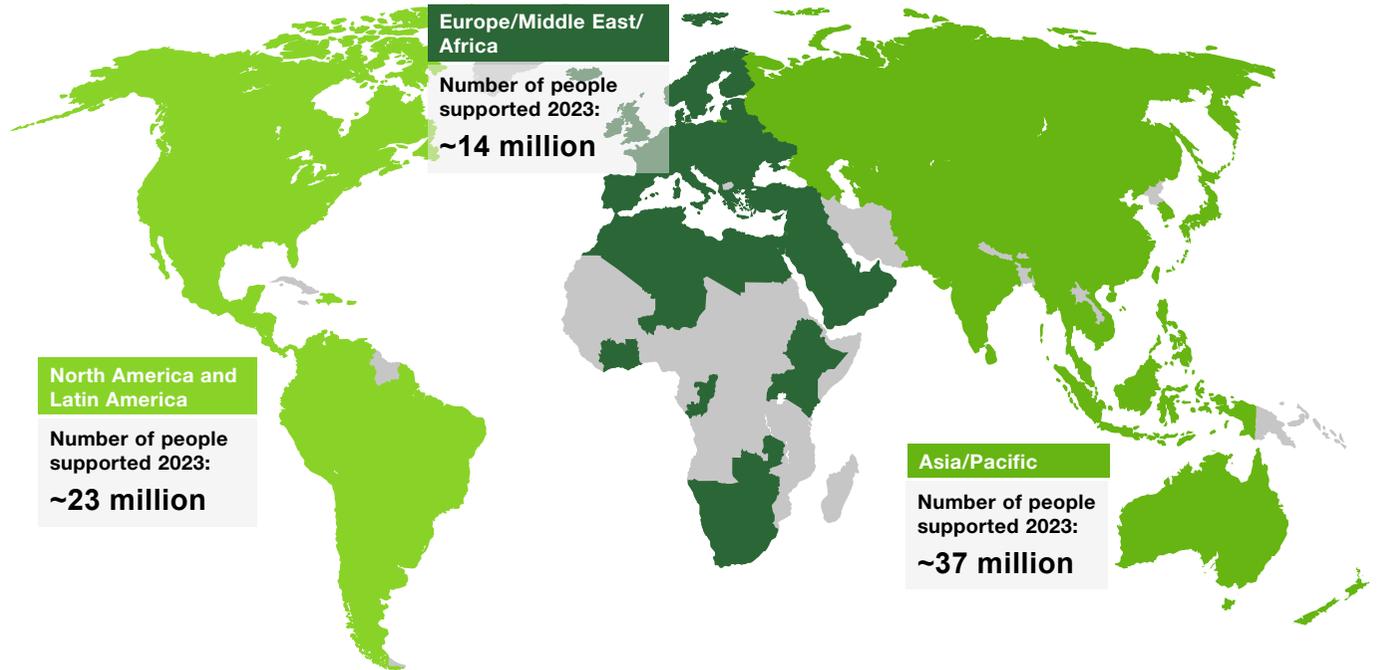
One of the strategic priorities of GSCF and the Self Care Coalition is to mobilize support for a World Health Organization (WHO) resolution on self-care. Through global health forums such as the World Health Assembly, the United Nations General Assembly and the World Health Summit, GSCF engaged policymakers in discussions on the value of self-care for the sustainability of health systems. Following these engagements, countries requested that the WHO considers tabling a resolution on self-care. This marked a critical milestone for the self-care community. If passed, a WHO resolution would increase government support and commitment to the self-care agenda globally.

In addition, we supported the development of the GSCF Selfcare Readiness Index and the Economic and Social Value Study, which received peer-reviewed validation this year.

Sustainability at the core of our brands

Sustainability is firmly anchored in our brand and product strategies. We integrate our sustainability commitments into the earliest stages of product development through our Sustainability by Design program to design innovation with availability, the environment and health in mind.

Access to Self-Care 2023



Bayer is an active partner in the Global Self-Care Federation's (GSCF's) working group focused on implementing more sustainable blister packaging. We also joined the Blister Pack Collective in 2023 to replace plastic packaging with a new dry-molded fiber blister pack made from renewable plant fibers. Replacing plastic packaging will reduce our carbon footprint in the future and support our goal to transition all Consumer Health products to 100% recycle-ready packaging (where safety permits and regulations allow). Initially,

we are exploring how dry-molded fiber blister packs can be added to blister packaging and rolled out to other products as we develop and launch more sustainable solutions.

Additionally, Bayer has introduced a refillable bottle in the development of Bepanthen™ dermatology products. The refill packs use 80% less packaging by weight and can be transported more sustainably due to their smaller size and weight.

We are evolving our brands to deliver sustainable impact on environmental and social goals. These actions include:

- // Canesten™'s educational program – Vagina Academy – continues to challenge social taboos rooted in harmful myths and misconceptions, empowering individuals with vaginas to take ownership of their intimate health. The educational program has already been introduced in over 11 countries, with more to follow.
- // Elevit™, our prenatal supplement, continues to leverage its Every Beginning platform. The program focuses on giving every baby the best start in life by extending access to essential prenatal vitamins for women and their babies in underserved communities through our partnership with Vitamin Angels.
- // As cardiovascular disease is the number one cause of mortality globally, Bayer has partnered with HUMA to develop the Bayer Aspirin Heart Risk Assessment, an online tool that quickly assesses an individual's risk factors for developing cardiovascular disease over the next 10 years. This intervention supports greater awareness of hypertension and heart disease. Bayer is also partnering with the Government of Egypt to support unserved individuals living with or at risk of cardiovascular disease.

Transformation toward Sustainable Agriculture

Global agriculture and food systems are facing major challenges, such as climate change, water scarcity, degraded land and biodiversity loss. At the same time, the world population continues to grow, and millions of people are suffering from hunger and poverty. The growing global demand for food, feed, fiber and fuels will have to be met across a decreasing production area.

We work toward achieving sustainable agriculture that addresses the biggest challenges by means of innovation – agriculture that meets the needs of a growing world population while conserving natural resources (→ SDG 2); agriculture that emits fewer greenhouse gases and instead contributes to capturing CO₂; and agriculture that protects biodiversity and helps farmers worldwide to deal with the effects of climate change and become more resilient. The focus here is on increasing yields through innovative seeds, products and services, as well as on disseminating agricultural practices and forms of cultivation with ever-reduced environmental impact.

Smallholder farmers

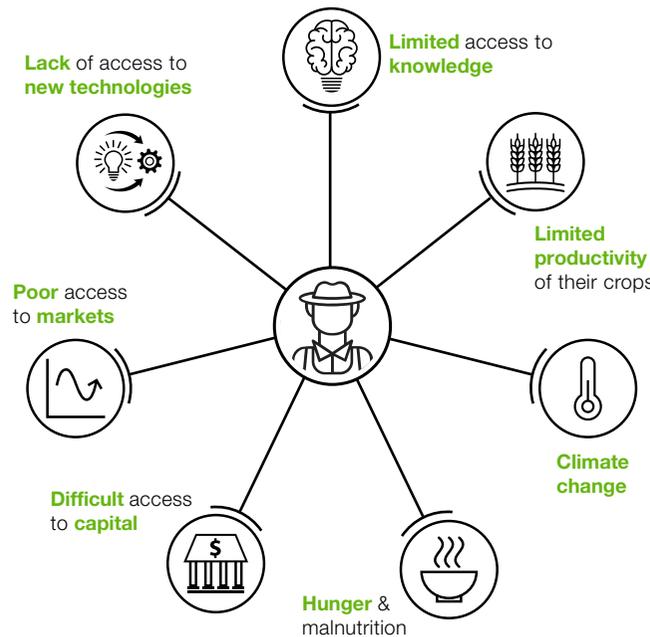
The 550 million or so smallholder farmers worldwide play a central role in improving the quality of life in LMICs and thus implementing our mission “Health for all, Hunger for none.” They form the backbone of food security in many rural regions of the world.

Many of these smallholder farmers are facing significant challenges. Their yields are often low because they do not have access to high-quality crops and practical knowledge about more productive and environmentally friendly cultivation

methods. Often, they do not have affordable financing opportunities and access to markets on which they can sell their products at appropriate prices. At the same time, smallholder farmers are also highly exposed to the impacts of climate change and increasingly to harvest losses. For all these reasons, they are often not able to achieve a stable income through farming.

We aim to support a total of 100 million smallholder farmers in LMICs by 2030 by improving their access to agricultural products and services, including in collaboration with our partners. To achieve this, we are increasing our range of commercial efforts and strategic initiatives tailored to the needs of smallholder farmers. Our strategy for strengthening smallholder farmers is embedded in our regional commercial strategies.

Typical Challenges Smallholder Farmers Are Facing



Target 2030:
Support 100 million smallholder farmers in LMICs

- // Base year 2019: 42 million
- // Status 2020: 45 million
- // Status 2021: 49 million
- // Status 2022: 52 million
- // Status 2023: 53 million

In 2023, together with our partners, we supported 53 million smallholder farmers in LMICs with our products and services. Due to the divestment of the Environmental Science Professional business in October 2022, the number of smallholder farmers no longer contains the respective vector control reach from 2023 onwards (2022: three million). We effectively achieved an outreach expansion of four million smallholder farmers compared to 2022.

We achieved this by significantly expanding business activities in key smallholder geographies, especially in Asia/Pacific.

We are successively expanding our product and service portfolio for smallholder farmers, including innovative business models and digital solutions across the entire crop system. This includes solutions from the areas of digital farming and market access, a differentiated product portfolio, biotechnological solutions and the formation of partnerships along the value chain.

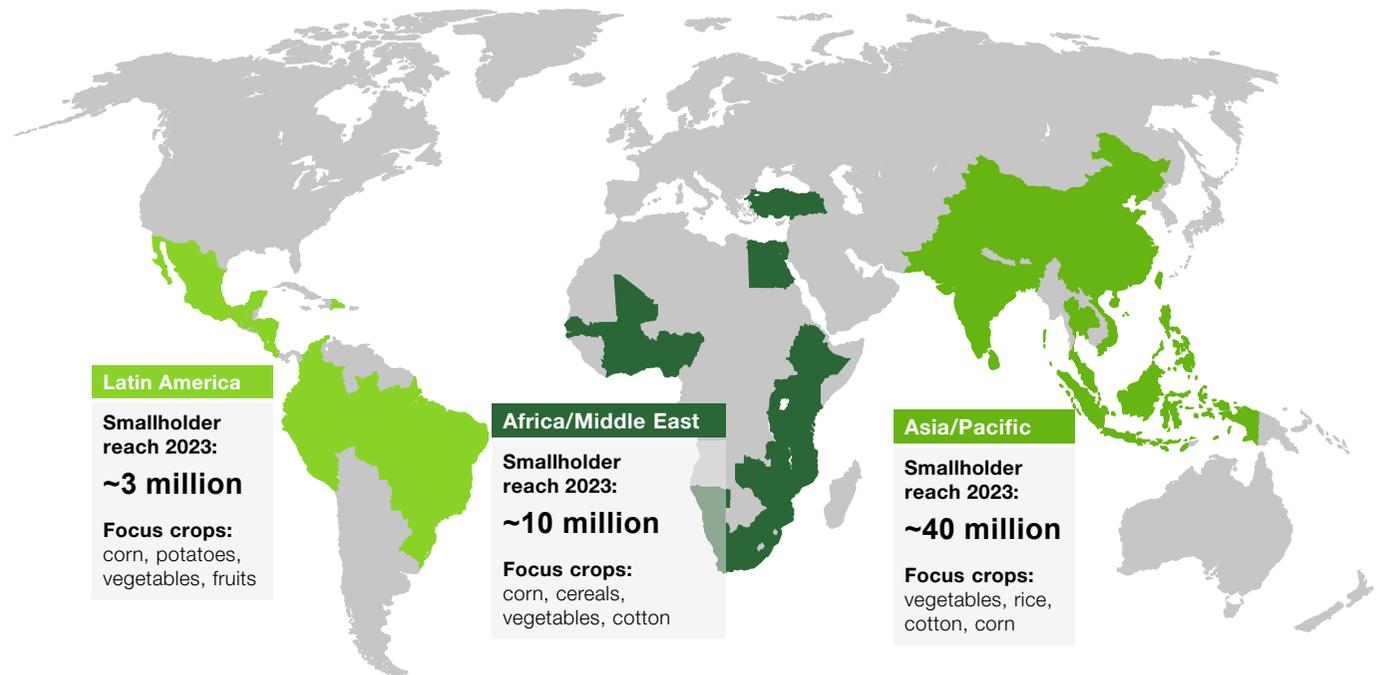
We aim to create market models that generate benefit and reduce business risks for all partners in the value chain, including smallholder farmers. This is implemented by helping smallholder farmers gain access to the agricultural value chain and increase their productivity and income, as well as by creating resilience to ensure the long-term food security of smallholder farmers, their families and rural regions in LMICs.

Bayer does not plan to assert its intellectual property rights against smallholder farmers who save seeds on their farms for private and noncommercial use in order to avoid extreme poverty. Instead, we want to work together with these smallholder farmers to introduce them to the world of commercial farming and enable them to improve their livelihoods.

Value chain partnerships

As no one can overcome every challenge alone, we establish crop value chain partnerships to provide smallholder farmers with high-quality inputs, agronomic knowledge, cost-effective financing and risk mitigation solutions, as well as market access to sell their products. These partnerships include collaborations with government research institutes, nongovernmental organizations (NGOs) and international financial institutions. We have already forged a number of key partnerships:

Smallholder Reach 2023



Better Life Farming

Better Life Farming is a long-term partnership between Bayer, the International Finance Corporation (IFC, part of the World Bank), Netafim and more than 25 local public and private partners as well as NGOs. This partnership helps smallholder farmers make their farms commercially profitable and sustainable.

Within the partners' network, the Better Life Farming centers improve access to agricultural products in remote rural regions through what is known as the last-mile delivery model.

They also offer access to agricultural education and consulting, adapted farming solutions, financing, market access and fair prices. We are also introducing special approaches for the advancement of women, such as the targeted development of women as agricultural entrepreneurs.

In 2023, we increased the number of Better Life Farming centers in India, Indonesia, Bangladesh, Mexico and Honduras to more than 2,700 and opened the first centers in Tanzania and Ivory Coast. We are planning further growth in the three smallholder regions shown above.

Noncommercial partnerships

Together with the Bill & Melinda Gates Foundation, the Bayer Foundation funds the Digital Farmer II program of our partner Mercy Corps AgriFin. This leverages the spread of digital technologies to develop more efficient digital information and financial products and services for smallholder farmers. The goal is for the program to serve up to five million farmers in Nigeria, Kenya and Ethiopia by 2025. In 2023, we reached 1.2 million smallholder farmers via noncommercial partnerships.

Social impact measurement

Independent research by social impact measurement company 60 Decibels confirmed the value of four smallholder projects in India, Bangladesh, Kenya and Mexico/Honduras in 2023. In each of the surveys, a clear majority of participants – ranging from around 70% in Mexico and Honduras to around 90% in Kenya – stated that the programs have increased their yields and farming income and improved their way of farming as well as their quality of life since they joined the projects. We expect impact measurement to complement our assessment of smallholder reach. For more information, please see our [website](#).

Agriculture and climate change

Climate change is presenting major challenges for farmers worldwide. Crop losses not only threaten the farmers' future and that of their families but also pose a risk to the global food supply. At the same time, food cultivation produces greenhouse gas emissions. Farming therefore plays a key role on the road to a climate-neutral global economy (→ SDG 13).

Through innovations in the areas of seeds, crop protection and agricultural practices and through digital solutions, we are helping to make farming both climate-neutral and climate-resilient. In this, we are working with farmers and partners throughout the entire value chain.

Decarbonization

We aim to enable our farming customers to reduce their on-field greenhouse gas emissions per mass unit of crop produced by 30% by 2030 compared to the overall base year emission intensity. The overall base year greenhouse gas intensity includes the weighted emission intensities of 18 crop-country combinations. Base years are defined individually for each crop-country combination, using data from harvest year 2020, 2021 or 2022 depending on the availability of data. This reduction target applies to the highest greenhouse-gas-emitting crop systems in the regions Bayer serves with its products (with the exception of the crop-country combinations Italy-Corn and Spain-Corn that were not selected based on these factors but were additionally included because data were already available). Key levers in this endeavor include climate-friendly cultivation practices such as the adoption of reduced or no-tillage or the sowing of cover crops. These enable CO₂ to be captured in the soil, making the agricultural industry a key player in the fight against climate change.

We work to ensure that farmers benefit financially from such solutions, too. Launched in 2020, our Bayer Carbon Farming Initiative offers incentives to farmers in United States, Latin America, Europe and India to apply climate-friendly methods and capture greenhouse gases in the soil. For more information, please see the Focus on: Agriculture chapter.

New technologies

We help farmers to increase their resilience against the effects of climate change, for example through our innovative seeds for plants that can better withstand extreme weather conditions, and through improved agricultural practices. For more information, please see the Focus on: Agriculture chapter.

We also invest in new technologies and conduct research into questions such as how plants could use nitrogen from the air for their growth with the help of soil microorganisms. This would enable the use of nitrogen fertilizer to be greatly reduced in the future. Currently, this substance is essential for plant growth, yet its production and use result in significant greenhouse gas emissions.

Through our [Leaps by Bayer](#) participation in Fork & Good, we are investing in research into animal protein produced from cell cultures to cover the growing demand for protein without stockbreeding.

Further reducing the ecological footprint

We aim to reduce the treated-area-weighted environmental impact per hectare of Bayer's global crop protection portfolio by 30% by 2030 against a 2014–2018 average baseline. The foundation for delivering the commitment is more sustainable crop protection, which our CropKey approach will bring to market. In addition, changes in agricultural practices and in how crop protection products are applied, as well as the use of digital solutions, help ensure that the required crop protection products are applied as precisely and sparingly as possible to the area requiring treatment. For more information, please see the Focus on: Agriculture chapter.

Regenerative agriculture

We aim to transform agriculture by driving a more sustainable food system guided by our vision of regenerative agriculture.

Bayer promotes a concept of regenerative agriculture (mainly downstream in our value chain). This is defined as an outcome-based production system that aims to increase food production, farm incomes and resilience in a changing climate, while at the same time restoring nature.

Key outcomes we strive for are yield increase, improved social and economic well-being of farmers and communities, and positive impact on nature, which can be achieved, for instance, by improving soil health, reducing on-field greenhouse gas emissions and increasing carbon sequestration to mitigate climate change. We are also looking to restore biodiversity and conserve water. For more information, please see the Focus on: Agriculture chapter.

Water stewardship

Bayer presented its new water strategy at the UN Water Conference 2023 in New York. This strategy makes water an integral part of our business, investment decisions and supplier selection. The strategy considers our position as a key player in the areas of health and agriculture and is intended to have an impact beyond our own business. In order to achieve the greatest possible impact, the measures cover the entire agricultural value chain right through to the farmers. We are therefore committed to making positive changes to water productivity in farming systems in water-scarce regions, starting with rice, where irrigation for cultivation accounts for up to 43% of global freshwater used in irrigation. We are committed to improving water use per kilogram of crop by 25% by 2030 by transforming rice-cropping systems for our smallholder customers in the relevant regions

where Bayer operates, starting in India (base year calculated with data from 2021, validation process still ongoing). For more information, please see the Focus on: Agriculture chapter. In addition, Bayer's existing commitment to reduce the treated-area-weighted environmental impact per hectare of Bayer's global crop protection portfolio by 30% by 2030 against a 2014–2018 average baseline also contributes to water quality.

Group targets at a glance

We use these indicators to measure the implementation of our Group targets through 2030. They also serve as a basis

for determining the variable compensation component of the Board of Management and entitled managerial employees.



Target: Support 100 million smallholder farmers in LMICs

Key figure:

- // Number of smallholder farmers in LMICs¹ supported by products, services and partnerships
- // Partnership: Mercy Corps AgriFin

Base year	Status	Status	Status	Status
2019:	2020:	2021:	2022:	2023:
42 million	45 million	49 million	52 million	53 million



Target: Fulfill the need of 100 million women in LMICs for modern contraception

Key figure:

- // Number of women reached in LMICs¹ who have their need for modern contraception fulfilled due to interventions supported by Bayer
- // Partnerships: The Challenge Initiative (TCI), UNFPA Egypt

Base year	Status	Status	Status	Status
2019:	2020:	2021:	2022:	2023:
38 million	40 million	41 million	44 million	46 million



Target: Support 100 million people in economically or medically underserved communities with self-care

Key figure:

- // Number of people in economically or medically underserved communities whose self-care is supported by interventions from Bayer
- // Partnership: Vitamin Angels

Base year	Status	Status	Status	Status
2019:	2020:	2021:	2022:	2023:
41 million	43 million	46 million (total 59 million ²)	49 million (total 70 million ²)	51 million (total 75 million ²)



Target: Climate neutrality at own sites³ and achievement of Science Based Targets

Key figure:

- // Reduction of Scope 1 and 2⁴ greenhouse gas emissions by 42%
- // Reduction of Scope 3 emissions⁵ by 12.3%
- // Offsetting of remaining Scope 1 and 2 greenhouse gas emissions

Supporting figures:

- // 100% electricity procurement from renewable sources

Base year 2019:	Status 2023:
Scope 1 and 2 ⁴ : 3.76 million metric tons CO ₂ e	Scope 1 and 2 ⁴ : 3.0 million metric tons CO ₂ e
Scope 3 ⁵ : 8.82 million metric tons CO ₂ e	Scope 3 ⁵ : 8.44 million metric tons CO ₂ e

A more detailed description of the calculation methodologies (including adjustments) is available on our website www.bayer.com/en/sustainability/targets.

¹ LMICs: low- and middle-income countries

² Including our strategic investments in India

³ In accordance with the Paris Agreement and the objective of limiting global warming to 1.5°C relative to the pre-industrial level

⁴ Comprises direct emissions (Scope 1) and indirect emissions (Scope 2, market-based) from Bayer sites whose annual energy consumption exceeds 1.5 terajoules

⁵ In accordance with the criteria set out by the Science Based Targets initiative (SBTi), the following Scope 3 categories of the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting & Reporting Standard are relevant for Bayer: (3.1) purchased goods and services, (3.2) capital goods, (3.3) fuel- and energy-related activities, (3.4) (upstream) transportation and distribution and (3.6) business travel.

Sustainability Firmly Anchored in Governance

As the core element of our corporate strategy, sustainability is integrated into all our major processes. This is ensured not just through binding targets and a broad set of directives but also through fundamental Group management decisions.

Responsibility in the Group

As Bayer's Chief Sustainability Officer, Bill Anderson, the Chairman of the Board of Management (CEO), is responsible for implementing the strategic objectives. The Public Affairs, Science, Sustainability & HSE Enabling Function is tasked with the operational design of sustainability.

ESG Committee of the Supervisory Board

In 2022, an ESG Committee was established within Bayer's Supervisory Board to deal with ecological and social responsibility matters and sustainable corporate governance. This mainly pertains to the incorporation of sustainability into the business strategy; the establishment of sustainability targets; nonmandatory ESG reporting and, where applicable, the auditing thereof; the opportunities and risks; and the organizational structures and processes in ESG areas, insofar as the Audit Committee is not already responsible for these matters. Within its scope of responsibility, the ESG Committee advises and oversees management and prepares possible resolutions by the Supervisory Board.

The ESG Committee is composed of the Chairman of the Supervisory Board and seven other Supervisory Board members. It includes an equal number of stockholder and employee representatives. Ertharin Cousin is Chair of the ESG Committee.

The Supervisory Board is also closely involved in the implementation of the sustainability targets, independent from the ESG Committee. It addresses this issue several times a year along with the nonfinancial statement of the company as part of the Annual Report.

Integration of ESG into compensation

Qualitative sustainability targets have been factored into the compensation systems for the Board of Management and entitled managerial employees since 2020. Since 2021, the quantitative targets have accounted for 20% of the long-term variable compensation (LTI) of Bayer's Board of Management and LTI-entitled managerial employees. For more information, please see the Compensation Report in the [2023 Annual Report](#).

Implementation of human rights

According to our mission and regarding the compliance with human rights due diligence obligations – especially the German law (Lieferkettensorgfaltspflichtengesetz – LkSG) – Bayer named Matthias Berninger as Human Rights Officer. He reports directly to the Chairman of the Board of Management (CEO).

Measuring progress

To measure progress in the attainment of our Group targets, we have defined key sustainability data that makes our performance transparent. Our “sustainability cockpit” brings together key data in one place and facilitates decision-making by the management. The data is compiled in the countries and centrally validated. We have thus established a reliable due diligence process for our sustainability targets.

Sustainability Council

We need a large network to realize our objectives. We have therefore intensified our cooperation with social organizations in order to understand different perspectives and jointly achieve a greater impact. In 2020, we convened a Sustainability Council composed of independent international experts. This body brings together expertise and experience in the areas of biodiversity, digitalization, health systems, the food and agriculture industries, fair trade strategies, women's rights, sustainable technologies, sustainable finance and transformation strategies. The nine-member body advises the Board of Management, oversees the implementation of the sustainability strategy and reports transparently each year on its work and recommendations, as well as our progress.

Bioethics Council

Given the pace at which science is evolving and the challenging ethical questions associated with the possibilities created by these innovations create, we established the Bayer Bioethics Council in summer 2022. This external advisory body consists of independent experts who bring in a societal perspective that helps Bayer to identify the relevant bioethical questions and to develop answers.

Stakeholder dialogue

Bayer also seeks and maintains dialogue with stakeholders at various levels beyond the Sustainability Council. Of particular importance is contact with those who publicly evaluate Bayer with respect to sustainability aspects, especially including nongovernmental organizations and sustainability-oriented rating agencies. We take all criticism seriously and regard it as an incentive to improve.

ESG Rating Results in Recent Years

For many stakeholders, it is difficult to decide whether a company can be seen or classified as “sustainable.” For decades, the ESG rating agencies have therefore been focusing on exactly this question: using comprehensive and

proprietary methodologies, they assess multiple indicators especially in relation to environmental, social and governance (ESG) topics and measure a company’s respective risk exposure as well as its performance in terms of how these

ESG risks are being managed. The methodologies used by ESG rating agencies differ, especially regarding which ESG topics are considered to be material for the assessment.

The results published by these ESG rating agencies are commonly referred to as “ESG ratings.” Listed companies such as Bayer are assessed by multiple ESG rating agencies, which often publish heterogeneous results.

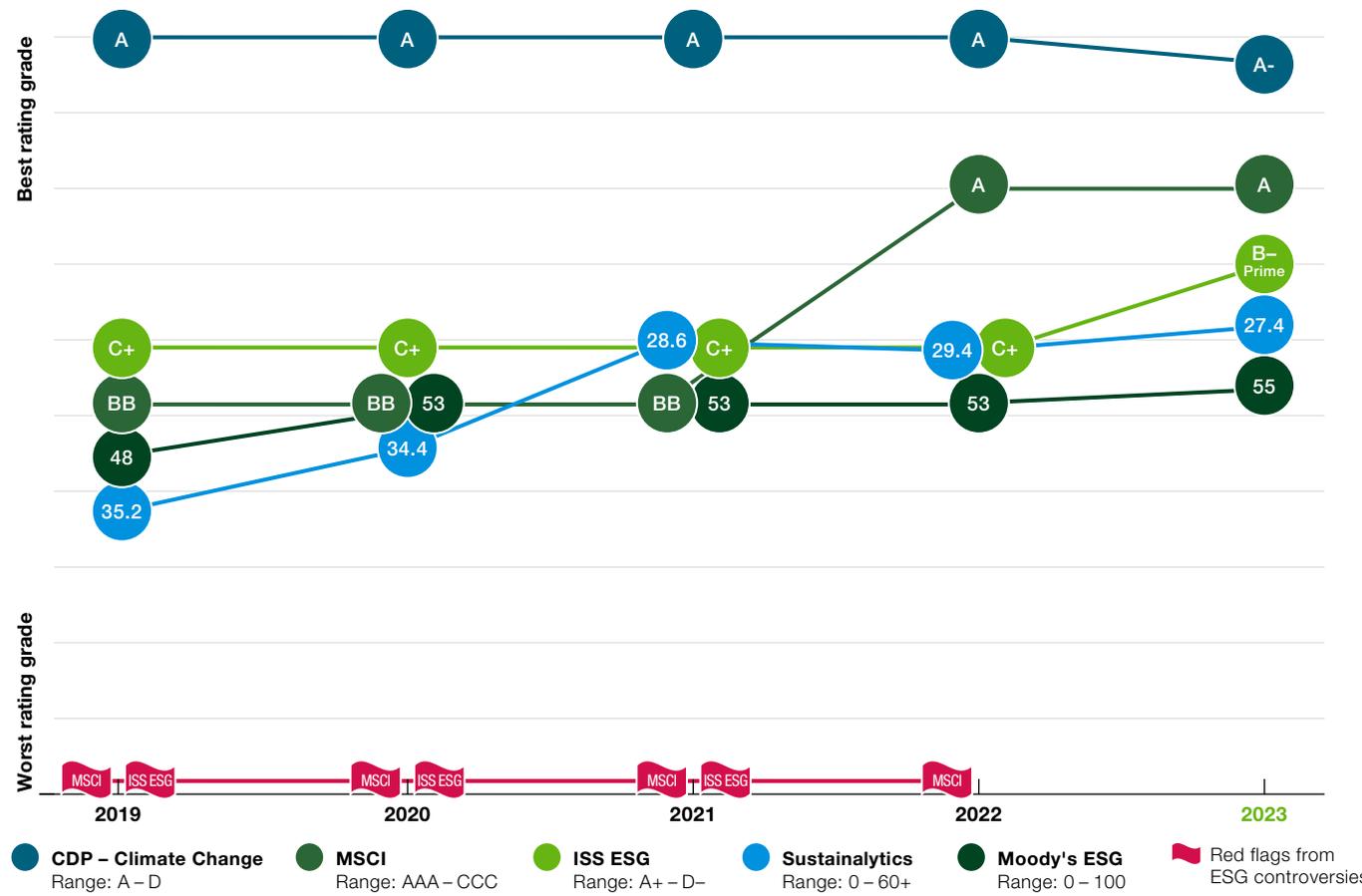
Bayer has been rated by ESG rating agencies for decades, and we have maintained a close dialogue with leading ESG rating agencies to achieve a fair and transparent assessment of our company for many years. We carefully listen to their requirements and adjust our ESG management and our ESG reporting accordingly. We have achieved significant progress in recent years through constructive dialogue with the ESG rating agencies we consider to be the most important.

For us, this progress is also a very strong signal on the relevance and the acknowledgement of Bayer’s sustainability strategy.

Examples of improved ESG rating scores in the past years include:

- // Closing of red flags from MSCI ESG Research and from ISS ESG
- // Rating as “Prime” by ISS ESG for the first time
- // Rating among the best 11% in the industry and above the pharmaceutical industry average by Sustainalytics

ESG Rating Results



Interview with Matthias Berninger

ESG ratings help the invisible hand of the market to turn green

Why are ESG ratings so important?

Despite the recent backlash against ESG, sustainability and the corresponding ratings remain central to investors. They pay attention and they expect good valuations when they invest in companies. Bondholders also care.

So-called sustainable investments have been on the rise worldwide for years now. In November 2023, the Sustainable Investment Review of the Global Sustainable Investment Alliance reported that US\$30.3 trillion is invested globally in what is classified as sustainable assets. Although, this is a very heterogeneous group, only 10 years ago nobody would have thought that this was possible.

And ESG ratings are a foundation for most investors when they make decisions on investments. This is why ESG ratings are so important.

In turn, for the companies, ESG or sustainability ratings present an opportunity to deepen stakeholder relationships, expand investments, gain access to lower capital costs and make more effective strategic decisions.

How do you assess the impact of ESG ratings on Bayer?

We expressly welcome them because ESG ratings are a mirror reflecting Bayer's conduct and impact. We recognize that every ESG rating agency has different focal points and a different methodology for evaluating Bayer, which creates varying reflections. While we see the need for more convergence of ESG rating criteria, we strive for the best possible respective ESG rating results.

ESG rating agencies have helped us to advance our sustainability efforts. This is reflected in several ESG ratings that are now assessing Bayer significantly better than ever before. We take great pride in the external validation of the massive efforts we have undertaken in sustainability since 2019.

What have you done to achieve better ESG rating results?

We listened and we learned. To begin with, transparency became foundational. This means naming key figures, policies and targets in all dimensions of sustainability that are relevant in the methodology of each ESG rating. We were able to disclose our impact through very comprehensive reporting, including auditor assurance on the statements in our Sustainability Report. For us, transparency was key to regaining and earning trust from our stakeholders.

But even with a comprehensive report, it is not possible to satisfy all needs to the best possible extent at the same time. In some cases, we have also engaged in a very direct dialogue to understand what we can do better. As a result, for example, Bayer managed to close the red flags from ISS ESG in 2021 and from MSCI ESG Research in 2022.

What will be important in the future for maintaining the good ESG ratings?

At its core, Bayer is a systemically relevant company with huge impact on some of the world's most pressing challenges: food inflation and hunger, access to healthcare and climate action. The potential for impact generation has also increasingly found its way into ESG ratings.

At the same time, we need to get better every day, as, quite rightly, methodologies of ESG rating agencies evolve over time. It is good to see a rising bar.



// **Matthias Berninger**
Head of Public Affairs,
Science, Sustainability & HSE
of Bayer AG

How do you see regulation in the context of ESG ratings?

Given the growing influence of ESG ratings, it makes sense to me to ensure convergence and high quality. This can be done through both self-regulation and government actions. I am more worried about how ESG became a political football in the United States, as this cautioned some investors and reduced momentum behind the invisible hand of the market turning green.

Four years in, what's next for Bayer's sustainability strategy?

Bayer's mission of "Health for all, Hunger for none" has been embraced across the organization. The next chapter will focus on demonstrating impact through our operations. I prefer that over lofty new commitments. Generally speaking: The strategy works, so let's work the strategy!

The background features a dark green field with several large, overlapping, angular shapes in a lighter shade of green. These shapes are oriented diagonally, creating a sense of movement and depth. The overall aesthetic is modern and professional.

Performance Report

1. The Company

The Bayer Group comprises 340 consolidated companies in 80 countries throughout the world and employs 99,723 people. Its headquarters is in Leverkusen, Germany. Sales at the Bayer Group in 2023 amounted to €47.6 billion.

1.1 Corporate Profile

We are a life science company and a global leader in healthcare and nutrition. Our innovative products support efforts to overcome the major challenges presented by a growing and aging global population. We help prevent, alleviate and treat diseases. We also aim to ensure the world has a reliable supply of high-quality food, feed and plant-based raw materials. As part of this endeavor, the responsible use of natural resources is always a top priority. In line with our vision “Health for all, Hunger for none,” we aim to put an end to hunger and help everyone lead a healthy life, while at the same time protecting ecosystems. That is what we aspire to achieve, guided by our purpose “Science for a better life.”

We aim to continuously enhance our company’s earning power and create value for customers, patients, shareholders, employees and society. Growth and sustainability are integral parts of our strategy.

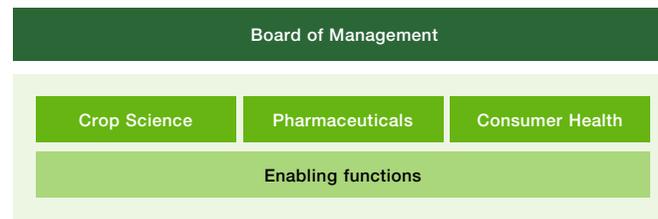
1.2 Corporate Structure

Corporate structure as of December 31, 2023

As the parent company of the Bayer Group, Bayer AG – represented by its Board of Management – performs the principal management functions for the entire enterprise. This mainly comprises the Group’s strategic alignment, resource allocation, and the management of financial affairs and managerial staff, along with the management of the

Group-wide operational business of the Crop Science, Pharmaceuticals and Consumer Health divisions. The enabling functions support the operational business.

Structure of the Bayer Group 2023



The following changes have occurred within our organization:

The Supervisory Board of Bayer AG appointed Bill Anderson as Chairman of the Board of Management (CEO) of Bayer effective June 1, 2023. He joined Bayer as a member of the Board of Management on April 1, 2023. Werner Baumann and the Supervisory Board had previously agreed that Baumann’s contract as a member and Chairman of the Board of Management (CEO), which was set to run to April 30, 2024, should be terminated prematurely. Baumann’s service contract and term of office came to an end by mutual consent on May 31, 2023.

In addition, the Supervisory Board of Bayer AG unanimously appointed Heike Prinz to the Board of Management effective September 1, 2023, with her taking on the role of Chief Talent Officer and Labor Director. This followed the mutual agreement by Sarena Lin and the Supervisory Board to not extend Lin’s contract. Sarena Lin left the company effective August 31, 2023.

Our divisions are active in the following areas:

Crop Science

Crop Science is the world’s leading agriculture enterprise by sales, with businesses in crop protection, seeds and traits. We offer a broad portfolio of high-value seeds, improved plant traits, innovative chemical and biological crop protection products, digital solutions and extensive customer service for sustainable agriculture. We market these products primarily via wholesalers and retailers or directly to farmers. Most of our crop protection products are manufactured at the division’s own production sites. Numerous decentralized formulation and filling sites enable the company to respond quickly to the needs of local markets. The breeding, propagation, production and/or processing of seeds, including seed dressing, take place at locations close to our customers, either at our own facilities or under contract.

Pharmaceuticals

Pharmaceuticals concentrates on prescription products, especially for cardiology and women’s healthcare, and on specialty therapeutics focused on the areas of oncology, hematology, ophthalmology and, in the medium term, cell and gene therapy. In the area of cell and gene therapy, we operate a strategic unit spanning the entire value creation chain from research and development to marketing and patients. The division also comprises the radiology business, which markets diagnostic imaging equipment and digital solutions together with the necessary contrast agents. Our portfolio includes a range of key products that are among the world’s leading pharmaceuticals for their indications by sales, for example in the areas of cardiology, women’s healthcare, ophthalmology and radiology. The prescription products of our Pharmaceuticals Division are primarily distributed through wholesalers, pharmacies and hospitals.

Consumer Health

Consumer Health is a world-leading supplier of nonprescription (OTC = over-the-counter) medicines for self-medication and self-care in terms of sales. Our portfolio comprises the categories nutritional supplements, allergy, cough & cold, dermatology, pain and cardiovascular risk prevention, and digestive health. The products are generally sold by pharmacies and pharmacy chains, supermarkets, online retailers and other large and small retailers.

Enabling functions

The enabling functions, such as Public Affairs, Science, Sustainability & HSE; Group Finance; Human Resources and Information Technology, serve as Group-wide competence centers and bundle business support processes and services for the divisions. Our [Leaps by Bayer](#) unit, which invests in disruptive innovations, also forms part of the enabling functions.

For more information on the divisions' products and activities and the distribution of sales across the divisions and our global sites, please see our [2023 Annual Report](#).

1.3 Value Added

By delivering innovative products and solutions, Bayer creates value for its stakeholders at all stages of the value chain. We operate production sites worldwide, invest in research and development, work with international and local suppliers, and contribute to the economic development of our target markets. As an employer, we provide jobs in industrialized, emerging and developing economies and therefore create purchasing power through the salaries we pay. We contribute to public finances and thus support public infrastructure through the payment of taxes and other levies.

The value added calculation shows the direct financial value we generate for our stakeholders with our commercial operations. We define value added as the company's total operating performance in the previous fiscal year (net sales + other operating income + financial income + net income/loss from investments accounted for using the equity method) less the costs of procured and consumed goods and services, depreciation, amortization, impairment losses and impairment loss reversals.

Our total operating performance amounted to €50.0 billion in 2023. The cost of materials and other expenses totaled €29.1 billion. We recorded depreciation, amortization, impairment losses and impairment loss reversals of €10.0 billion. We posted a value added of €10.9 billion in 2023.

In 2023, the value added we generated enabled us to make the following financial contributions to our stakeholders: employees €10.7 billion, taxes €1.5 billion, providers of equity and debt €1.6 billion and stockholders €0.1 billion (Bayer AG dividend proposal for 2023).

2. Corporate Governance

Bayer is committed to responsible corporate governance. By adhering to laws, safeguarding values and strengthening our reputation, we aim to secure our company's long-term success and to foster a high level of trust among all stakeholders. Our endeavors in this regard are further supported by our increased integration of sustainability aspects into all processes and at all levels of the company.

2.1 Corporate Governance Practices and Principles

Bayer AG is subject to German stock corporation law and therefore has a dual governance system consisting of the Board of Management and the Supervisory Board. The Board of Management manages the company based on a strategy that is geared toward its long-term success. The Supervisory Board oversees and monitors the Board of Management. Since 2022, the Supervisory Board has had its own ESG Committee, comprising the Chairman of the Supervisory Board and seven further members of the Supervisory Board. This focuses on Bayer's sustainable governance and business activities in the areas of environmental protection, social affairs and corporate governance (ESG) within the scope of responsibility of the Supervisory Board.

Corporate governance practices that go beyond the legal requirements are derived from our mission and our common values, which form the basis for the respectful working relationship among our employees and with our external partners. Compliance with responsible practices at every stage of the value chain is crucial in corporate governance. The main guidelines are summarized primarily in our Group regulations on compliance, human rights, and fairness and

respect at work, as well as in our Supplier Code of Conduct and the Bayer Societal Engagement (BASE) principles. In addition, Bayer has established compliance management and risk management systems.

In our [Annual Report](#), we report in detail on the main elements of the Bayer Group's corporate governance structures and conformity with the recommendations of the German Corporate Governance Code, relevant corporate governance practices, the composition and procedures of the Board of Management, the Supervisory Board and their committees, and also on compensation in the Compensation Report along with the objectives to be defined and the underlying concepts.

2.2 Behavioral Principles (BASE)

As a leading healthcare and agriculture company, we bear a great responsibility. To ensure that we meet current societal expectations, we introduced the [Bayer Societal Engagement \(BASE\)](#) principles in 2019. These principles are set out in a publicly available Board of Management-approved Group regulation, which establishes how we interact worldwide not just with our employees but also with patients, customers, consumers, business partners, political stakeholders, scientists, critics and our stockholders. In this way, we want to live up to our social responsibility as a transparent company that acts sustainably and is respected for its contribution to progress in healthcare and agriculture. We want to listen, understand, take concerns seriously and engage in respectful dialogue – especially where this is difficult or uncomfortable.

The BASE principles are grounded in our purpose “Science for a better life,” our mission “Health for all, Hunger for none” and the Bayer LIFE values of leadership, integrity, flexibility and efficiency. The principles describe our actions in eight areas:

- // Our engagement with society
- // Our guiding principles and core values
- // How we drive innovation
- // How we act in the workplace
- // How we conduct our business
- // How we interact with our customers, patients and the consumers of our products
- // How we interact with media, legislators, regulators and civil society organizations
- // How we interact with stockholders

2.3 Transparency

As our activities concern the sensitive areas of health and nutrition, they lead to inquiries and the desire to understand what we do even better. Against this background, we endeavor to strengthen trust further – for which transparent conduct is essential. For example, we disclose information from various areas of our work and openly communicate how the safety of our products is rated.

We supply information about our transparency efforts in the following areas, for instance:

- // We make detailed disclosures on, for example, material and project expenses and headcount of the essential political liaison offices in the transparency registers of the German Parliament, the European institutions and the US Congress, for instance. We also report data for countries in which there is no legal disclosure obligation. For more information, please see Chapter 2.6 Compliance and our [website](#).
- // As regards tax transparency, we maintain a discourse with interested stakeholders.
- // Through our [website](#), we provide public access to [safety-relevant studies](#) that regulatory authorities use to approve crop protection product registrations. We also publish the safety results for our genetically modified crops on our [website](#).
- // Our [OpenLabs](#) provide insight into the scientific work in our laboratories and field trial facilities.
- // We publish information on planned and ongoing clinical trials on the publicly funded [clinicaltrials.gov/](#) website. Trials sponsored by Bayer are published on our [Clinical Trials Explorer](#) website.
- // We publish summaries of clinical trial results on our [Clinical Trials Explorer](#).
- // For many years, we have shared patient-based clinical trial data with qualified researchers. Since 2022, this has been possible via [Vivli, the website of the Center for Global Clinical Research Data](#). For more information, please see Chapter 3.8 Pharmaceuticals and Consumer Health.
- // In relations between the pharmaceutical industry and physicians, other healing professions and healthcare organizations, Bayer ensures compliance with the EFPIA (European Federation of Pharmaceutical Industries and Associations) Disclosure Code, and, for example, the US Physician Payments Sunshine Act.

- // To generate more transparency around our scientific collaborations, we launched the [Bayer Science Collaboration Explorer](#) in Germany in 2021 and expanded it to the United States in 2022 and Switzerland in 2023. In this publicly accessible database, we disclose information on new contract-based scientific collaborations with universities, public research institutions and individuals to increase public confidence in our innovations, scientific processes and research.

Publications

We strive for maximum transparency in our publications. As stated in our Group Regulation on Bayer Societal Engagement (BASE) Principles, all Bayer employees are obliged to properly reflect and disclose our participation in any scientific work and publications of third parties and the participation of third parties in the development of our publications. Our Group Regulation on Scientific Publications prohibits ghostwriting and guest authorship and thus meets the strict specifications of important high-ranking medical journals. For example, all authors must compile or review essential postings with respect to concept, design and data assessment, and fully disclose all financial relationships, including material support for research, and other potential conflicts of interest related to the publication.

In addition to our sustainability reporting, we have published further reports that describe topics in detail and are available to interested stakeholders on our website. These include:

- // [Industry Association Climate Report](#)
- // [Neonicotinoids](#)
- // [Genetically Modified Crops](#) (GMOs)
- // [UN Global Compact Adherence](#)
- // [Leaps by Bayer](#)
- // [Crop Science Sustainability Progress Report](#)

For more information on our transparency initiative, please see our [website](#).

2.4 Bioethics

New life science technologies are advancing rapidly and offer the opportunity for a significant positive impact on society, people and the environment. As a leading company in healthcare and nutrition, Bayer has the opportunity to contribute more to this development than almost any other enterprise. However, the speed at which science is advancing and the possibilities these innovations create, however, also raise complex ethical questions for us as a research-based company.

With Bayer's Group Regulation on [bioethical principles](#), we have a company-wide, binding and valid ethical framework for decisions that are relevant in research and development in the life sciences. The focus is on principles for dealing with medical topics, bioengineering and artificial intelligence, which apply to the following bioethical focus areas:

- // Use of genetic engineering
- // Use of human stem cells
- // Use of human biological samples
- // Conducting studies in humans
- // Use of artificial intelligence in the context of human healthcare
- // Animal welfare

Responsible use of human stem cells

We are aware of the particular sensitivity that the topic of the use of human embryonic stem cells requires.

We pay attention to compliance with legal requirements and our ethical standards.

Our Group Regulation on Bioethical Principles defines the ethical boundaries within which we use human stem cells in our research. For example, we only use human embryonic stem cells in a few selected research projects. These existing cells were obtained in compliance with applicable laws and approved by the relevant national authorities.

Bayer is not involved in any research activities that lead to the production of new embryonic stem cell lines or to the development of a complete human embryo.

The established principles of [the International Society for Stem Cell Research \(ISSCR\)](#) must be complied with as the minimum requirement for both research and clinical implementation; stricter internal guidelines for specific areas of application are also taken into account.

For more information on the subject of [stem cells](#) and [cell therapy](#), please see website.

Bioethics Council

As a core element of our approach to bioethics, Bayer has established the Bayer Bioethics Council, an external advisory body consisting of 10 independent experts. By bringing in an ethical and societal perspective, it helps Bayer identify relevant bioethical questions and consults on how to answer them. The council's purpose is to support Bayer in further developing bioethical guidelines for its decision-making. The Bioethics Council:

- // Advises Bayer on how to ensure bioethics is an integral part of our R&D work
- // Examines our directives from a bioethics perspective and advises us on shifts in strategy
- // Evaluates our progress in implementing bioethics strategies and guidelines
- // Advises on the main drivers behind current bioethics topics (i.e. technological advances and social change) relevant to our work

Its members, who convene twice a year, come from five different continents. Together, they offer expertise in ethics relating to a variety of academic disciplines in the fields of agriculture and medicine, ranging from expertise in genetic engineering and artificial intelligence to philosophy and sociology. For more information, please see our [website](#).

2.5 Steering and Management Systems

Planning and steering

The Board of Management uses defined, primarily nonfinancial targets and key performance indicators to steer the company's alignment toward increased sustainability. These

are integrated into the Bayer Group's planning and steering process as management and key performance indicators.

Our Group-wide sustainability targets are integrated into the compensation system for the Board of Management. In so doing, we aim to continuously increase value for stockholders and other stakeholders and ensure the continuity of our company for the long term. Quantitative targets derived from the sustainability strategy are integrated into the long-term variable compensation (LTI) of the Board of Management and LTI-entitled managerial employees with a weighting of 20%. For more information, please see the Compensation Report (Chapter C) in the [2023 Annual Report](#). For details of the financial indicators we employ to plan, steer and monitor the development of our business, please see Chapter 1.2.2 Management Systems of the [2023 Annual Report](#).

Integrated management system

Bayer maintains an integrated management system (IMS) based on the overarching Plan-Do-Check-Act (PDCA) principle.

The IMS is the overarching framework for all management systems at Bayer, ensuring compliance with laws and internal and external requirements, while also ensuring efficient ways of working. Thus, it applies to all established management systems pertaining to quality, health, safety and environmental protection (HSE), as well as compliance.

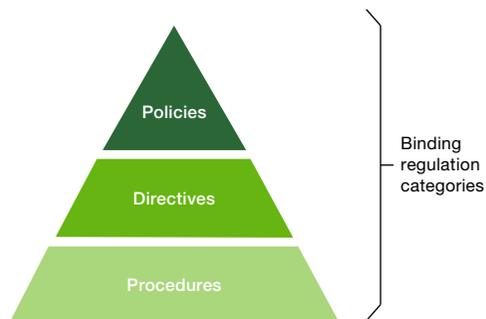
Group-wide requirements for the management of internal regulations and processes, regular effectiveness evaluation and continuous improvement are core elements of the IMS, which plays a key role in safeguarding our license to operate. All IMS requirements are specified in a Group regulation issued by the Board of Management. Additional information on the IMS is provided through internal communication channels.

At the global level, each division and enabling function – such as Human Resources, Compliance, Risk Management, Procurement, or Public Affairs, Science, Sustainability & HSE – is responsible for its own management system in accordance with business requirements, international standards and the applicable legal and regulatory requirements.

As part of the IMS, Bayer has established a clearly defined structure of binding internal regulations for the Group that describe fundamental principles and framework conditions, standards of conduct, proceedings and methods, as well as the related roles and responsibilities. The binding requirements contained therein incorporate both internal and corresponding external international standards, as well as legal and regulatory requirements.

Group regulations serve as key management tools that are classified in three categories. This structure also applies to country-specific regulations.

Group Regulations



- // At the top level of the pyramid are policies with global, interdisciplinary content that are relevant to all employees and approved by the Board of Management.
- // Directives apply to specific groups.
- // Procedures occupy the third level and comprise all specific, detailed process instructions.

To ensure effective regulation management, global provisions are in place for the creation, approval, publication and distribution, implementation, and regular review of internal regulations. Global and local IT applications support the management of regulations as well as general access.

The regulations approved by the Board of Management are managed centrally and follow a uniform, global process that includes notifying employees about changes and new aspects via a newsletter and the intranet. Bayer has also actively established a system that transparently describes the enactment and implementation status of these regulations. A selection of Group regulations representing the respective areas is presented in more detail in chapters 2.6 Compliance, 6. Employees, 8. Environmental Protection and 9. Health and Safety.

Bayer is currently working on a Code of Conduct that will outline the basic standards of behavior within the company and help employees to act ethically, in compliance with the law and in accordance with our values. It is still under development and is expected to come into force in 2024.

2.6 Compliance

Bayer manages its businesses responsibly and in compliance with the statutory requirements and regulations of the countries in which it operates. What we mean by compliance is the legally impeccable behavior of our employees in their daily work. After all, the way each employee conducts

the company's business can affect our company's public image. We do not tolerate any violation of applicable laws, codes of conduct or internal regulations. Compliance is essential for our long-term commercial success.

Bayer compliance management

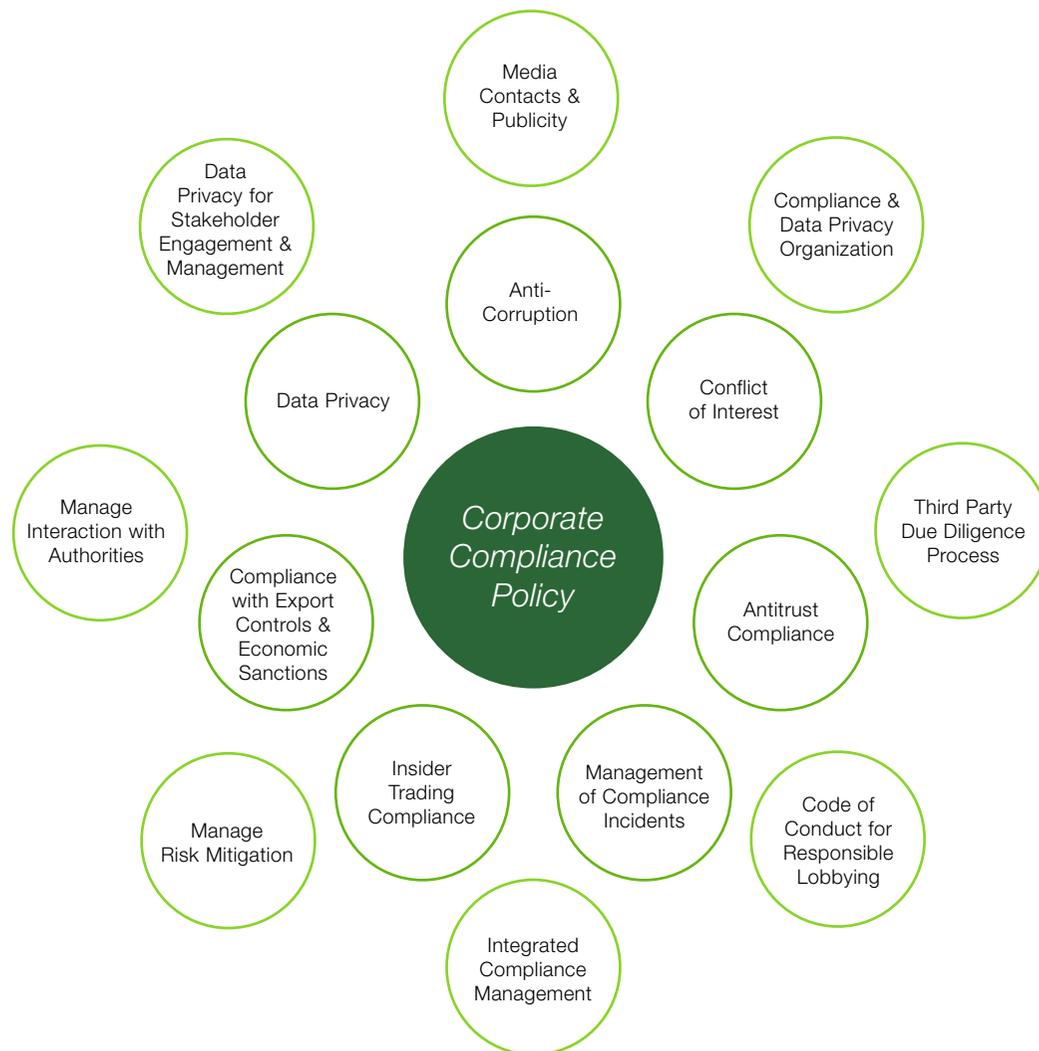
The Board of Management is unreservedly committed to compliance, and Bayer will forgo any business transaction that would violate any of the 10 principles in our [Corporate Compliance Policy](#) approved by the Board of Management and observed throughout the Bayer Group. These principles are as follows:

We compete fairly in every market.

- // We act with integrity in all our business dealings.
- // We balance economic growth with ecological and social responsibility.
- // We observe all trade controls that regulate our global business.
- // We safeguard equal opportunity in securities trading.
- // We keep accurate books and records.
- // We treat each other with fairness and respect.
- // We protect and respect intellectual property rights.
- // We act in Bayer's best interest.
- // We protect and secure personal data.

All employees are required to observe the compliance principles and immediately report any violation of the Corporate Compliance Policy. Infringements are sanctioned. This applies in particular to managerial employees, who, as role models, may, for example, lose their entitlement to variable compensation components and be subject to further disciplinary measures if violations that they could have prevented occur in their sphere of responsibility. Compliant and lawful conduct is also factored into the performance evaluations of all managerial employees.

Binding Group Regulations¹



The principles are additionally described in more detail in separate Group regulations that were approved by the Board of Management. Please see the graphic “Binding Group Regulations” on the left for more details.

Details of compliance-related topics are specified in further binding Group regulations.

The global compliance management system is steered by a central compliance organization within the Bayer Group. This organization is headed by the Group Compliance Officer, who, in this capacity, reports directly to the Chief Financial Officer (CFO) and to the Audit Committee of the Supervisory Board. The CFO is responsible for the compliance organization, while the Audit Committee of the Supervisory Board oversees the effectiveness and further development of compliance within the Group. Within the compliance organization, specialized compliance managers are responsible for establishing business-, industry- and country-specific standards.

Potential compliance risks (such as corruption) are identified together with the operational units to ensure the systematic and preventive detection and assessment of risks. Potential risks are then entered into global databases that we use to develop suitable measures for specific processes, business activities or countries, for example. In addition, we assess our business partners according to risk criteria as we look to identify potential compliance risks.

Adherence to the corporate compliance principles is among the subjects covered in audits conducted by Bayer’s Internal Audit and in the analyses and investigations by the legal and compliance organization. The heads of these organizations provide regular reports on the findings of the audits and analyses to the Audit Committee of the Supervisory Board, while summary reports are presented at least once a year.

¹ Selection of relevant regulations

The planning of these audits by Internal Audit follows a function- and risk-based approach that also takes the [Corruption Perceptions Index](#) of Transparency International into account. Function-specific audits are conducted worldwide across all important corporate units, such as for marketing and distribution. The respective relevant stakeholders (e.g. management, employees, distributors or service providers) participate in audits depending on the type of audit. The larger business areas and units are audited at shorter intervals, and the smaller units at longer intervals. A total of 88 audit reports were compiled in 2023, of which eight concerned preventive compliance system audits or incident-related investigations.

Handling of suspected and actual compliance violations

All Bayer Group employees are obligated to report compliance violations. The principles for dealing with compliance incidents are described in the Group Regulation on Management of Compliance Incidents, which establishes the respective roles and responsibilities and explains the procedure for handling suspected and actual compliance violations. This Group regulation was signed by our CFO.

Suspected compliance violations can be reported – anonymously if desired and if permitted by respective national law – to a worldwide [compliance hotline](#) operated by an independent service provider. Suspected violations can be reported by anyone either via the internet or through a phone call made in the caller’s preferred language and answered by independent specialists. The hotline is also accessible to the general public. In 2023, the compliance organization received a total of 595 compliance reports in this way (including 393 anonymous reports), with 44 reports coming from Germany and 551 from other countries. Overall, 35% of

suspected violations reported to the compliance hotline were not compliance-relevant, while 65% were processed by way of a compliance investigation.

In addition, suspected compliance violations can be submitted to an internal mailbox – the [Speak-Up Inbox](#). Alternatively, suspected violations may be reported to the respective local Compliance functions, Internal Audit, Human Resources or directly to a supervisor. Since 2021, it has also been possible to report suspected compliance violations by logging an incident request on a [platform](#). Furthermore, suspected compliance violations are recorded and processed within the scope of monitoring activities conducted by the Compliance function. A total of 1,494 suspected compliance violations were recorded in 2023, 90% of which were compliance-relevant (as of: December 31, 2023; subject to changes to ongoing investigations).

An actual compliance violation was confirmed in 52% of the compliance-relevant investigations. Compliance violations include all possible types of infringements of internal and external requirements and are systematically sanctioned. The action taken depends on factors including the gravity of the violation and applicable law. All cases are recorded according to uniform criteria throughout the Bayer Group and dealt with under the rules set forth in Bayer’s Group Regulation on Management of Compliance Incidents. Where an investigation confirms that a compliance violation has occurred, the company has a graduated set of measures at its disposal. These include a verbal warning or written reprimand, transfer to a different unit, cancellation of a planned promotion, a reduction in the short-term incentive payment, downgrading to a lower collectively agreed pay rate or managerial contract level, and ordinary or extraordinary termination. Bayer also reserves the right to assert further claims against the

employee for cost reimbursement or damages and/or to initiate criminal proceedings.

In 2023, the following categories of compliance violations were confirmed:

Categories of Compliance Violations by Frequency¹

	Number of incidents
1. Data leakage prevention/IT security	242
2. Code compliance	94
3. Fairness/respect at work	72
4. Product-related communication	51
5. Conflict of interest	37

¹ As of: December 31, 2023; subject to changes due to ongoing investigations

The company ensures that no employees are disadvantaged or exposed to retaliatory measures because they reported a suspected compliance violation in good faith. If it is determined that an employee is responsible for disadvantaging or retaliating against another employee due to the reporting in good faith of a suspected compliance violation, appropriate steps are taken against the employee responsible according to the aforementioned catalogue of measures.

Compliance training and communications activities

We support all employees in acting with integrity and proactively avoiding potential violations by implementing Bayer-wide training measures and communication campaigns that are tailored to target groups and based on identified needs. The Corporate Compliance Policy forms the basis for our compliance communication and training activities. Both supervisors and compliance managers are available to answer employees’ questions about lawful behavior.

Training measures on anti-corruption, the importance of openly expressing concerns (Speak-Up), antitrust law, conflicts of interest, fairness and respect at work, foreign trade law compliance, product-related communication and data privacy are fundamental elements of our compliance management system.

Each year, the company publishes a new, obligatory training course for all Bayer employees. In 2023, around 95.7% (41,865) of Bayer's managerial employees worldwide completed at least one compliance training program. We launched a new web-based training program in 93 countries dealing with the topic of anti-corruption, which is also addressed in our Corporate Compliance Policy. The training program is available in 20 languages and had been completed by around 83.1% (83,262) of our employees as of December 31, 2023.

Our annual, company-wide Speak-Up campaign to foster an open reporting culture communicates the various options for reporting compliance violations. This is designed to create an environment in which compliance violations can be addressed without reservations.

In 2023, we successfully held a global Integrity Week, which included statements from senior representatives ("Tone from the Top") and multilingual training courses as well as and informative videos on compliance and integrity. The aim was to increase awareness of ethical behavior and integrate these principles into our corporate culture worldwide.

Data privacy

Data is very important in today's world. It is often accessible worldwide and its financial value is growing. As a result, people have an increasing interest in their data remaining secure. Bayer is committed to protecting the personal data

of all its stakeholders, be they employees, business partners, stockholders, suppliers or customers. Fulfilling this commitment is an important business principle and a central condition for the company's success.

Since there is no globally binding data privacy law, legislation varies widely from country to country. To establish a standard for all countries in which Bayer operates, a Group-wide approach is required. This is the only way to ensure personal data is afforded sufficient protection while at the same time facilitating efficient business processes.

The Group Regulation on Data Privacy approved by the Board of Management sets out minimum requirements for the way personal data is processed throughout the Bayer Group. Bayer strives to protect people's privacy and prevent their data from being misused. We are aware of the potential harm caused by unlawful data processing and have established a standard to minimize this risk.

The data privacy management system addresses risk situations that are relevant to the company's business. The system covers the entire data life cycle from collection through transfer, analysis and storage to deletion. The core elements of the data privacy management system – the maintenance of a processing registry, the management of data leaks, inquiries from affected individuals and risk mitigation – are mandatory. Training and guidance, along with system-based monitoring, ensure the regulations are adhered to. These measures are being rolled out as an obligatory training course for all new employees. The content conveyed includes the fundamentals of data privacy, the principles and life cycle for the processing of personal data, the affected individuals' rights and conduct in the event of a data privacy violation. Harmonized documentation of the data privacy activities (processing registry, assessment of data privacy

consequences, incidents, inquiries from affected individuals and interactions with authorities) enables an understanding of the degree of data privacy maturity and the monitoring of quality by management and the (local) legal departments.

Marketing compliance and the validity of recognized standards

We do not tolerate any improper exertion of influence on our business partners. As part of our compliance management system, we record and investigate any suspected violation of our responsible marketing principles, irrespective of whether the complaints come from internal or external sources.

The most important Bayer Group regulation in this context is our Group Regulation on Anti-Corruption, which is supplemented by the rules of conduct for responsible marketing. Furthermore, we are committed to ethical advertising and communication for all our products and services. Sales employees may, for example, lose their entitlement to variable compensation if violations that they could have prevented occur in their sphere of responsibility. Third parties acting on Bayer's behalf in countries with a high corruption risk undergo a separate due diligence process that involves criteria related to anti-corruption.

Directives and regulations are also in place at Bayer to prevent price fixing and ensure data privacy. Where several regulations are applicable, we fundamentally comply with the most stringent standards. The respective Group regulations and training programs are implemented in the divisions and enabling functions. Thereby, general global training measures dealing with anti-corruption aspects, for example, are supplemented with training courses pertaining to local codes. The respective countries or, in some cases, the legal department, are primarily responsible for implementing

these training measures. Employees with customer contact and/or business responsibility undergo especially intensive training.

Industry codes for pharmaceutical products and medical devices that have been adopted by major national and international associations and organizations also apply to marketing and distribution at Bayer. In many countries, these standards are further underpinned by local codes – all of which apply to prescription pharmaceuticals and some of which also apply to nonprescription medicines, dietary supplements, medical devices and medicated skincare products.

All codes of the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) serve as a binding minimum global standard for all of Bayer’s human pharmaceutical products in their area of application. In addition, Bayer observes the codes of the European Federation of Pharmaceutical Industries and Associations (EFPIA) in its interaction with healthcare professionals and patient organizations. Regarding the advertising of human pharmaceutical products, Bayer complies with the regulations set out in the IFPMA Code of Practice as the minimum global standard, along with those set forth in regional and national codes.

The aforementioned codes contain provisions governing, among other matters, advertising materials, the distribution of samples, cooperation with members of specialist groups in connection with speaker and consultancy contracts, and scientific studies. Pharmaceuticals observes the applicable transparency rules (e.g. the Physician Payments Sunshine Act in the United States) and participates in voluntary programs such as the [EFPIA Disclosure Code](#). In accordance with the EFPIA Disclosure Code, Bayer discloses benefits in kind to medical specialists and health organizations in

connection with the development and marketing of prescription (and, where legally required, nonprescription) medicines. Bayer is convinced that better results can be achieved for patients through cooperation with, and the continuous training of, medical specialists. Total spending in Europe subject to disclosure according to the EFPIA Disclosure Code and numerous local codes and/or legislation amounted to €201.3 million in 2022. These expenditures are published on a global disclosure site of Bayer (<https://www.bayer.com/tov-hcp>) and/or reported to the respective local authorities.

Internal Audit at Bayer AG regularly conducts audits to verify conformity with internal compliance rules and external regulations in the area of marketing. The audit program of Internal Audit is focused on compliance with local pharmaceutical codes and with antitrust and anti-corruption rules by the marketing departments of the divisions and country organizations. Coverage of this issue is achieved by way of an audit cycle that regularly assesses the country organizations, as well as audits of management systems (compliance program audits). The audit plan is discussed with the Board of Management and the Supervisory Board and approved by both bodies.

In line with the principles of sustainable development and the responsible use of crop protection products and seeds, Crop Science follows the guidelines of the [Group Regulation on Product Stewardship Commitment, Principles and Key Requirements](#). This regulation, which also fulfills our rules of conduct for responsible marketing, is based on the International Code of Conduct on Pesticide Management issued by the Food and Agriculture Organization (FAO) of the United Nations and the International Code of Conduct on Plant Biotechnology issued by CropLife International.

Relevant training measures on product-related communication, antitrust law, data privacy and anti-corruption are fundamental elements of our compliance management system. Principles communicated in these training courses provide an overview of globally applicable minimum requirements for cooperation with key stakeholders, including in particular those in the healthcare industry, such as physicians, hospitals or patient organizations. In addition to explaining general compliance principles, the anti-corruption courses provide specific advice on approaches to nonreciprocal benefits and the exchange of services with healthcare professionals.

Lobbying

Bayer’s commitment to ensuring transparent lobbying forms part of our [Bayer Societal Engagement Principles \(BASE\)](#) principles. In line with this, our [Code of Conduct for Responsible Lobbying](#) sets out binding rules for our involvement in political matters, covers compliance-relevant risks and creates transparency in our interactions with representatives of political institutions. In close cooperation with various stakeholder groups, we have produced a detailed report on our political lobbying work that was published in 2023.

As set out in our Code of Conduct for Responsible Lobbying, Bayer as a company does not make any donations to political parties, politicians or candidates for political office.

Under US law, however, local company employees can support individual candidates for parliamentary office at federal level by making private donations through political action committees, or PACs. These voluntary donations are made only by employees, not the company. PACs are separate, segregated funds governed by employees and further regulated by the [US Federal Election Commission \(FEC\)](#) and some state governments.

Decisions on how these contributions are allocated are made by an independent committee composed of employees. At BAYERPAC, the name of the corresponding committee at Bayer, allocation criteria are applied to reflect societal challenges, among other factors. For example, candidates' positions on issues such as climate change and the protection of biodiversity play an important role here. BAYERPAC also supports candidates from both parties. These donations are subject to stringent conditions and mandatory transparency measures. The BAYERPAC contributions are regularly reported to the [US Federal Election Commission \(FEC\)](#). Full details can be viewed on the FEC website. BAYERPAC does not support presidential candidates. Bayer employees donated a total of US\$270, 144 to political candidates at all levels through BAYERPAC in 2023.

In other countries, industry associations of which we are a member (such as the German Chemical Industry Association) sometimes make donations on their own responsibility in compliance with the respective statutory regulations, and particularly laws concerning political parties.

For Bayer, national liaison offices are key touchpoints between the company and political stakeholders. We publish details of material costs, project expenses, employee numbers and any of the other statistics required in each country according to the respective provisions of the lobby and transparency register, such as those of the [German Parliament \(Bundestag\)](#), [European institutions](#) and the [US Congress](#). We even go beyond the statutory requirements by also publishing data for countries and organizational units where – as yet – there is no legal disclosure requirement. In 2023, the costs incurred at the liaison offices totaled approximately €3.0 million in Germany; €7.8 million in the

European Union; €18 million in the United States; €1.5 million in Brazil; and €2.5 million in China. The cost of political lobbying work at global and international level amounted to €17 million across the company and divisions.

2.7 Information Security and Cyber Security

Bayer is committed to maintaining strong standards of data protection and cyber security. Bayer has invested in security technologies and set up defined practices. Bayer is focusing on the safe management of sensitive information and defense against cyber threats.

We are committed to protecting our stakeholders' interests by implementing cyber security measures and safeguarding sensitive data. Bayer invests in modern security technologies and has put in place cyber security defenses including ongoing risk assessment, regular monitoring and IT security awareness campaigns.

Information security and cyber security framework

Bayer maintains a dedicated cyber security governance framework. Our Board of Management oversees our IT cyber security strategy, which is aligned with industry best practices and evolving threats. This strategy is regularly reviewed and updated to adapt to the changing threat landscape. Bayer has a comprehensive set of Group regulations on information security and cyber security, to protect our digital assets and ensure the privacy, integrity and accessibility of our data. In addition, we have a Chief Information Security Officer (CISO), who leads our information and cyber security efforts. Our Cyber Security Risk Management organization serves as a second line of defense, carrying out duties related to cyber security, risk management and

oversight. The third line of defense consists of audits. Bayer regularly takes part in cyber security audits conducted by both external and internal auditors. This helps us to ensure that our security initiatives and practices stay reliable and adhere to industry norms. Our commitment is underlined by ISO 27001 certification, which has been attained for some of its business operations. Bayer additionally follows the well-accepted standards of the US National Institute of Standards and Technology (NIST).

Cyber security training

Our employees and contractors receive regular training on cyber security best practices to enhance their awareness and reduce the likelihood of human error contributing to security incidents. We regularly conduct binding training courses for relevant stakeholders in nine languages. The completion rate for our cyber security training in 2023 was 91%. To effectively educate and raise awareness among relevant stakeholder groups, a range of media and approaches are employed.

We have established channels for employees and stakeholders to report potential cyber security issues or breaches anonymously and without fear of retaliation. Bayer maintains an incident response plan that outlines procedures for identifying, managing and mitigating cyber security incidents, as well as regular risk assessments to identify, prioritize and mitigate potential threats and vulnerabilities.

Bayer has a contingency plan in place, enabling us to respond swiftly and effectively to unforeseen disruptions, such as natural disasters or cyber incidents. This plan outlines clear procedures, roles, and resources to ensure minimal downtime and uninterrupted business continuity during challenging circumstances.

2.8 Emergency and Crisis Management

We ensure safe working conditions and an environment where our employees can work safely and without fear, whether in the office, in production or undertaking international business travel. In emergency and crisis situations, ensuring the safety and security of our employees, facilities, sites and neighbors is our top priority.

Through Group regulations on emergency planning, emergency response, and health, safety, security and crisis management, as well as pandemic planning, Bayer has taken action at global and local level to prepare the organization for extraordinary events (e.g., major damage events or crimes), and assess and process them based on standardized criteria.

Subsequently, improvement potential is determined wherever necessary and integrated into existing concepts. Extraordinary events are registered according to a group-wide regulation on Security and Crisis Management and reported to the Global Security Operations Center, which then initiates further steps such as effective information management. This enables us to identify risks facing the company at an early stage and introduce mitigating steps if necessary or provide assistance once incidents have already occurred.

Dealing with such incidents is primarily the responsibility of the local safety, security and crisis organization or the local emergency response team. For this purpose, organizational precautions with defined responsibilities and procedures have been implemented at the sites and in the countries. The responsible people have been given appropriate training. Depending on how the situation develops, we involve business partners and the local community around the sites,

such as city authorities or neighboring companies. Depending on the extent of damage, the Corporate Crisis Team assumes responsibility for further coordination and steering of crisis management and the restoration of operations as an overarching body. Bayer's crisis management system ensures organizational and procedural conditions are in place to avoid or counteract a crisis or to restore regular business operations as quickly as possible after a crisis has occurred.

The Corporate Crisis Team, which was already established in February 2022 when the war in Ukraine began, continued its operations during 2023 as well. The objective shifted toward enabling the business operations in the country under the current conditions. The scope of the Corporate Crisis Team's activities was further extended after the attack on Israel in October 2023 in order to assess the situation and provide support to employees on the ground.

Emergency and crisis management is supported by the established Business Continuity Management System, which is based on the ISO 22301 standard. Business continuity plans contain predefined response options for the unavailability of personnel, buildings, machinery, IT systems or suppliers. In line with our Group Regulation on Business Continuity Management, the plans cover various emergency scenarios, such as a pandemic, a longer-term blackout or climate-change-related impacts on production sites. The management system comprises suitable IT measures such as safeguarding service provision or ensuring rapid restoration following a disruptive event. The plans are regularly updated, and training is provided on how to use them.

Bayer also regularly analyzes risks to safety, security and emergency response and implements suitable identification,

prevention and processing measures, including the incident notification process, travel and event security programs, and employee training and information measures pertaining to cyber security. Safety and crisis simulation exercises are also regularly conducted at site and Group level. The number of employees and partners involved depends on the type of exercise. Each year, we work with our IT service providers to test the restoration of IT systems and data at our sites.

2.9 Tax

Bayer's Approach to Tax sets out our management approach and tax strategy. The most important principles are:

- // We do not tolerate any rule violations or tax fraud.
- // We pay taxes in line with value creation in each respective country.
- // We work cooperatively with the tax authorities.
- // We place great importance on transparency and verifiable compliance and reporting standards.
- // Our tax considerations are consistent with business activities, processes, and requirements.

Bayer observes the principle that we pay the taxes we owe in every country based on the statutory requirements put in place by the respective governments. The payment of taxes in an appropriate amount is a core element of our corporate social responsibility. In the respective countries in which we do business, the taxes paid by Bayer represent an important source of revenue for funding social and economic activities. We comply with the relevant tax regulations of the countries in question, as well as the requirements that must be observed in the payment, documentation, disclosure and auditing of our taxes.

Bayer's tax concept is publicly available on our [website](#) and transparently describes our approach to taxation. The objectives and principles of tax management at Bayer are established in the Group Regulation on Taxes. This applies to the entire Group, and updates are reviewed and approved by the head of Group Finance and the Group CFO.

Responsibility for all taxes and tax effects worldwide in connection with Bayer's activities lies with the global leadership team of Taxes, who report to the head of Group Finance. Together, they regularly inform the Bayer CFO about all important tax matters. The head of Group Finance and/or the global leadership team of Taxes also regularly report to the Board of Management and the Audit Committee of the Supervisory Board.

Bayer observes the applicable regulations and the associated disclosure obligations. These efforts may include the involvement of external experts or consultation with the respective tax authorities, for example. These principles additionally apply whenever service providers are commissioned. As the continuous further development of tax legislation is also in our interests, we participate in the political discourse while observing the stipulations of the Code of Conduct for Responsible Lobbying and our BASE principles (please see Chapter 2.2 Behavioral Principles [BASE]).

Tax risks are accounted for in the Bayer Group's global risk management system (please see also Chapter 2.10 Risk Management), responsibility for which lies with the Board of Management of Bayer AG. As an element of financial reporting, it is also subject to regular review by the external auditor. In this connection, and observing

the legal requirements, Bayer separates corporate auditing from tax consulting so as to rule out conflicts of interest in advance.

2.10 Risk Management

As an international life science enterprise, we are exposed to a wide range of internal and external developments and events that could significantly impact the achievement of our financial and nonfinancial targets. Opportunity and risk management is therefore an integral part of corporate management at Bayer. We regard opportunities as positive deviations from projected or target values for potential future developments, while we see risks as negative deviations from these. We augment our risk definition process by also taking into account any potential adverse effects that our business operations could have on people and/or the environment.

We have implemented an integrated risk management system designed to ensure the continued existence and future target attainment of the Group through the early identification, assessment and treatment of risks. Our risk management system is aligned to internationally recognized standards and principles such as the ISO 31000 standard of the International Organization for Standardization and is defined and implemented with the help of binding Group regulations.

The Board of Management of Bayer AG holds overall responsibility for an effective risk management system. It examines the appropriateness and effectiveness of the risk management system at least once a year, as does the Supervisory Board's Audit Committee. In addition, a

corresponding report is provided to the full Supervisory Board. The Bayer Assurance Committee is chaired by the Chief Financial Officer, with a second Board of Management member participating on a rotating basis. Besides ensuring that appropriate action is taken to control any substantial risks, the Bayer Assurance Committee regularly discusses and reviews the risk portfolio and the status of the risk control measures.

Responsibility for the identification, assessment, treatment and reporting of risks lies with the operational business units in the divisions and enabling functions, where risks are identified by the respective risk owner.

To help ensure we identify risks as comprehensively as possible, we maintain a risk universe that reflects the company's potential risk categories. The Bayer Risk Universe, which is regularly updated, also expressly accounts for risks of a nonfinancial nature that are linked to our business activity or to our business relationships, products and services. Risks pursuant to the Corporate Social Responsibility (CSR) Directive Implementation Act that relate to environmental, employee and social issues, human rights, corruption and bribery (compliance) are included as well.

Where possible, the identified risks are evaluated with regard to their potential impact and likelihood of occurrence. Risks are assessed on a net basis, taking account of the risk control measures in place to mitigate the potential impact and likelihood of occurrence. Examples of such risk control measures can also be found in this Sustainability Report in the descriptions of how various sustainability issues are managed.

The extent of the impact is rated in quantitative and/or qualitative terms. The quantitative assessment reflects a potentially negative effect on cash flows. A qualitative assessment of the impact is based on criteria such as the effect on our strategy or reputation, the potential loss of stakeholder confidence, and potential impact on people and/or the environment. The higher rating – qualitatively or quantitatively – determines the overall assessment.

For detailed information on the basic elements of the risk management system, including the risk management process, and details on our risk status, please see Chapter 3.2 Opportunity and Risk Report of the [2023 Annual Report](#).

Material legal risks are described in the [2023 Annual Report](#) under Note [30] to B Consolidated Financial Statements (Legal Risks). The legal proceedings outlined there are those currently considered to involve material risks and do not represent an exhaustive list.

2.11 Sustainability Management

Sustainability is one of our strategic focuses, manifesting itself in the consistent alignment of our business activities to make positive contributions for people and the environment. Clearly defined roles and responsibilities ensure effective sustainability management throughout the organization. The top level of responsibility is held by the Chairman of the Board of Management (CEO) in his role as Chief Sustainability Officer (CSO), together with the entire Board of Management. An external [Sustainability Council](#) provides the Board of Management with constructive criticism in all sustainability matters. In addition, a Human Rights Officer oversees risk management in the area of human rights and informs the Board of Management about his or her work.

A separate Supervisory Board committee oversees the areas of environmental protection, social affairs and corporate governance ([ESG Committee](#)) regarding both the integration of sustainability into the business strategy and corporate governance, and sustainability-related opportunities and risks, including possible consequences for the company's reputation.

The Public Affairs, Science, Sustainability & HSE Enabling Function helps the CSO and the Board of Management identify risks and opportunities, develop strategies and define targets and guidelines for sustainability management, and also ensures the governance of all sustainability issues. Sustainability management is embedded in the existing management and governance structures as well as in the core processes of the organization.

Operational implementation takes place in the divisions and along the value chain. Each of our divisions has an established sustainability organization, with sustainability aspects also being integrated into the processes of enabling functions such as Internal Audit & Risk Management, Human Resources, Procurement, and Mergers, Acquisitions & Licensing.

Our [Group Regulation on Sustainability](#) defines sustainability's importance at Bayer, the standards to which sustainability is managed and the roles and responsibilities involved. The Group regulation was approved by the Chairman of the Board of Management (CEO) and is valid throughout the Group.

Our Sustainability Decision Committee is composed of members of the management teams of the divisions and enabling functions and coordinates group-wide sustainability measures. These measures pertain to areas such as human rights, development of our water strategy, reduction in the environmental impact of product packaging and investors'

expectations with regards to sustainability. Wherever required, the CSO and Board of Management are integrated into the decision-making process. Measures under the responsibility of the Supervisory Board also need to be approved by this body.

The attainment of sustainability targets is also integrated as an additional parameter into the long-term variable compensation (LTI) of the LTI-entitled managerial employees, similar to the compensation of the Board of Management.

Our commitment to the [UN Global Compact](#) and the [Responsible Care™](#) initiative of the chemical industry and our involvement in the [World Business Council for Sustainable Development](#) (WBCSD) underline our mission as a company that acts sustainably. This is reinforced in our report on compliance with the principles of the [UN Global Compact](#).

Sustainability Council

A major element of our sustainability efforts is the independent [Sustainability Council](#) established in 2020. This currently comprises nine internationally recognized experts from the areas of human rights, healthcare, nutrition, finance, agriculture and the environment, representing a broad range of views, differing geographical origins and different genders. The Sustainability Council advises the Board of Management on the further development of its business strategy regarding sustainability as well as other sustainability-related issues. The Sustainability Council also evaluates performance and planned activities, and counsels Bayer on how research and development can contribute to sustainability. The contributions of the Sustainability Council inform our strategic planning. The Sustainability Council convenes twice a year for deliberations and [reports annually](#) on the progress of its work. The Chairman (CEO) and other members of the Board of Management also attend these meetings. The Sustainability Council also handles specific topics together with Bayer's experts at additional meetings.

Employee involvement

We actively involve our employees in the achievement of our sustainability targets and aim to enhance their awareness about this issue. “Act sustainably and be a role model” is therefore also anchored in our LIFE company values.

The Advancing Sustainability@Bayer learning platform offers a wealth of information on sustainability issues for employees to promote knowledge and open dialogue on various sustainability-related topics.

To reach our employees at all levels and in all areas of the company, we have built a global network of over 170 Sustainability Champions from various countries, divisions and enabling functions. Our Sustainability Champions act as role models and multipliers for our sustainability initiatives: for example, they conduct local workshops or initiate campaigns and discussion rounds to enable the exchange of best practices.

As our managerial employees also act as multipliers to promote and embrace sustainable behavior on an everyday basis, sustainability issues are integrated into the global management development programs offered through the Bayer Leadership Academy.

Sustainability is also addressed in our employee survey, which was conducted twice in 2023.

Materiality analysis

We determine the expectations and requirements of the various stakeholders using a materiality analysis that surveys managerial staff from various areas of the company worldwide and representatives of important stakeholder groups. The results thereof reveal relevant issues and the latest developments, along with sustainability-related opportunities

and risks, and help us to assess these accordingly. The survey of external stakeholders also reflects how our sustainability performance is perceived, which enables us to identify weaknesses and areas for improvement.

At the next stage, Bayer managers supplement the assessment of issues of relevance from an external perspective with an estimation of the impact the company has on the environment, employees and health in each respective topic area. Finally, the issues prioritized on this basis are approved by the Board of Management.

Results of the Materiality Analysis

Stakeholder Relevance (external perspective)	Very high			// Climate Protection // Protection of the Environment // Innovation // Business Ethics // Product Stewardship // Sustainable Food Security // Access to Healthcare
	High		// Human Rights // Safety	// Employees // Supplier Management
	Moderate	// Stakeholder and Community Involvement		
		Moderate	High	Very high
Bayer Relevance (internal perspective)				

The following stakeholder groups were included in the survey:

Surveyed Stakeholder Groups	
Residents near Bayer sites	Politicians and public authorities
Banks	Rating agencies
Bayer management	Nongovernmental organizations (NGOs)
Consultants/corporate auditors	Associations
Investors	Representatives/distribution partners
Customers	Competitors
Suppliers	Scientists/universities/schools
Media	Other

The materiality analysis serves to meet external requirements in accordance with the CSR Directive Implementation Act (CSR-RUG), the German Commercial Code (Sections 289b to e) and the GRI Standards.

In accordance with the GRI Standards, the following two dimensions were among the factors applied for the identification and prioritization of key issues:

- // Impact of Bayer’s business operations on economic, social or environmental matters
- // Impact on decisions by Bayer stakeholders

The results of the internal and external viewpoint survey were combined in a materiality matrix.

The areas of activity in the current materiality analysis are accounted for in our sustainability strategy and determine the focal points of our sustainability management approach and our nonfinancial Group targets. For detailed information, please see the [2023 Annual Report](#).

The further validity of the materiality analysis was reviewed internally in 2023 and confirmed.

In 2023, we continued preparing our publications to meet the demands of the Corporate Sustainability Reporting Directive (CSRD) of the EU. This also involves the renewal of our materiality analysis, taking into account the requirements of the European Sustainability Reporting Standards (ESRS).

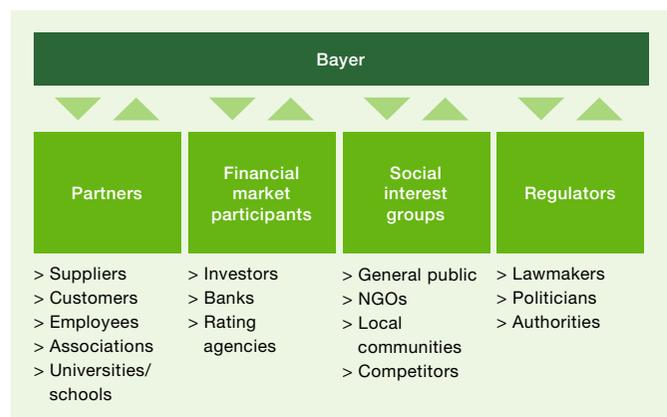
2.12 Stakeholder Dialogue

As a company, Bayer is a part of society and public life. On-going dialogue with our stakeholders is therefore particularly important to us. After all, their expectations and viewpoints affect our public acceptance and thus our commercial success.

Stakeholder dialogue helps us to recognize important trends and developments in society and our markets at an early stage and take this information into account when shaping our business. Our BASE principles (please see also Chapter 2.2 Behavioral Principles (BASE)) serve as the foundation for all dialogue.

We fundamentally distinguish between four stakeholder groups with which we engage in discussions on different issues.

Stakeholder Groups



In strategic decision-making processes, regarding investment projects and product launches for example, Bayer proactively approaches key social and political players right from the start of a new project. Such open dialogue enables us to identify opportunities and risks early on. This process is in line with our Stakeholder Engagement Guideline and is supplemented by an internal information platform.

Focus on a variety of stakeholders

Our regular stakeholder activities range from dialogues at the local, national and international level, and active involvement in committees and specialist workshops, all the way through to comprehensive information programs, issue-related multi-stakeholder events and participation in international initiatives and collaborations. In our [Stakeholder Engagement table](#) at the end of this chapter, we provide insight into selected topics relating to our most important stakeholder groups.

In 2023, we engaged in intensive discussions with stakeholder groups (see graphic) that focused on topics such as sustainable agriculture, healthcare, nutrition, climate change, biodiversity and water, taxes, political lobbying, poverty alleviation and family planning.

Examples include our contributions to the World Economic Forum (WEF) Annual Meeting in Davos, Switzerland (Zero Hunger Pledge); our participation in the Economist Sustainability Week and the Climate Week in New York, United States; our event series Fields of Opportunities: the Breakthrough Innovation Forum; the Field Technology Showcase for investors at our Agronomy Center in Jerseyville, Illinois, United States; and our sustainability event at a Bayer ForwardFarm in Germany.

COP28

Bayer took part in the UN Climate Conference COP28 in Dubai to drive partnerships and advance the sustainable development goals. The respective agendas included important issues such as agriculture, water, nutrition and biodiversity. Bayer is contributing in the following areas, for example:

- // We support a concept of regenerative agriculture. Bayer signed an MOU on innovative farming technologies with the Canadian province of Saskatchewan, with the goal of helping farmers produce more while reducing their environmental footprint against the backdrop of climate change.
- // We are a founding member of the Vision for Adapted Crops and Soils (VACS), an initiative of the US government, the African Union and the Food and Agriculture Organization of the United Nations, whose goal is to boost agricultural productivity & nutrition by developing diverse, climate-resilient crop varieties and building healthy soils.
- // We promote existing partnerships such as the LEAF Coalition – the signing of memorandums of understanding for future LEAF credits from 2022 to 2026 should lay the basis for further investment in the reduction in deforestation of tropical rain forests.
- // We enter new partnerships to better understand how health is affected by climate change. Bayer Foundation and AVPN, for example, are partnering to establish an ecosystem for social funders in Asia and drive investments in projects at the climate/health intersection.
- // We promote research to recuperate degraded soils. Bayer announced a cooperation agreement with the Brazilian NGO IPAM and the Woodwell Climate Research Center to better understand how deforestation in the Amazon and Cerrado impacts climate conditions and therefore agriculture.

// We engage in joint projects with other partners to improve global food security. Bayer signed a memorandum of understanding (MOU) with SILAL, a global leader in life sciences, to strengthen the agricultural landscape in the United Arab Emirates, focusing on better agricultural practices, capacity-building programs and comprehensive vegetable seed trials.

We also discussed geopolitical challenges at the Munich Security Conference, food security with the Food and Agriculture Organization (FAO) of the United Nations and innovation at the World Economic Forum Annual Meeting, in addition to engaging in stakeholder dialogues on sustainability during the UN General Assembly.

Through multi-stakeholder dialogue and the coalition Bayer formed with organizations such as the World Bank and the Global Economic Forum, we further raised awareness about the challenges faced by smallholder farmers. For example, we conveyed to governmental organizations that smallholder farmers need access to technology and innovations to improve their living conditions.

We have led various live discussions on socially relevant issues on LinkedIn – including in areas where Bayer is viewed critically. These discussions focused on themes such as climate change, biodiversity, water, diversity, equity and inclusion (DE&I) and sustainable economic activity.

Bayer is committed to being a reliable partner that is aware of its societal responsibility toward the communities adjacent to our sites. Hence, we maintain an open dialogue between local management and community members, particularly at our production sites, which is supported by each site's respective country organization. This dialogue involves personal

discussions with residents, citizens' initiatives, local councils, and the regional press. It also includes the Product Supply Community Outreach program, which focuses on making a direct positive impact in the communities where our employees live and work. Based on impact analyses, the material needs at our sites are identified and suitable measures defined that range, for example, from internship offers for girls to the planting of vegetable gardens, projects directed at health promotion and healthy eating, and teaching units in the STEM disciplines at schools. The target achievement of the implemented measures is monitored. Our activities here are ongoing. At more than 130 sites worldwide, we want to create significant impact and added value with the program.

Stakeholder engagement in the divisions

We engage in everyday dialogue with our customers. Our divisions navigate different regulatory frameworks. For example, direct contact between Pharmaceuticals or Consumer Health and the respective customer environment, and especially patients, is regulated in different ways for each division. With regard to the collection of customer satisfaction data, different legal requirements apply to prescription medicines from Pharmaceuticals than apply to nonprescription medicines, for example. Any primary market research and data searches that must be conducted, including systematic internet analysis, strictly adhere to the legal requirements, which can vary significantly depending on the market.

To facilitate global access to medicines, we cooperate with various partner organizations and other stakeholders. In addition to our focus on neglected tropical diseases (please see the Focus on: Access to Healthcare chapter), we collaborated with other pharmaceutical companies – e.g., within the Access Accelerated initiative – on solutions for access to medicines for treating noncommunicable diseases in less affluent countries.

Patient engagement

Central to the way we operate within the Pharmaceuticals division is the meaningful engagement of patients, care partners and patient advocacy groups. Nurturing such collaborations is vital for in-depth understanding of the priorities of the people living with health conditions and of how we can best serve them and contribute toward better patient outcomes, building trust and disseminating knowledge about the benefit-risk profiles of our medicines and healthcare solutions to support shared decision-making across the diverse populations in the countries where we operate. According to the 2022 PatientView survey, 441 patient organizations worldwide reported collaborating with Bayer. Additionally, we actively participate in multi-stakeholder forums focused on advancing patient-centric medicine development.

For the past three years Bayer has been a contributor to the Patient Engagement Open Forum (PEOF), bringing together multi-cultural and multidisciplinary patient advocates, industry experts, regulatory influencers and academia to co-create innovative solutions for the future of patient engagement. A pivotal initiative of this forum is the Patient Engagement Metrics Selector, a web-based tool facilitating the tracking and measuring of patient engagement impact. In 2023, Bayer piloted and co-led a multi-stakeholder session, during the PEOF face-to-face event, to advance the implementation of the selector. This tool originates from our active participation in the PARADIGM program, a public-private partnership co-led by the European Patients' Forum and the European Federation of Pharmaceutical Industries and Associations (EFPIA), underscoring our commitment to developing comprehensive tools and

practices for integrating patient perspectives into medicine development effectively.

Furthermore, Bayer engages in broad partnerships with organizations to co-develop solutions based on the lived experiences of individuals facing health-related challenges. In 2023, we collaborated with Women Political Leaders (WPL) to unveil an extensive policy toolkit on World Menopause Day. This toolkit aims to aid policymakers in recognizing and effectively addressing the stigma surrounding menopause. Serving as a resource, it provides evidence-based information and practical recommendations to empower policymakers in supporting women through this phase across various settings, including the workplace and healthcare.

In Oncology, we have in place a research council that routinely reviews and guides our development programs. In social media, we offer a novel Instagram channel that focuses on patient-friendly education. We host two key events annually: the Global Oncology Patient Partnership Summit, and the Global Precision Oncology Patient Innovation Awards Program (POPIA). The POPIA program fosters innovation and collaboration to improve access to precision oncology care and tackles inequalities for people with cancer around the world. In 2023, the summit brought together diverse patient groups virtually to collaboratively address inequalities in cancer care through community engagement.

We engage with farmers' organizations, including the World Farmers' Organization and the Global Farmer Network. We launched our own global advisory group for growers to formalize this dialogue worldwide and across different types of farming enterprises – from conventional to organic.

As demographic changes also impact farming, Bayer has initiated the multi-stakeholder platform [Next Generation Ag Impact Network \(NGIN\)](#) to explore the future of farming. Student associations and youth movements, academic institutions, agricultural associations and think tanks, as well as international organizations, are involved. The goal is to improve the attractiveness of agriculture to future generations, directly involving potential managers in the process.

One way in which Crop Science achieves customer centricity is through our Food Chain Partnership, which includes several hundred initiatives throughout the entire value chain. These strategic alliances and cooperation models are aimed at driving improvements in food security, sustainability, and economic opportunities for farmers. The programs center on innovative crop solutions and services for sustainable agriculture.

In our Bayer Forward Farming programs, we work together directly with a network of independent farmers who test more sustainable agricultural practices. Our goal is to create ecosystems that reduce business risks for our customers and all participating partners. With this goal in mind, we

form partnerships with NGOs, participants in our value chain and the public sector, and jointly develop new solutions such as the Global Alliance Against TR4 to contain pathogens such as TR4 (Tropical Race 4) in banana plants; the MidWest Row Crop Collaborative Platform; the Living Soils of the Americas Initiative to improve soil health and food security; and Better Life Farming (BLF). Also included are IFC (International Finance Corporation, part of the World Bank), Netafim and other local partners that aim to empower small-holder farmers.

Bayer is active in several multi-stakeholder partnerships, including the Sustainable Markets Initiative (SMI) and the Agricultural Climate Markets Collaborative of the Keystone Policy Center, in which supply chain participants, nongovernmental organizations and competitors are represented. With Bayer's active participation, furthermore, SMI's Agri-business task force continued its work accelerating the transition to regenerative agriculture by publishing "Scaling Regenerative Farming: Levers for Implementation," which outlines a framework for making regenerative farming financially viable and scalable. Bayer is also a signatory to the Principles for Transparency in Agricultural Climate Markets published by the Agricultural Climate Markets Collaborative – thus underscoring the company's commitment to a better understanding of voluntary emissions trading in the United States. In this connection, we updated our Bayer Carbon [website](#) to ensure that we provide all information required by the aforementioned principles.

For more information on dialogue with stakeholders, please see chapters 2.11 Sustainability Management, 3. Product Stewardship (Commitment), 4. Procurement (Sustainability supplier development), 5. Human Rights (Stakeholder Engagement) and 6. Employees (Promoting dialogue and exchange) and our [website](#).

Dialogue with investors and ESG rating agencies

In 2023, we once again engaged in intensive dialogue with the capital market regarding various environmental, social and governance (ESG) issues. The focus here was on the issues of climate protection, biodiversity, safe product use particularly with regard to crop protection, corporate governance and access to medicines by people in low- and middle-income countries (LMICs).

Through targeted discourse with ESG rating agencies, we aim to achieve an objective assessment of our company while also raising potential identified in this way. We were thus able to improve Bayer's ratings in 2023.

On a scale from A+ (best grade) to D-, Bayer was rated B- by the rating agency ISS ESG in 2023, making it one of the top 10% of all companies examined in the chemical industry. The "prime status" with the classification (B-) was reached for the first time this year.

CDP (formerly the Carbon Disclosure Project) has awarded Bayer the rating of A- for its climate strategy. We also achieved another good result in the areas of water (A-) and forests (B).

Bayer is one of only a few German companies to have been included in the [Bloomberg Gender Equality Index](#) since 2020.

We have also produced a detailed report on our [political lobbying work](#), which was published in 2022. In this process, we have taken account of the expectations of different stakeholder groups, particularly those of investors. This report supplements the publication of our climate policy activities in the Industry Association Climate Review. For more information, please see Chapter 7. Climate Protection.

The table below highlights how we engage with our key stakeholder groups and what topics we typically discuss.

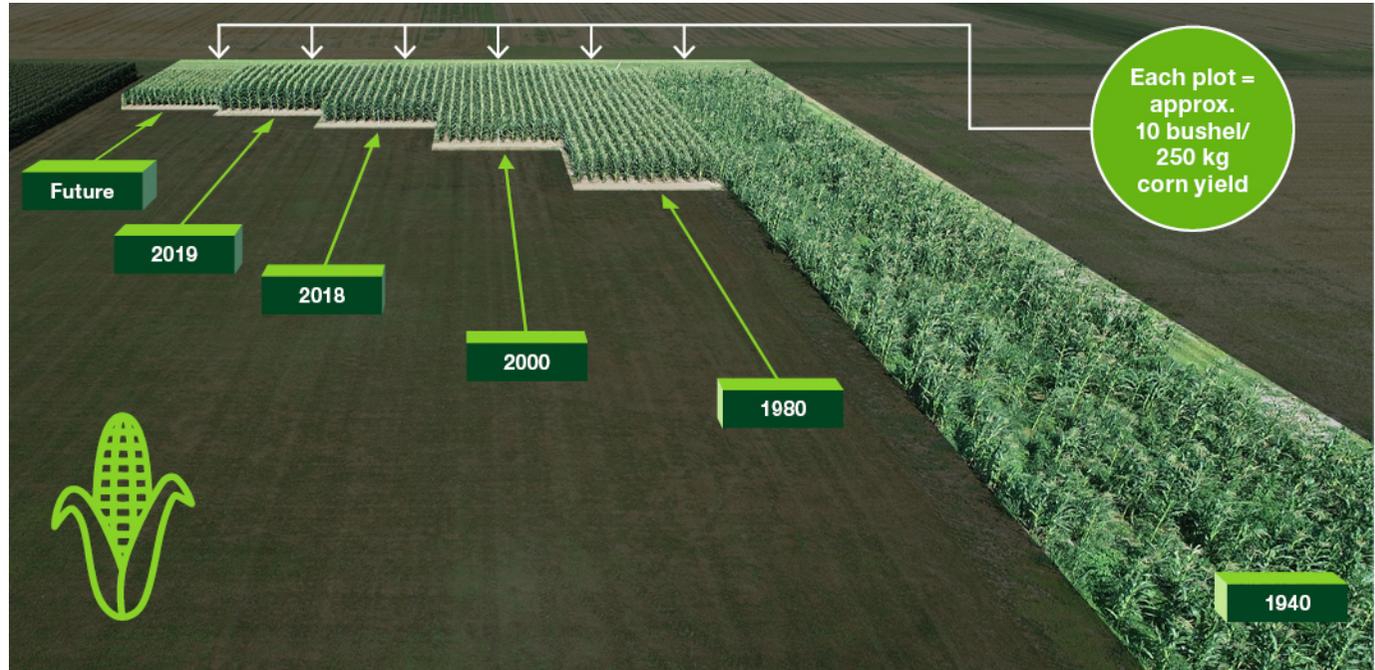
Stakeholder Engagement		
Stakeholders	What do we discuss?	How do we engage?
Suppliers and contractors	<ul style="list-style-type: none"> // Climate protection // Human rights, supply chain // Corporate governance 	<ul style="list-style-type: none"> // Participation in international initiatives and collaborations // Engagement in major climate conferences
Customers	<ul style="list-style-type: none"> // Products and services, quality, supply chain due diligence // Pricing // Customer needs // Reduced ecological footprint, climate protection // Environmental protection and impact reduction // Social issues and human rights 	<ul style="list-style-type: none"> // Comprehensive information programs // Provision of support for easy availability of farming solutions and capacity building for sustainable agriculture practices // Training
Employees	<ul style="list-style-type: none"> // Health & safety incl. mental health and nutrition // Sustainability strategy // Work-life balance // Diversity, equity and inclusion // Compensation // Conditions and future of work 	<ul style="list-style-type: none"> // Corporate benefits // Employee survey // Regular town hall meetings // Training // Flexible working hours/locations // Health and wellbeing programs // Employee giving, donation programs
Associations and other advocacy groups	<ul style="list-style-type: none"> // Innovation in healthcare and agriculture // Transparency, sustainability and ethical business practices // Compliance, regulatory, product defense // General market conditions, tax // Policy positions 	<ul style="list-style-type: none"> // Organizational memberships // Active involvement in committees and specialist workshops, conferences // Research collaborations // Information sharing on science-based solutions // Materiality/economic trade and policy analysis // Identification of trade barriers
ESG rating agencies/investors/banks	<ul style="list-style-type: none"> // Regenerative agriculture // Healthcare // Climate change, energy transition & environmental Impact of our products // Biodiversity and water // Human rights // Executive compensation 	<ul style="list-style-type: none"> // Regular investor calls & newsletter // Roadshows // Conferences // Webinars // Annual meeting of stockholders & regular communication
Government/policymakers/NGOs/ multi-stakeholder platforms	<ul style="list-style-type: none"> // Innovation in healthcare and agriculture // Transparency, sustainability and ethical business practices // Compliance, regulatory, product defense // General market conditions, tax // Food security, access to health, environmental protection 	<ul style="list-style-type: none"> // Engagement with all levels of government/direct engagement // Organizational memberships and collaborative partnerships // Conferences & workshops // Information sharing on science-based solutions // Global platforms (WBSCD, WEF, SMI) // Global summits (COP)
General public & local communities	<ul style="list-style-type: none"> // Environmental stewardship, safety & emergency planning // Innovation // Social investment // Education and information on local business conduct // Local business environment, sites, employment, land use 	<ul style="list-style-type: none"> // <u>Collaboration and partnerships</u> // Philanthropy // Employee volunteering // Sponsorships // Website, media and social media

Focus on: Agriculture

Challenges and Approaches

Global agriculture and food systems are confronted with major challenges, such as climate change (in terms of both climate change mitigation and climate change adaptation), water scarcity and population growth. Scientists and United Nations (UN) organizations expect the world population to grow to around 10 billion people by 2050 – an increase of around two billion people relative to 2023. In addition, both the Food and Agriculture Organization (FAO) of the United Nations and the World Resources Institute (WRI) envisage a 50% increase in the demand for food and animal feed by 2050. The demand for animal-based protein and thus also for animal feed is expected to increase further, especially in the emerging markets. At the same time, the already limited farmland will decline due to climate change, water scarcity, soil erosion and other factors. The agricultural sector therefore needs to meet the demands of a growing population, while at the same time promoting sustainability and protecting our ecosystems.

In addition to the challenges already mentioned, there is the issue of food loss and waste. It is estimated that around 33–40% of all the food produced for human consumption (including meat from animals fed grain) is lost or wasted along the value chain. This means that around 30% of our global agricultural land is used for food and feed that is never consumed. Besides food security, this has also a critical dimension for climate change: it is estimated that food loss and waste account for approximately 10% of global greenhouse gas emissions.



Solutions by Bayer help farmers by making the best of their fields and thus enabling food security. This starts with the choice of a seed. For example, high-performing seeds offer improved resistance against common diseases and pests as well as being adapted to local environmental conditions. This, combined with farm management and pest, disease and weed management supported by digital decision-making on the field, enables farmers to be more productive with their operations.

Optimized seed varieties can help reduce food loss and waste in later steps of the value chain too (e.g. through improved shelf life, fruit firmness to withstand long-distance transport or an increase in the efficiency of processing products).

Sustainable intensification

Intensive agriculture with high yields per hectare of farmland is a crucial factor for ensuring the continued availability of high-quality and affordable food. Agricultural intensification leads to less land being required for the same amount of agricultural output. While agricultural yields have grown by 60% over the past 40 years, the amount of agricultural land has increased by only 5%. This productivity increase was substantially enabled by technological developments in the areas of plant breeding and – since the 1990s – plant biotechnology as well as by management practices such as fertilization, irrigation and crop protection. Insecticides and fungicides have played a crucial part in reducing harvest losses. Crops compete with weeds for water, nutrients and light, resulting in a potential crop loss of up to 30%. Herbicides are an important tool for reducing this growth competition.

Bayer helps farmers cultivate more food for a growing population, improving food security while at the same time reducing the environmental impact of agriculture. Digital technologies play an important role in this, as do improved seeds and good agricultural practices. To reduce harvest losses caused by insect pests, competitors for nutrients or fungal infestation, we combine our high-performance seeds with the targeted use of crop protection products. We offer farmers a selection of these innovative tools and recommend optimal combinations that enable the use of crop management practices at the correct time and in the correct place for optimal production.

Regenerative agriculture

We aim to transform agriculture by driving forward a more sustainable food system guided by our vision of regenerative agriculture.

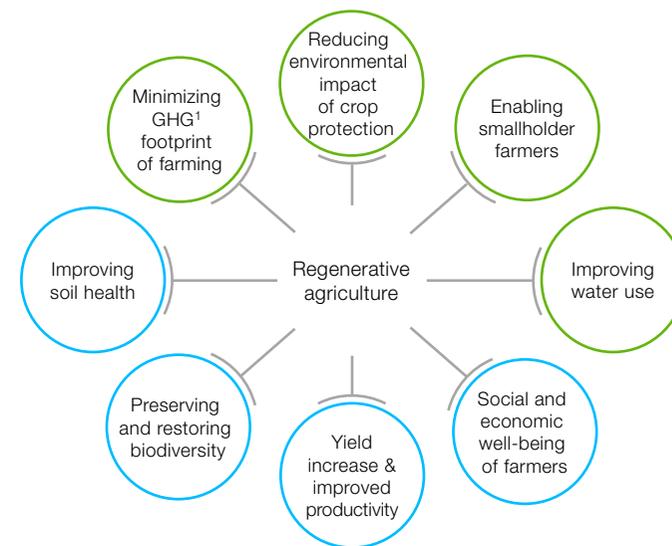
Bayer promotes a concept of regenerative agriculture (mainly downstream in our value chain) that is defined as an outcome-based production system aiming to increase food production, farm incomes and resilience in a changing climate, while restoring nature.

Our mission is to transform the agricultural sector at scale on the basis of regenerative farming and to create a more sustainable food production system. For us, regenerative agriculture is an outcome-based production model based on two key building blocks: productivity, which focuses on helping farms to produce more with less; and regeneration, which focuses on delivering a positive impact on nature. Key outcomes we strive for are yield increase and improved social and economic well-being of farmers and communities, and positive impact on nature, which can be achieved, for instance, by improving soil health, reducing on-field greenhouse gas emissions, and increasing carbon sequestration to mitigate climate change, restoring biodiversity and conserving water.

Soil coverage, minimization of soil disturbance, a diversification of rotations, an optimization of inputs and a reduction of impacts are therefore important practices for achieving regenerative agriculture.

Our sustainability commitments (please see the Sustainability Strategy chapter as well as this chapter below) are important building blocks on our journey toward a regenerative agriculture and comprise:

Building Blocks of a Regenerative Agriculture



¹ GHG: Greenhouse gas emission

- Elements of a regenerative agriculture system that are already part of our strategy
- Other key aspects of a regenerative agriculture system we are currently working on

- // Reducing on-field greenhouse gas emissions
- // Reducing environmental impact of crop protection products
- // Supporting smallholder farmers
- // Improving water use

Currently we are working on developing further building blocks (e.g. for soil health) and on how to integrate restored habitats into the approach. Moving forward, we are striving to take a full systems-based perspective on our approach to

regenerative agriculture and to treat a farm as an ecosystem in itself – with its unique soil and environmental conditions. But this also means that a concept of regenerative agriculture must be understood as a flexible framework rather than a rigid one. Data is the foundation for identifying optimal solutions for each farm and for assessing progress toward nature-related outcomes (beyond just bushels of yield and income generated).

We are only at the beginning of our journey toward regenerative agriculture. We also realize there is not one single solution for every farm, but instead a combination of different solutions that deliver a regenerative agriculture system and its benefits. Some of the innovations and solutions developed by Bayer have the potential to advance the future of regenerative farming:

- // Crops/smart cropping systems (e.g. short-stature corn, hybrid wheat, direct seeded rice, new cover crops)
- // Seeds and traits technologies (e.g. precision breeding, genome editing, biotechnology)
- // Sustainable crop protection (e.g. new chemical profiles, biologicals)
- // Innovations in carbon farming, data, and digital solutions
- // Nitrogen fixation innovations

We see potential in scaling up regenerative practices on farms around the world providing tailored solutions that combine our innovation pipeline across seeds & traits, crop protection and digital farming, and a multitude of partnerships.

Read more

For more information on our innovations, please see this chapter as well as Chapter 1.3 Focus on Innovation in the [2023 Annual Report](#).

For more information on the responsible use of crop protection products and the application of digital farming technologies, please see Chapter 3.6 Crop Science.

For more information on our commitment to smallholder farmers in low- and middle-income countries (LMICs), please see the Sustainability Strategy chapter.

Agricultural activity has the potential to disrupt local species and the associated ecosystem. We invest in research and development to attain an improved balance between productivity and conserving biodiversity and [ecosystem services](#). For more information on our activities to conserve biodiversity, including pollinator insects, please see chapters 3.6 Crop Science and 3.7 Biodiversity.

Advancing digital solutions in agriculture

Bayer approaches digital farming through partnerships and is building an ag-tech ecosystem striving for greater industry interoperability to help farmers make the best use of the breadth of digital farming services and tools on the market, while applying sustainable practices. Bayer is a partner in more than 100 technology agreements, and we have made Climate FieldView™ available not only to our customers, but to more than 70 industry partners to provide services, data models and connected solutions. Our partnerships include:

- // Pheasants Forever (United States): We partnered to design a digital tool to help farmers determine whether to manage field zones as production agriculture or create protected wildlife and pollinator habitats. Based on data, farmers can choose to preserve biodiversity in underperforming field zones by allocating land for wind or solar energy production or by creating wildlife habitats.
- // FarmRise (India) is a mobile app helping more than 100,000 monthly users access farming advice, evaluate pest infestations, rent drones, join carbon programs, check weather and watch commodity pricing, all from a smartphone.
- // WeGrow (China) is a digital platform, social networking engagement tool, education hub and member reward program to share agronomic expertise, connect farmers to service providers and reinforce sustainable practices.
- // FoodWings (Ghana) helps smallholder farmers access drone-based services to control pests, weeds and diseases and order seeds, crop protection and drone-based services.
- // GeoPotato (Bangladesh) is a satellite technology for a powerful tool for smallholder farmers, as a digital early warning system that detects late blight disease in potatoes, allowing time to spray preventative fungicides only when and where needed.
- // Apollo Agriculture (Kenya): Using aggregated data, agronomic machine learning, remote sensing and mobile phones, Apollo delivers financing, insurance, farm products and advice that can increase farm profitability.

Also, through our Better Life Farming Alliance, we support smallholder farmers with education and ambassador programs, and digital in-field services such as seed planting, precision irrigation or crop protection advice.

Plant Breeding

Plant breeding (including hybrid crops) plays a key role in reducing in-field losses, achieving improved agricultural yields and reducing food loss and waste in later steps of the value chain. Bayer supports the responsible use of different breeding techniques and technologies.

In plant breeding, existing species of a crop (e.g. corn) are crossed to transfer the desired traits to the next generation of plants. Our scientists evaluate large volumes of genomic, phenotypic and environmental data in order to select the highest performing plants for local farmer environments around the world. We use greenhouse- and field-based product testing over multiple years to determine whether the desired traits have been transferred to the following generations.

Our greenhouse- and field-based product testing and our scalable data analysis and automation functions provide additional insight into the special characteristics of our products, such as plants' ability to resist diseases and thrive during water scarcity. This enables us to give our farmers tailored recommendations that take account of factors such as the climatic circumstances of a region.

Especially for perishable crops like fruits and vegetables, breeding for a long shelf life is an important factor. Longer shelf lives can improve the tradability of fruit and vegetables, increase flexibility in the value chain (e.g. to reach markets further away) and reduce food loss and waste along the value chain up to the consumer.

Preceon™ Smart Corn System

One example of the possibilities offered by plant breeding innovations is our Preceon™ Smart Corn System. This crop system will include digital support tools and agronomic recommendations to improve the way corn is grown to make it more sustainable.

Through breeding, we have succeeded in developing seed hybrids that enable the growth of shorter corn plants that have the potential to not bend or break (agronomists call this root and stalk lodging) as easily as corn plants of regular height in the presence of strong winds or heavy rain. Losses in the United States due to bent (lodged) plants amount to between 5% and 25% a year depending on the severity of weather events. Due to its short stature, the corn hybrids of the Preceon™ Smart Corn System also allow farmers in-season access, which enables optimized application of crop protection products and nutrients such as nitrogen.

Precision breeding

In one of the most transformational shifts in breeding history, our precision breeding platform will drive tailored solutions that reflect the specific needs of our customers' farms, crops, soils and agronomic practices.

Precision breeding uses artificial intelligence (AI) technology to guide genetic changes and to access more data so scientists can quickly and accurately identify the precise changes needed to remove negative plant traits or emphasize positive ones.

Ultimately, precision breeding could result in the delivery of seed varieties tailored to growers' unique field conditions years ahead of schedule.

Supporting USDA-GEM

Bayer donated 1,990 corn breeding lines to the USDA-GEM (United States Department of Agriculture – Germplasm Enhancement of Maize) program in 2020. These contained a combination of Bayer genetics and a genetic diversity of 31 maize landraces from across the Americas, bred to flower in the US Central Corn Belt.

In 2021, the USDA-GEM program started evaluating this material. USDA-GEM observed different plant characteristics relating to plant stature and unique traits such as dwarfism or multi-ears and noted resistance levels to several diseases such as gray leaf spot, rust and Fusarium stalk rot. Evaluations proceeded in 2023.

Improved breeding stocks that USDA-GEM develops from such diverse germplasm are made available to a global network of private and public collaborators, and eventually to the entire maize research community. These collaborators are free to use them directly for making new hybrid corn varieties, or as breeding parents in their own breeding programs.

Bayer also provides annual resources to support these evaluations.

Plant Biotechnology

Whereas plant breeding uses the genetic diversity of plants to generate new and unique plant varieties and hybrids for farmers, plant biotechnology can be employed to transfer genes and their associated beneficial traits from one organism to another. Genetically modified crops provide substantial agronomic, economic and ecological benefits. They can help farmers to increase productivity despite difficult growing conditions by protecting harvests from specific pests and weeds while consuming fewer natural resources. Farmers in large and small enterprises from industrialized and developing countries alike can benefit from genetically modified crops, especially corn, soybeans, cotton and oilseed rape/canola. According to information from the nonprofit organization ISAAA (International Service for the Acquisition of Agri-biotech Applications), crops that are the product of modern biotechnology are grown on more than 190 million hectares in over 29 countries.

Bayer specializes in high-quality seeds with groundbreaking traits that offer not just higher yields but also improved weed control and more effective defense against insects. Our genetically modified plants containing Bacillus thuringiensis (Bt) control specific insect pests that feed directly on the plant. Other insects such as bees and native pollinators are not harmed by Bt plants. The deployment of these plants can considerably reduce the use of broad-spectrum insecticides.

Bt corn was introduced in the United States in 1996 and has since been grown in many countries. According to studies, growing Bt corn in the United States reduced the usage of insecticides by 35%, reduced in-field losses by 10% or more and increased grain quality between 1996 and 2008. Decreased insect damage reduces the occurrence of higher levels of mycotoxins. Increased concentrations of mycotoxin can result in animal and human health issues. In many cases, high levels of mycotoxin have resulted in full harvests being discarded. In low and middle-income countries (LMICs), where corn is an important staple crop, Bt corn can improve food safety and food security.

Crops compete with weeds for water, nutrients and light, resulting in a potential crop loss of up to 30%. Our herbicide-tolerant plants are tolerant to certain herbicides such as glyphosate or dicamba. This enables weeds in fields to be eliminated using herbicides without damaging the crops. Using these plants enables farmers to reduce or completely forgo tillage as a method of weed control. In combination with good agricultural practices such as the cultivation of cover crops, no-till has a positive impact on soil health. It

reduces erosion in the long term, facilitates the development of humus and thereby ensures increased storage of carbon in the soil. This in turn reduces the release of greenhouse gases from the soil that can contribute to climate change. Furthermore, farmers need less fuel for tillage when there is no need for plowing and cultivation.

The development and approval of genetically modified seeds is subject to comprehensive international guidelines and stringent national laws and regulations. For more information, please see our website. The safety of genetically modified crops has been confirmed by numerous studies, which have been evaluated by regulatory authorities in 70 countries. Some believe that genetically modified plants could spread throughout the environment and thus negatively impact plant biodiversity. However, cross-pollination between a genetically modified plant and a wild one would require the plants to be very closely related. Various studies have demonstrated that the introduction of genetically modified crops has not negatively affected crop biodiversity.

Preserving plants' integrity

Breeding for conventional and organic farming requires measures to preserve the plants' integrity and thus maintain seed quality. This means that the uncontrolled pollination or cross-breeding of plants must be prevented. Pollen flow plays a key role here, including for genetically modified plants. For example, in our breeding of corn, an open pollinated crop, it is essential to be aware of and limit the possible pollen flow under different conditions. Detailed agricultural practice requirements are in place for our own sites and those of our seed producers to prevent inadvertent pollination. These rules are spelled out in our publicly accessible Technology Use Guide for corn, soybeans, oilseed rape/canola and other row crops. Among other

information, this contains provisions for planting at a prescribed distance to other fields of the same crop type or planting at different times to prevent simultaneous pollination in two fields.

There is no evidence that local or native plants are reduced in the unlikely event of inadvertent cross-pollination between genetically modified and nongenetically modified plants from the same species. There is also no evidence that seed diversity has decreased because of the introduction of genetically modified crops. After reviewing more than 900 studies, the US Academies of Science published a report in 2016 stating that it did not see any indication that the genetic diversity of major seed varieties in countries such as the United States had declined due to the introduction of genetically modified seeds. Rather, the number of seed varieties available had already declined during the 20th century due to strong demand for high-yielding seeds.

Innovations in plant breeding: genome editing

Bayer employs new breeding methods that contribute to the development of modern varieties better suited to their environments, making it possible to farm more sustainably.

One targeted breeding approach is a molecular biology process known as genome editing, which is largely based on improving plants' characteristics by leveraging their existing genetics, for example by deactivating unfavorable traits (such as disease vulnerability) or supporting beneficial traits (such as drought tolerance or improved nutrition). The use of breeding innovations, including [CRISPR-Cas](#), can improve the efficiency and precision of plant breeding and contribute to the development of new crop varieties needed to sustainably secure the supply of safe and healthy food.

Partnerships supporting access for smallholder farmers

Facilitating access to the latest techniques and technologies is essential for scientists to enable sustainable, higher yielding and healthy crops amid continued climate challenges. In order to make these improvements accessible to smallholder farmers, we engage in various collaborations and public-private partnerships to share knowledge and resources:

- // The Modern Breeding Project is a cooperation with the International Institute for Tropical Agriculture ([IITA](#)), providing know-how in technology advancements to plant breeders so they can increase genetic gain in local crops grown in countries like Mali and Nigeria.
- // We participate in the International Maize Improvement Consortium for Africa ([IMIC-Africa](#)) to enhance African farmers' access to high-quality, affordable, high-yielding and locally adapted maize seed.

- // We are a member of the International Rice Informatics Consortium ([IRIC](#)), with germplasm diversity in rice as a focal point for engaging communities in Asia.
- // We participate in the [TELA project](#) (previously Water-Efficient Maize for Africa, WEMA) to improve sub-Saharan farmers' yields, food quality and profitability through improved drought-tolerant hybrids. The Food and Agriculture Organization of the United Nations (FAO) evaluated the TELA project as part of a [case study](#) in 2023.
- // In the European Union, we offer small vegetable breeders free access to our European patents for vegetable traits, which are contained in the Euroseeds [PINTO database](#) and can be licensed by Bayer.

TR4-resistant varieties of banana

Bananas, a key crop for global food security and the livelihoods of millions of smallholder farmers, are facing the most serious threat in decades – the Tropical Race 4 (TR4) strain of the *Fusarium* fungus, which has triggered a pandemic on banana plantations and is devastating the crop harvest across banana-cultivating regions. At present, control of the disease using fungicides is impossible. The only way to protect bananas is to prevent the fungus from spreading, which is extremely difficult, or to develop resistant varieties. Joining forces with partners from the private and academic sectors, civil society organizations and state entities within the [Global Alliance Against TR4](#), Bayer supports the establishment of breeding programs, capacity building for high-throughput screening, and the development of new editing techniques to mass-produce new varieties of banana that are resistant to TR4.

The Zero Hunger Private Sector Pledge

In 2022, Bayer signed the Zero Hunger Private Sector Pledge and [committed to contributing US\\$160 million](#) to support the goal of combating hunger worldwide, together with other organizations. This pledge was created within the scope of the UN Food Systems Summit. As part of the Zero Hunger Coalition, we are working to help end food scarcity in various regions of the world.

[The Zero Hunger Private Sector Pledge](#) aligns governments, agencies, civil society and businesses with the 10 high-impact intervention areas from the CERES2030 evidence, a research project by scientists from Cornell University, the International Institute for Sustainable Development (IISD) and the International Food Policy Research Institute (IFPRI) that provides practical recommendations on how to end hunger by 2030 worldwide and on a lasting basis.

A detailed report on advancements in our Zero Hunger Pledge (vegetable seeds, breeding, the Better Life Farming partnership and our training program BayG.A.P.) can be found in our [Crop Science Sustainability Progress Report](#).

Enabling a Climate-Smart Agriculture

According to [a report of the Intergovernmental Panel on Climate Change \(IPCC\)](#), agriculture, forestry and other land use account for about 22% of all greenhouse gas (GHG) emissions worldwide. Climate change places significant pressures on agriculture in the form of reduced yields, land degradation and increased threats from pathogens and diseases. At Bayer, we strive to advance a net-zero carbon future for agriculture in close collaboration with farmers and global and local players. [This requires](#) the development of new technologies, digital enablement and the transformation of agricultural practices. In addition to our commitments to climate neutrality for our own operations (please see Chapter 7. Climate Protection), we aim to enable our farming customers to reduce their on-field greenhouse gas emissions per mass unit of crop produced by 30% by 2030 compared to the overall base-year emission intensity. The overall base-year greenhouse gas intensity includes the weighted emission intensities of 18 crop-country combinations. Base years are defined individually for each crop-country combination, using data from either harvest year 2020, 2021 or 2022 depending on the availability of data. This reduction target applies to the highest greenhouse gas-emitting crop systems in the regions Bayer serves with its products (with the exception of the crop-country combinations Italy-Corn and Spain-Corn that were not selected based on these factors but were additionally included because data were already available). Our major focus lies on soybeans and corn in the United States, Brazil and Argentina, paddy rice in India, and wheat, cotton and oilseed rape/canola in various regions.

Methodology and base-year greenhouse gas intensity

The scope of our efforts is focused on emissions of major greenhouse gases from field operations: carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). The sources of greenhouse gas emissions include cultivation, decomposition of applied fertilizers and organic matter, and irrigation.

To measure progress against our target, we use representative samples of Bayer's customers' field-level data from a third-party market research data provider (Kynetec UK Ltd.) obtained in interviews with randomly selected farmers.

We calculated our overall base-year greenhouse gas intensity based on our customers' greenhouse gas intensities for our major crop-country combinations with data from the 2020-2022 harvest years. We define our customers according to the following criteria: farmers whose share-of-wallet for our products equals our market share in a particular market at a minimum, farmers using our seed varieties or our digital platform Climate FieldView™ or farmers participating in our [Bayer Carbon Programs](#).

The calculated on-field greenhouse gas intensities per crop and country are presented on the map. To calculate the overall base-year greenhouse gas intensity, individual greenhouse gas intensities per crop and country were weighted according to Bayer's footprint in these crops and regions, estimated using the total production volume of a particular crop in a particular market as stated in the database of the Food and Agriculture Organization (FAO), our market share in this market and carbon intensity of this crop within a

particular country. Using this methodology, our overall customers' greenhouse gas intensity weighted across all crop-country combinations in the scope of our commitment was 443 kilograms CO₂e per metric ton of crop produced (base-year greenhouse gas intensity of our commitment). We will assess and report every two years our progress toward the target we have set. The first reporting of our progress against our base-year greenhouse gas intensity will be published in the 2024 Sustainability Report.

We described our [methodology](#) in detail in a report reviewed by an external panel of experts to ensure that the baselining and performance tracking methodology is adequate.

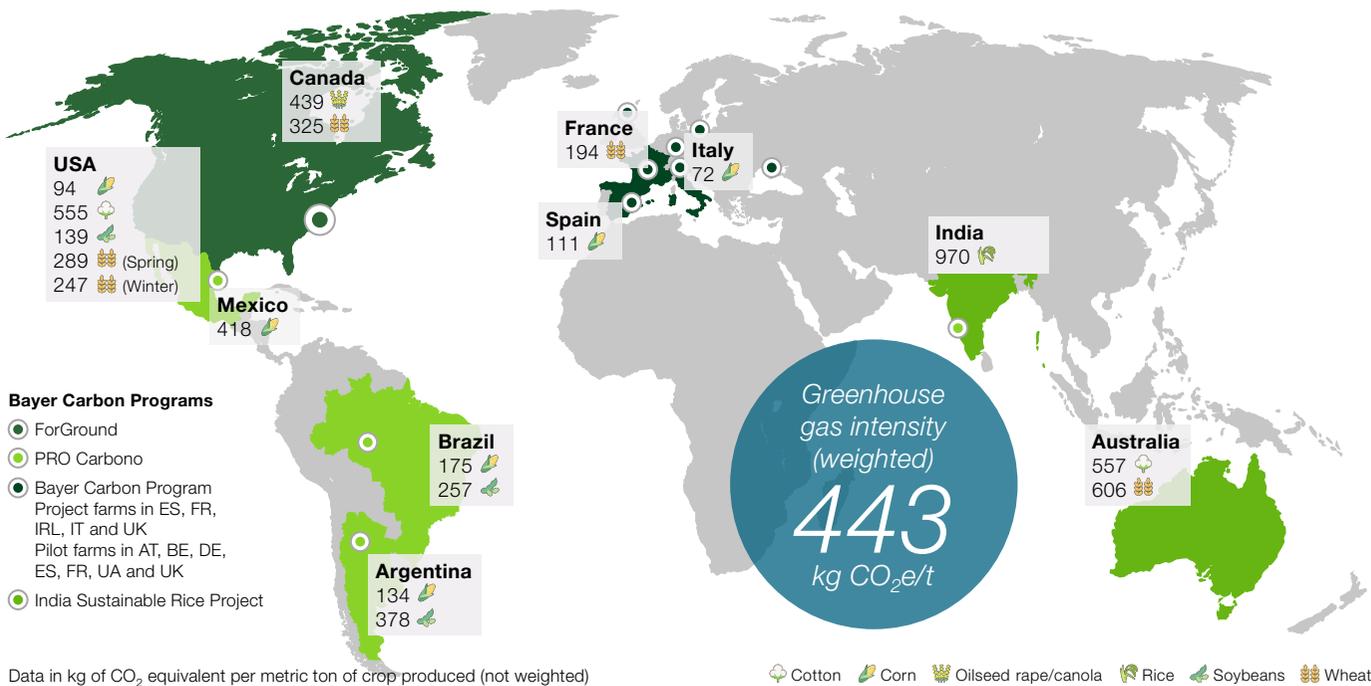
Measures

To achieve our target, we foster the adoption of climate-smart practices and technologies by our farming customers. These include high-yielding crop genetics, crop protection products, precision irrigation systems, soil management tactics through no-till and cover crops, crop rotation, root health, fertilization management, microorganisms and inoculants, direct seeding and alternate wetting and drying in rice cultivation, and digital and precision farming tools. Combining different levers can lead to customized and profitable solutions for our farming customers.

Currently, we are integrating environmental metrics, including a greenhouse gas footprint, into our development field trials to develop innovative and tailored solutions that combine higher yield with co-benefits such as increased soil health and reduced water usage.

In addition, Bayer is driving forward the implementation of carbon farming initiatives in every region we serve. Our Bayer Carbon Programs are presented on the map on the previous page. The goal is to learn how to scale the adoption of climate-smart practices and solutions to create new value streams for our farming customers. This leads to new

Greenhouse Gas Intensities for Our Most Important Crops (Crop-Country Combinations) and Bayer Carbon Programs



business opportunities for us that benefit the environment at the same time.

North America

In the United States, the [Bayer Carbon Program](#) rewards farmers for adopting climate-smart practices, such as planting cover crops and practicing no-till or strip till in their fields, with the ambition of generating high-quality certified carbon assets in the future. Farmers can receive guaranteed payments based on the adoption of these practices and the number of acres enrolled per year.

[ForGround](#) was launched by Bayer in 2022. This farmer-first digital platform offers growers tools and resources, as well as the potential to earn revenue through the Bayer Carbon Program, for adopting sustainable practices. Beyond the capture of carbon in the soil (carbon sequestration as part of the Bayer Carbon Program), ForGround is expanding and evolving to explore other approaches and collaborations that can enable farmers to make a positive impact in their operations and on the environment.

Latin America

As part of our Bayer Carbon Program, farmers in Brazil who fulfill the requirements, such as social and environmental compliance, and who use our digital farming platform

Climate FieldView™ are eligible for soil collection and analyses and have access to technical consultants and professional agronomists. The PRO Carbono program was launched in 2021 with more than 1,900 farmers from 16 different states (about 510,000 acres). In Argentina, we also launched the PRO Carbono Program, which more than 160 farmers have started to participate in since 2021 (about 40,000 acres).

In addition to this program, the PRO Carbono Commodities initiative was launched in Brazil in 2023. It is a solution designed to address the challenges of the supply chain toward decarbonization, while also recognizing and connecting with forest preservation efforts. The project area covers about 390,000 acres, with about 200,000 acres of protected forest and about 150,000 acres having their soybean carbon footprint calculated through a tool (PRO Carbono Footprint calculator) co-developed with our partner [Embrapa](#).

Europe

In Europe, Bayer launched its decarbonization program for agriculture in 2021. We are engaged in open discussions with key regional, local and global food chain partners to support them in the decarbonization of their value chains and to achieve their climate commitments.

At the same time, we are working with various partners on a network of 25 farms across eight European countries to identify the best interventions and technologies to support farmers in reducing their environmental footprint in a sustainable way. These projects are partly supported by the [Bayer Forward Farming](#) network.

Asia/Pacific

Flooded paddy rice has been identified as a significant contributor to emissions of methane, a potent greenhouse gas. As part of the [India Sustainable Rice project](#) started in 2021, Bayer is evaluating the reduction of greenhouse gas emissions as well as water-saving potential in the cultivation of rice under Alternate Wetting and Drying (AWD) and Direct Seeded Rice (DSR) methods (please see the Conserving Water section later on in the chapter).

Partnerships

In our partnerships and scientific coalitions, we support the science of soil management, the decarbonization of food systems and technical, digital and financial solutions that help farmers to implement climate-smart practices.

- // [Global Soil Health Programme](#) (University of Glasgow)
- // Decarbonization of the EU Food System – [European Carbon+ Farming Coalition](#)
- // [Inter-American Institute for Cooperations on Agriculture](#) (IICA), Living Soils of the Americas Initiative
- // [Coalition of Action 4 Soil Health](#) (CA4SH)
- // [Collaboration with Perdue AgriBusiness](#)
- // [Collaboration with Nori](#) – carbon removal certificates marketplace

For more information, please refer to our [Crop Science Sustainability Progress Report](#).

Crop Protection Environmental Impact Reduction (CP EIR)

Crop protection, next to fertilizers and breeding advancements, has helped humanity to feed an ever-growing population while limiting the increase of arable land, which is a vital step in helping minimize land use change. Yet crop protection products do not just increase yield – they also have an environmental impact when applied to fields.

The prerequisite for placing crop protection products on the market is clear proof of efficacy, while ensuring no effects on human health and only an acceptable impact on the environment. Crop protection products are therefore highly regulated by governmental authorities. Bayer consistently seeks to develop and offer crop protection products that have the same or better benefits for farmers, while having less impact on the environment.

To this end, Bayer adopted a methodology for crop protection environmental impact reduction (CP EIR) and made a commitment to reducing the environmental impact of our crop protection products. Specifically, we aim to reduce the treated-area-weighted environmental impact per hectare of Bayer's global crop protection portfolio by 30% by 2030 against a 2014–2018 average baseline. For more information, please see the [Bayer Crop Science Sustainability Progress Report](#) and [the methodological report](#). Additional information will be published on our [website](#).

Scientific models used

The methodology we adopted relies on two leading, externally developed scientific consensus models to enable a quantifiable environmental impact assessment of crop protection.

// PestLCI has been developed and established by the Technical University of Denmark (DTU) in cooperation with other institutes and organizations since 2006. PestLCI estimates the quantity of an active ingredient emitted into the surrounding environment with the application of a crop protection product in the field, taking into account all contributing processes.

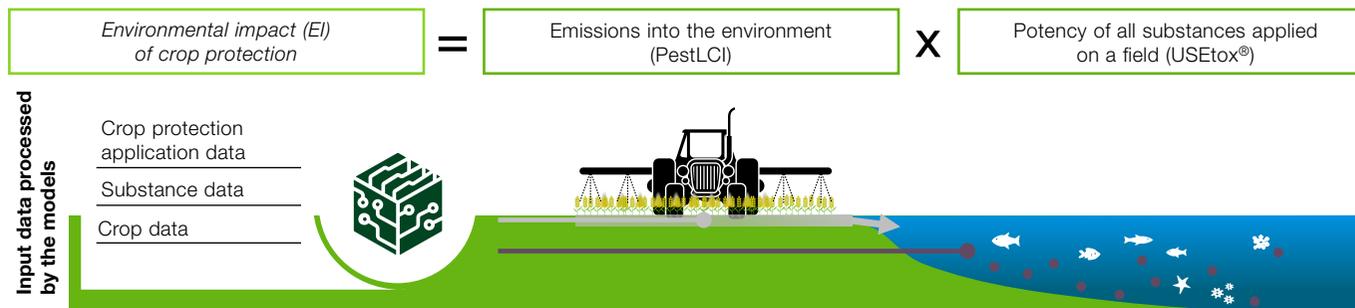
// USEtox® has been developed under the auspices of UNEP-SETAC in cooperation with various universities and institutions since 2008. USEtox® determines concentrations in the surrounding environment and the potential impact the crop protection products could have on the aquatic ecosystems (defined as the potential effect on nontarget aquatic organisms). USEtox® is also recommended by the European Commission as a model for the analysis of products' life cycles and environmental footprint.

Bayer provided an extensive inventory of detailed historic market data on crop protection applications globally to the DTU. The DTU combined the crop protection inventory data with PestLCI and USEtox® to calculate a global crop protection impact assessment. An external panel of experts is independently performing an assessment of how Bayer and the DTU apply the models to assess its crop protection environmental impact, and how Bayer measures performance against its commitment and other methodological considerations.

CP EIR Assessment in an Application Scenario



Crop Protection Environmental Impact Reduction



Bayer's CP EIR assessment compares the impact of crop protection products. The calculation results in a numerical Environmental Impact Score per application scenario. The score depends mainly on the environmental profile of the active ingredient applied on the field, the amount applied and other factors influencing the emissions into the environment such as application method and timing.

The CP EIR assessment does not account for the environmental effects of other tools applied within farming and integrated crop management, such as plowing, seed bed preparation, fertilizers or harvesting.

As the science of impact assessment is evolving, we are working with the scientific consortium developing these models as well as with other experts in the field to expand the capabilities of the current models. Currently, we are focusing on the potential impact on aquatic ecosystems, and we plan to expand the model to soil organisms and pollinators

once these enhancements have been published by the scientific consortium. These models and the underlying methodology are publicly available.

Scope of the sustainability target

All Bayer crop protection product applications that are characterizable by PestLCI and USEtox® and used in the field globally, as reported in the AgroWin system, are in the scope of our commitment to reducing the environmental impact of our global crop protection portfolio. The baseline for our commitment is built on an average of all Bayer crop protection products applied in the field globally between 2014 and 2018 and their respective environmental impact. Using an average as the baseline takes account of the specifics of agriculture such as seasonality or dependence on climatic conditions. To ensure the transparency and credibility of the baseline, performance tracking and calculation of CP EIR, all required model input data is third-party data – including substance characteristic data.

Outcomes

Applying CP EIR allows Bayer to identify hotspots of environmental impact and develop improvement levers.

Based on the analysis of the environmental impact of crop protection products, we will be able to recommend a range of tools to help farmers protect their crops and lessen their environmental impact. This can help to produce higher-yielding crops with less impact in and around the field.

The levers involved in achieving this commitment can be categorized as follows:

- // Optimization of crop protection volumes required per hectare through tools such as:
 - // Precision application: data-driven tools that ensure the right amount of crop protection product is applied by farmers in the right place and at the right time
 - // Seed treatment: seed-applied crop protection tools that can significantly reduce the volume of chemicals used and therefore the potential exposure of wildlife and the environment to these chemicals
 - // Seeds and traits: crops bred and designed to better fight pests and diseases that attack them, ensuring less chemical crop protection is needed
 - // Biologics: complementing chemical crop protection with biologics to enhance integrated management practices and reduce pest resistance
- // Reduction of the environmental impact of the crop protection product itself:
 - // Better environmental profile of an active ingredient (lower effect on nontarget plants and species) compared to other products

- // Reduction of the emissions into the environment:
- // Mitigation measures such as drift reduction and buffer strips
- // Digitally enabled precision application

Based on a 2021 data set covering global crop protection use data, Bayer's crop protection products represent around 2% of the global environmental impact of all crop protection products, despite Bayer's market share in terms of sales being significantly higher (around 18% of the global crop protection market). For more information, please see our [website](#).

Progress

Based on the data collected between 2018 to 2022, Bayer has reduced the treated-area-weighted environmental impact per hectare of our global crop protection portfolio by 12% against the 2014 – 2018 baseline. The reduction was mainly the result of changes in our crop protection product portfolio in recent years.

For the reporting period 2017 to 2021, we must restate our progress as 11% as opposed to the previously reported 14%, due to model enhancements and newly identified data corrections.

Conserving Water

Scarcity of fresh water affects farmers around the world. A growing demand for this resource, coupled with climatic change, is among the factors that have the potential to aggravate the water crisis and put additional pressure on water availability, water accessibility and water demand. The agricultural sector accounts for nearly 70% of global freshwater use and therefore has a central role to play in addressing water challenges – all the while continuing to deliver on food production and ensure global food security.

At Bayer, we recognize the importance of water challenges and are committed to helping alleviate the global water crisis.

At the UN Water Conference held in New York in March 2023, we released our [new water strategy](#), which aims to have a transformational impact that goes beyond our own operations and reflects our willingness to contribute to climate resilience and more sustainable water usage. Our efforts will encompass water dimensions along the value chain, from our own operations to the farmers we work with. This is clearly reflected in our commitment to driving positive change in cropping systems in water-scarce regions. We are committed to improving water use per kilogram of crop by 25% by 2030 through the transformation of rice-cropping systems for our smallholder customers in the relevant regions where Bayer operates, starting in India (base year calculated with data from 2021, validation process still ongoing).

Direct seeded rice (DSR)

Rice is one of the most important staple foods in the world. Billions of people rely on a diet that includes rice every day – but the irrigation of rice crops is responsible for up to 43% of global freshwater use in irrigation.

Today, around 80% of the world's rice crop is produced using transplanted puddled rice cultivation practices that are especially water- and labor-intensive and contribute to global greenhouse gas emissions through higher methane emissions from flooded paddy fields, as water cannot percolate down. Traditionally, farmers first grow seedlings in seedbeds or nurseries for two to three weeks before transplanting them in ploughed paddy fields.

These fields are flooded beforehand with rain, ground or river water because rice thrives in water, which also helps control weeds. Over the subsequent months the water level must remain constant to ensure that the plants establish and grow. Shortly before the harvest (after 90 to 130 days), the farmer drains the field to enable the grain to mature.

One of the most promising solutions to support a sustainable rice production is direct seeded rice. Direct seeded rice is a technology-driven and less resource-intensive cultivation system. Moving from traditional transplanted puddled rice cultivation to direct seeded rice can help farmers reduce water use by up to 40% and can reduce greenhouse gas emissions by up to 45% (by reducing methane emissions from the flooded rice fields).

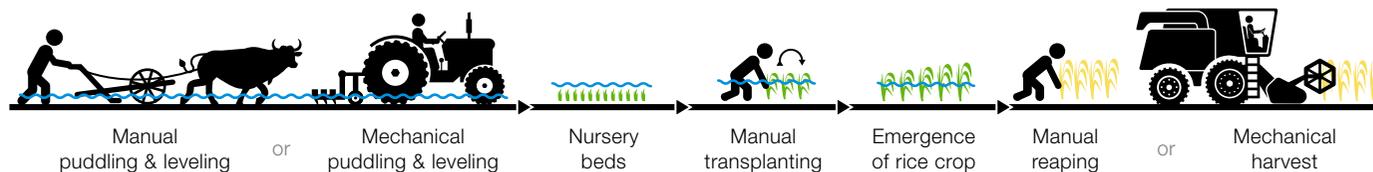
In addition, farmers can reduce their dependence on manual labor by up to 50%. In many countries, workers are moving away from rural areas and the agricultural sector. In India, for example, nearly 60% of the total labor force worked in agriculture in 1991. It is estimated that this number will reduce to 25% by 2050 at the latest. Many rural agricultural workers are moving away to urban communities and the COVID-19 pandemic accelerated this transition, leading to uncertainties in labor availability and higher labor costs for rice farmers. Using direct seeded rice cultivation methods enables direct seeding without labor-intensive manual transplanting of the rice seedlings.

Direct seeded rice cultivation methods can also lead to improved soil health.

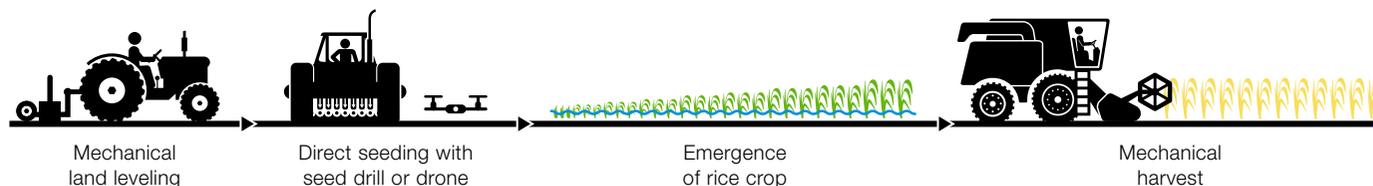
We are building entire systems driven by climate-resilient rice hybrids, a high-performing crop protection portfolio, and digital advisory and machinery services. Furthermore, we are

Transplanted Puddled Rice and Direct Seeded Rice

Transplanted Puddled Rice



Direct Seeded Rice



offering potential additional revenue streams from carbon certificates through our Bayer Carbon Initiative to incentivize farmers to adopt direct seeded rice cultivation systems – in line with Bayer’s [approach](#) to regenerative agriculture.

India

India is the focus of Bayer’s approach. Direct seeded rice has the potential to be transformational, with 75% of total rice fields in India expected to switch to this cultivation method by 2040 – compared to roughly 11% today. Governments of northern Indian states have announced that they will incentivize farmers to switch to direct seeded rice.

By 2030, Bayer plans to bring the direct seeded rice system to one million hectares in India, supporting over two million

early-adopter smallholder rice farmers through our DirectAcres program. Already underway, the DirectAcres program has seen considerable success, with 99% of participating Indian farmers achieving successful plant establishment and 75% a higher return on investment compared to rice grown using the conventional transplanted method in 2022.

We plan to introduce DirectAcres in other rice-growing countries in Asia/Pacific, starting with the Philippines in 2024.

For more information on our approach to help build water resilience in agriculture and our scientific solutions, please see our [Crop Science Sustainability Progress Report](#).

3. Product Stewardship

Assuming responsibility for our products, from medicines to complex solutions for agriculture, is always at the core of what we do. These should be of the highest quality and contribute to a better life. This means that neither their development and manufacture nor their disposal should cause damage to people and the environment. For this reason, we conform strictly to regulations and laws all over the world.

3.1 Management Approach

For us, product stewardship means that our products meet the highest quality standards and are safe for people and the environment when used properly. Not only do the desired properties of substances and products need to be taken into consideration, but so too do the possible risks for people and the environment. We respect legal requirements, and our voluntary commitment and internal standards go beyond these in a variety of areas. Bayer has put in place suitable directives and management systems to implement regulatory and voluntary product stewardship requirements. These are steered by our Public Affairs, Science, Sustainability & HSE Enabling Function and the quality functions of the divisions.

Our quality management systems are based on internationally recognized standards. For more information, please see Chapter 3.6 Crop Science and Chapter 3.8 Pharmaceuticals and Consumer Health. Some 75% of business activities (based on energy consumption of environmentally relevant sites) occur at sites certified to standards ISO 9001, ISO 17025 or ISO 13485.

3.2 Regulatory Conditions

Bayer's finished products, such as pharmaceuticals, crop protection products, seeds and biocides, are subject to very stringent regulations prescribing specific and detailed approval and registration procedures.

As a result, our products cannot be sold on the market until they have been approved by a competent authority or an official registration has been granted. As a condition of their approval, the prescribed efficacy and safety of the individual products must always be demonstrated as proven. An approval therefore only applies for a particular product with the formulation registered in the marketing authorization. Changes in the product composition (such as new formulations for crop protection products) require an additional approval or registration.

Where there is no dedicated crop protection legislation in a given country, Bayer has made a voluntary commitment to distribute only those crop protection products whose active ingredients are approved or registered in at least one OECD country to ensure that their safety has been adequately verified. For more information, please see Chapter 3.6 Crop Science.

Chemical regulations

In addition to regulating finished products, extensive statutory regulations also apply to the chemical substances handled by Bayer during product manufacture. Chemical substances are subject to the respective regional chemical regulations. These include REACH in the European Union, the Toxic Substances Control Act (TSCA) in the United

States and the Measures for Environmental Management Registration of New Chemical Substances (MEE Order No. 12) of the Ministry of Ecology and Environment (MEE) in China. To fulfill these requirements, we have formulated Group-wide and division-specific regulations.

Authorities, in the European Union for example, review the implementation of obligations resulting from chemicals legislation through regular inspections. To meet these obligations, we require our suppliers to acknowledge conformity with REACH for all substances they supply to us.

Besides the regular registration obligation, REACH can also entail an additional authorization procedure that can lead to the replacement of, or a ban on the use of, particularly hazardous substances (Substances of Very High Concern, SVHCs). Already registered substances are also regularly evaluated by the authorities. For Bayer substances this can result in additional testing requirements, new risk management measures or inclusion in the REACH authorization procedure. To date, only one Bayer substance has been affected, for which authorization has already been granted. The use of SVHCs, including and particularly in research and development at Bayer, is bindingly regulated by the Group Regulation on Assessment of Chemical Substances.

Under certain conditions, existing dossiers have to be updated under REACH. In 2019, as part of the voluntary action plan of the European Chemical Industry Council (CEFIC), we also committed to reviewing and updating all REACH registration dossiers by 2026 to comply with the latest requirements. We had reviewed and updated 66 dossiers by the end of 2023.

The requirements of MEE Order No. 12 in China are similar to those of REACH in the EU, although MEE No. 12 in China provides for greater grandfathering of products that are already on the market.

In the United States, all substances must be approved in accordance with the Toxic Substances Control Act (TSCA) and accompanied by the information required pursuant to the standard Hazard Communication (29 CFR 1910.1200) of the US Occupational Safety and Health Administration.

The classification and labeling of chemicals enables users to become informed about the risks associated with chemicals. Bayer implements the Globally Harmonized System (GHS) for the classification and labeling of chemicals worldwide.

Voluntary assessment of substances handled

We voluntarily apply comparable standards around the world, independent of the respective national legislation. For all handled substances with an annual volume of more than one metric ton that are not subject to the REACH regulation, we have (voluntarily) undertaken to successively provide comparable minimum data sets on ecotoxicology and toxicology. This data enables the hazard potential of all substances (> 99%) we use in quantities exceeding one metric ton per year to be assessed. By the end of 2023, we had assessed 96.5% (2022: 97.3%) of these substances.

3.3 Assessments and Testing

Our substances and finished products undergo extensive assessment and testing to ensure product efficacy and safety. We examine possible health and environmental risks along the entire value chain and use this to derive appropriate measures for mitigating risks.

The safety of our products is the top priority. As early as the research and development stage, we assess the properties of our active ingredients and all other substances that are contained in a product and could thus impact the properties of a finished product (e.g. additives that support the actual active ingredients). We discontinue the development of active ingredients with undesirable properties, applying the precautionary principle as defined in Principle 15 of the Rio Declaration of the United Nations and Communication [COM \(2000\) 1](#) of the European Commission. There should not be a unilateral focus on hazard potential, but rather on a balanced benefit–risk evaluation.

All active ingredients emerging from research are subjected to further extensive testing and assessments at the development stage that include (legally prescribed) animal studies. For more information, please see Chapter 3.4 Animal Welfare. We also conduct environmental risk assessments or implement risk management measures for our active ingredients subsequent to their registration. Moreover, we help to raise questions about the impact of active ingredients on the environment and to have them addressed through sound risk assessments and analyses.

We carry out the risk assessments for our substances according to recognized scientific methods such as those described in the Guidance on Information Requirements and Chemical Safety Assessment of the European Chemicals Agency (ECHA). Should the analysis reveal that the use of a certain substance is not safe, we take steps to mitigate risk. These can vary from revised application recommendations to substitution of a substance. In this case, a replacement that is economically and technically viable needs to be sought. The substitution of chemicals is basically a continuous task for the chemical and pharmaceutical industry in order to generate new or substantially improved products and processes. This is integral to our commitment to [Responsible Care™](#). The applicable assessment steps are established in a corresponding Group regulation.

Strict international and national laws and regulations also control the official approval and therefore development of crop varieties and plant traits and the recognition and commercialization of seeds and planting material. This also encompasses genetically modified seeds. We meet all regulatory requirements of the countries in which we distribute our crops. Extensive and intensive safety reviews of the environmental and health risks for people and animals are conducted at all stages in the development of genetically modified crops from early development onward. The results of these are incorporated into the approval/authorization procedures. Our Group regulations on the responsible use of genetic engineering and on biosafety, together with processes stipulated at Crop Science in the [Group Regulation on Product Stewardship Commitment, Principles and Key Requirements](#), supplement the legal and regulatory requirements.

Processes are established throughout the company to address inquiries about product safety or problems with products of ours that are already available on the market. This feedback is also integrated into our risk assessment. More information about the products of the Pharmaceuticals and Consumer Health divisions can be found under Pharmacovigilance (please see Chapter 3.8 Pharmaceuticals and Consumer Health) and about the (crop protection) products of the Crop Science Division in Chapter 3.6 Crop Science.

Information on substances and products

Bayer compiles safety data sheets for all chemical substances used, regardless of whether this is required by law. Safety data sheets are the central tools of communication for safety-relevant information about substances and mixtures in the supply chain. Targeting professional users, they contain information on a substance's properties and on using it safely. In addition, technical information is provided for professional use.

Appropriate packaging information is provided for all end consumer products, an example being package inserts for pharmaceuticals.

In accordance with the respective product safety and information obligations, we compile product information for raw materials, intermediates, and end products, and make this information available across the company worldwide.

Commitment

We are actively engaged in product stewardship activities through our work in relevant associations and initiatives. Since 1994, Bayer has supported the Responsible Care™ initiative of the chemical industry and the associated Responsible Care™ Global Charter. We participate in the further development of scientific risk assessment and are involved in several associations – such as the European (CEFIC), US (ACC) and international (ICCA) chemical industry associations and the OECD – and in initiatives such as the European Centre for Ecotoxicology and Toxicology of Chemicals (ECETOC).

Principles of Green Chemistry

Bayer's approach in the production of our crop protection products can be compared to the principles of Green Chemistry as follows.

Prevention; Atom Economy & Solvents and Auxiliaries: Our production processes for complex chemicals are intended to reduce inputs and to use solvents and auxiliaries as best as possible. Also, processes to recycle solvents are used. This inherently reduces chemical waste. Comprehensive waste management processes are in place. Please see Chapter 8.4 Waste and Recycling.

Chemical Syntheses & Designing Chemicals: Our crop protection products are subject to very stringent regulations prescribing specific and detailed approval and registration

procedures. Potential impacts of crop protection products on the environment and on human safety are diligently assessed in the research and development (R&D) process, starting in early development, and are also part of regulatory approval processes. Moreover, our researchers are working on the discovery of new molecules aimed at further reducing unintended and detrimental environmental effects. Our production processes and synthetic methods are designed to only produce these products and to inherently reduce unintended chemical products and waste. Please see Chapter 3.6 Crop Science – Research and development (R&D).

Design for Energy Efficiency: Our production processes are intended to use energy efficiently. In line with our targets for reducing greenhouse gas emissions, we are switching our sites to 100% renewable electricity by 2029. Please see Chapter 7. Climate Protection.

Use of Renewable Feedstocks: In our production processes, Bayer makes use of chemicals produced by other companies. The use of chemicals based on renewable feedstock is currently limited to, for example, palm oil derivatives. In many cases, the quantities of chemicals needed for our processes are not yet available in the markets. Our procurement screens the markets and, whenever available, technically feasible and economically comparable, we assess the use of chemicals based on renewable feedstock. Please see Chapter 4. Procurement.

Design for Degradation: Our crop protection products are subject to very stringent regulations prescribing specific and detailed approval and registration procedures. We investigate the fate and effects of the molecule itself and also of its degradation products in the different compartments of the environment and for a large variety of animal and plant species. Please see Chapter 3.6 Crop Science – Research and development (R&D).

Real-time Analysis & Inherently Safer Chemistry for Accident Prevention: Our production processes are designed to be as low-risk as possible. This includes real-time, in-process monitoring of chemical processes, as part of our management of production processes. We also examine the applicability of principles of inherently safer design and the feasibility of a sound safety concept at a very early stage in the development of new production processes. High standards and a comprehensive management system for process and plant safety are in place and audited regularly by our HSE audit function. Please see Chapter 9.4 Process and Plant Safety.

3.4 Animal Welfare

Animal studies are legally required and essential from a scientific viewpoint to assess the safety and efficacy of our products. We aim to minimize the use of lab animals and to employ alternative methods whenever possible.

At Bayer, all employees involved in animal testing bear responsibility for animal welfare. Responsibility lies in particular with the animal welfare officers and the animal welfare committees. The requirements are subject to the laws of the respective country. We respect all legal requirements pertaining to animal welfare, compliance with which is verified both by regulatory authorities and by means of internal audits. To ensure that this is the case, clear processes and rules are defined at Bayer. In addition, Bayer applies its own principles on animal welfare and animal studies, which are specified in a Group regulation. Our principles also explicitly apply to the contract research organizations (CROs) we commission and to our suppliers, whose compliance with our animal welfare requirements we regularly review. We monitor compliance with these principles within the Bayer Group and in external studies.

More than 90% of the animal studies performed by Bayer and the contract research organizations (CROs) we commission are in compliance with European standards ([Directive 2010/63/EU](#)). These EU standards are considered to be among the strictest animal welfare regulations in the world and ensure extensive protection for animals. We view it as particularly important that the sizes of cages housing our study animals meet the legally prescribed standards, or even exceed them. Additionally, for those research institutes (CROs) we commission to perform animal studies outside of Europe, we place great value on accreditation to [AAALAC](#) (Association for Assessment and Accreditation of Laboratory Animal Care).

Through regular inspections, we ensure that both new and longstanding research partners are regularly audited with respect to compliance with our animal welfare requirements.

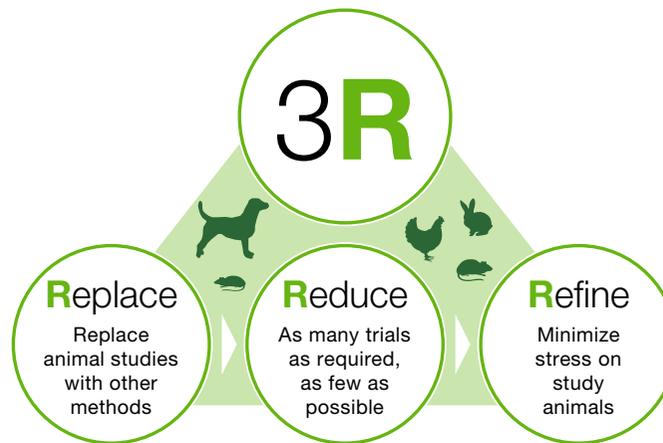
Commitment to reducing animal studies

In early active ingredient screening, Bayer continuously establishes different computer-based and in-vitro processes that help reduce the number of animal studies or the impact on animals in subsequent testing. Included in this are our activities in connection with organ-on-a-chip, a biochip method used to investigate the behavior of complete organs in vitro. In this context, Bayer has since established several organ systems and platforms that are deployed for both toxicological and pharmacological issues.

In 2023, too, we actively participated in internationally renowned consortia, projects and validation programs geared toward achieving replacement methods. Bayer currently sponsors four projects of the United Kingdom's National Centre for the Replacement, Refinement & Reduction of Animals in Research (NC3R). The [IMI-eTRANSafe](#) project

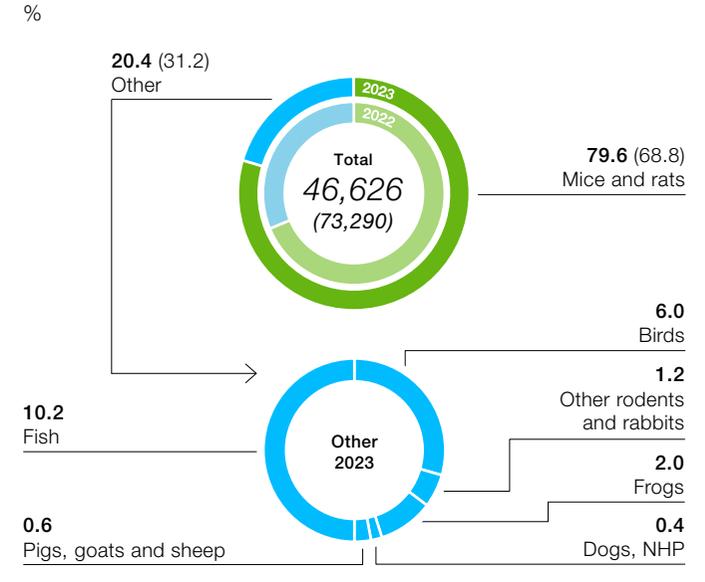
that concluded in February 2023 culminated in an industry consortium that examines the extent to which control animals in toxicological studies can be replaced through the simulation of virtual control groups using existing data sets. The concept has already been discussed with the European regulatory authority (the European Medicines Agency – EMA) and, in the United States, the Food and Drug Administration (FDA). This could reduce the number of animal studies by up to 25% in the medium term.

3Rs Principle



Applying performance indicators, we analyze the development of animal numbers, the distribution according to species and the impact on our test animals each year, while evaluating studies and discussing possible steps in accordance with the [3Rs principle](#) (replace, reduce, refine).

Study Animals by Species 2023 (2022)



The total number of study animals used in 2023 (including animals in Bayer studies performed by contract research organizations) was 46,626, compared with 73,290 in 2022.

3.5 Protection against Product Counterfeiting

Product counterfeiting is an enormous problem worldwide, particularly due to the increase in e-commerce. We endeavor to resolutely and effectively prevent counterfeiting so as to ensure our customers have access to our safe and effective original products, to protect our innovations and intellectual property rights, to reduce potential financial damages for Bayer and to safeguard the company's reputation.

The basic principles of our strategic actions against counterfeit or otherwise illegal products and the corresponding organizational implementation for all divisions are defined in a Group regulation.

Product counterfeiting can only be addressed internationally through a joint approach by industry, associations, government agencies and nongovernmental organizations. We advocate the resolute application and, where necessary, the tightening and expansion of existing laws and provisions that serve to enable the identification and confiscation of illegal products. We support these efforts through extensive measures of our own in the areas of production and packaging development that are designed to also enable our customers to distinguish original products from counterfeits.

Crop Science

The production, transport, trade and use of counterfeit crop protection products and illegal seeds are mainly steered by globally organized criminal networks. Online retail is becoming increasingly important for the distribution of these products. Illegal or counterfeit crop protection products are estimated to account for up to 15% of products sold, while illegal seeds make up as much as 10% of products sold.

The use of counterfeit crop protection products poses a high risk for human health and the environment (including agriculture and biodiversity) because their contents do not correspond with those of products formulated by Bayer and approved by the regulatory authorities, and prohibited active ingredients are even often used.

Counterfeit seeds do not possess the traits chosen by farmers upon purchase. The use of counterfeit seeds results in lower harvest yields and inferior produce quality. Illegal seeds increase the risk that insect pests and diseases will develop resistances. The use of counterfeit crop protection products and illegal seeds therefore can also jeopardize the safe and reliable production of food.

Innovative packaging technology: SafetySeal and Seal Scan app

It is becoming increasingly difficult for users of crop protection and seed products to distinguish between an original and a counterfeit product. Against this background, Bayer is the first producer of crop protection and seed products to enable farmers to clearly identify original products through SafetySeal technology. The seal has optical security features and a QR code that users can scan with the interactive Seal Scan smartphone app to obtain a reliable statement about the product's authenticity. The SafetySeal is found on the packaging of all Bayer crop protection products that are filled in containers and sold in the Europe/Middle East/Africa and Latin America regions. The SafetySeal was also introduced in the solids packaging of selected crop protection products for the Egyptian and Turkish markets.

Since 2022, the SafetySeal has also been applied to seed bags for corn and oilseed rape/canola filled in Europe. In 2023, the use of SafetySeal was expanded to sunflower seed bags in Europe.

In 2023, we further expanded this technology for seed products and started the introduction of the SafetySeal on corn seed packaging in Brazil and North Latin America (NORLA). Projects to introduce the SafetySeal on corn seed packaging in Africa as well as on vegetable seed packaging worldwide were also further advanced.

We support association initiatives and work closely with crop protection and law enforcement authorities to prevent the introduction of counterfeit products to the market by criminal networks. Our activities in the area of crop protection products are focused on cooperation with the Chinese authorities to identify counterfeit products in the counterfeiter's production facilities already and confiscate them prior to their export from China. In 2023, we identified patent and trademark infringements in China, India and Brazil, and successfully asserted our rights.

We are confronted worldwide with an increasing incidence of illegal or counterfeit seeds. We therefore further expanded our internal and external action network and our globally coordinated activities to combat illegal practices in the seeds business in 2023. In close cooperation with local authorities, we seized significant amounts of illegal seeds, in Brazil for example, and asserted our rights against the counterfeiters.

Counterfeit products, and especially counterfeit crop protection products, are transported on a large scale by ocean freight. That's why Bayer has been cooperating with leading shipping companies for a number of years to jointly identify

counterfeit and illegal products, prevent their transport and notify the responsible authorities for further prosecution. In addition, we participate in a cross-industry alliance with companies from various sectors.

In cooperation with the United Nations Office on Drugs and Crime (UNODC) and its Container Control Programme (CCP), and also with the World Customs Organization (WCO), we offer training measures for customs authorities in the world's biggest seaports. These activities are aimed at enabling customs officers to reliably distinguish genuine Bayer products from counterfeit products based on packaging features and other criteria, and thus detect and confiscate counterfeits more easily. Bayer supports the work of the OECD as regards the issue of misuse of containerized shipments for illicit trade.

We conduct our own inspections in the market worldwide and keep a record of all signs of suspicious and potentially counterfeit or illegal products.

The use of tested and approved inputs such as seeds, crop protection products and fertilizer is an essential condition for sustainable agriculture. Bayer therefore offers training events for farmers around the world – including smallholder farmers in low- and middle-income countries (LMICs) – on the issue of product counterfeiting. The training measures convey to farmers what dangers are harbored by counterfeit seeds and crop protection products, how to distinguish between genuine Bayer products and counterfeits, and what general measures protect against the unintended use of counterfeit products. These training courses are combined with our stewardship training measures within the scope of sustainable use (please see Chapter 3.6 Crop Science).

We also provide our customers with extensive information on counterfeit and illegal crop protection products and seeds on our [Counterfeits in Agriculture website](#), including on how to identify counterfeit products, what risks they are associated with and how farmers can protect themselves against unintentional use of counterfeits.

Pharmaceuticals and Consumer Health

Counterfeit products that imitate the medicines of our Pharmaceuticals and Consumer Health divisions harbor considerable risks for patients and consumers. For this reason, Bayer has established binding regulations in its uniform Group-wide quality management system for reporting, registering, investigating and escalating potential pharmaceutical counterfeiting. Together with the responsible pharmaceutical regulatory authorities, we initiate the necessary measures based on investigation results and the severity of each case. These measures range from notifying business partners and medical specialist groups to recalling products impacted by counterfeiting at the appropriate recall level.

In addition to the process established in the quality management system, we have introduced a data management tool for the corporate security and legal functions. This enables assessments and reports to be compiled on activities by law enforcement authorities relating to pharmaceutical counterfeiting that were triggered by information and analyses we submitted.

Through the [Beware of Counterfeits](#) campaign, Bayer is actively addressing the problem of counterfeit pharmaceuticals. The website of the same name contains information on the risks of counterfeit pharmaceuticals and offers tips on how patients can protect themselves against counterfeiting. Maintained in coordination and close cooperation with the responsible pharmaceutical regulatory authorities in Germany

and abroad, the website also provides information on actual pharmaceutical counterfeiting incidents and explains how patients can distinguish the counterfeit items from our original products.

Safety features for medicinal products

Bayer protects medicinal products worldwide in accordance with the regulatory and statutory requirements of each country, including those defined by the European Falsified Medicines Directive. This EU Directive 2011/62/EU with its Delegated Regulation (EU) 2016/161 specifies requirements and measures for the inspection and verification of original pharmaceuticals. These include mandatory safety features on outer packaging, which Bayer has used for its prescription products since 2019.

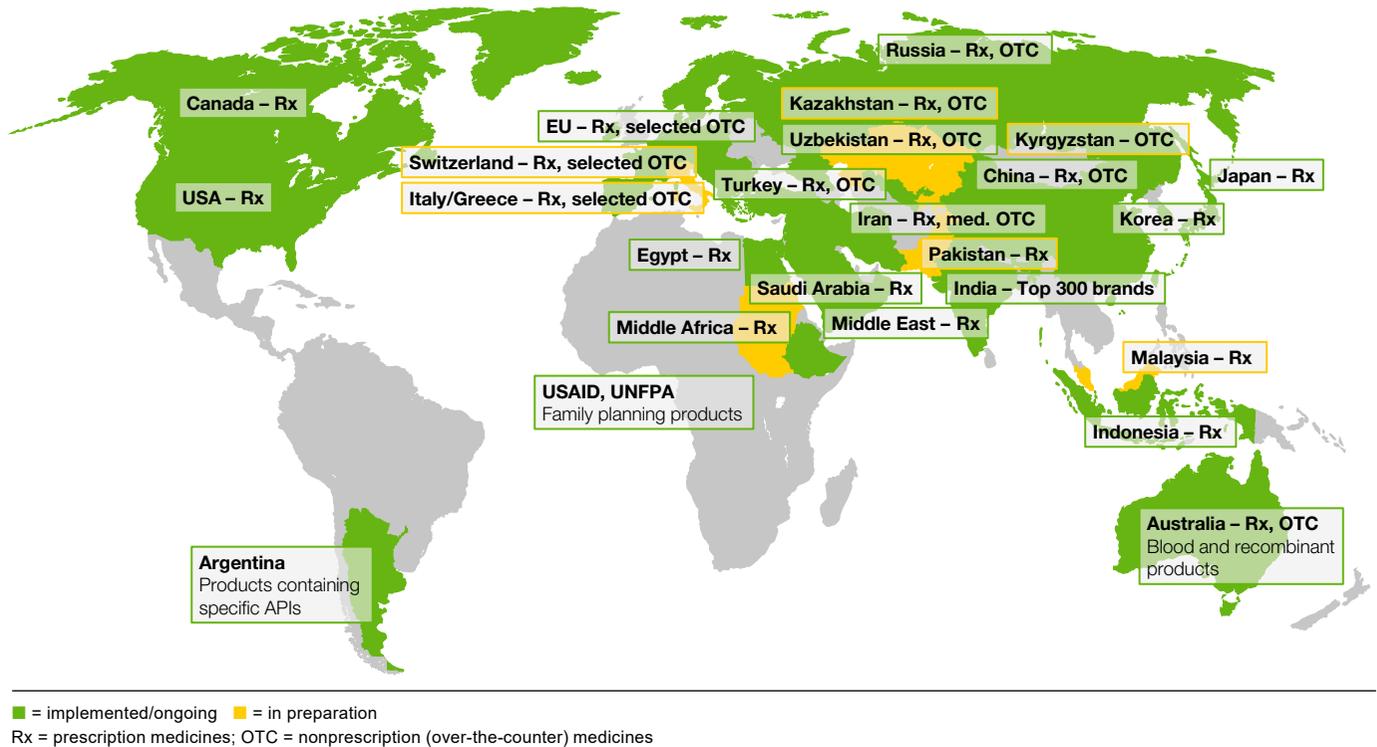
Safety features in the EU comprise two elements – an individual 2D data matrix code and a tamper-evident closure. Featuring individual serial numbers, the data matrix codes are stored for coding in country-specific databases across the EU. Wholesalers and pharmacies can verify the products' authenticity simply by scanning the code.

Together with the other stakeholders, we continued working with the European Medicine Verification Organisation (EMVO) to create a European Alert Management System (EAMS). An initial version of the EAMS was activated for use at the beginning of February 2023. The EAMS enables direct communication between all participants connected to the system, thus ensuring simpler and faster analysis of the alarm signals generated in the system to identify potential product counterfeiting cases. The very low number of actually confirmed counterfeit products can thus be more quickly identified, their dispensation stopped and warnings issued to protect patients.

It will be possible to link existing national alert management systems with EAMS, thus enabling complete pan-European integration. The national alert management systems in Austria, Belgium, Cyprus, France, Germany, Ireland, Poland and Slovenia are currently productively linked with the EAMS, with further national systems expected to be connected in the coming years. In 2023, Bayer contributed to further developing the EAMS to optimize the effective and efficient use of an improved version of the system that went live for all users in November 2023. We are currently analyzing the processes to be adapted so that the existing alert processing procedure can be transitioned to the EAMS in early 2024 and its benefits leveraged for Bayer and all other market participants.

Safety features such as codes with individual serial numbers are also used in many other countries. The graphic “Serialization and Coding Requirements Worldwide” gives an overview of this. In other countries, such as the United States, these safety features are implemented for pharmaceutical manufacturers, and their mandatory use is being successively expanded to include additional market participants in the distribution chain. A complete track and trace system has been implemented in the United States since November 2023. To ensure that all market participants, especially those along the distribution chain, have implemented the requirements, the US Food and Drug Administration (FDA) specified a further transition period of one year, during which no actions will be taken, should all measures not yet be implemented in the distribution chain. Bayer punctually introduced and fulfilled all legally specified regulations and processes in connection with the serialization for pharmaceutical producers.

Serialization and Coding Requirements Worldwide



Bayer supports and monitors serialization and coding requirement measures worldwide with the goal of ensuring standardized protection of patients against pharmaceutical counterfeiting in as many countries as possible.

In conjunction with regulatory and statutory requirements, we have voluntarily employed tamper-evident closures for nearly all our prescription medicines and also many of our nonprescription products for years now to prevent packaging manipulation.

In addition, we deploy a combination of overt and hidden authentication features that to some extent offer the same level of security as the features used in bank notes and identification documents. In this connection, further suppliers of packaging materials into which the security features are integrated were additionally and specifically qualified in 2023, including in Poland and Italy. This also involves an authorization by the licensor of the high-security feature deployed. The training for further packaging material suppliers in Japan, Spain, Switzerland, the Czech Republic and Hungary began in 2023.

It is important to enable the local supply of counterfeit-proof packaging materials, in part because this can strengthen local suppliers, reduce the risk of problems such as losses in the distribution channel and shorten transport routes. This in turn allows us to reduce transport-related greenhouse gas emissions while strengthening the resilience of the supply chain.

Defense against illegal products on the internet

To ensure the safety of patients and customers and protect our products, we work together with other companies in the fight against illegal pharmaceutical product offerings on the internet, such as on marketplaces and social media channels. Through a joint project of the [Pharmaceutical Security Institute](#) in 2023, we succeeded in shutting down about 140 illegal websites and identifying more than 450 impermissible offers worldwide on marketplaces such as Shopee, Tokopedia, IndiaMart and Mercado Libre and on social media platforms such as Twitter, Facebook, Instagram and Pinterest. The success rate in terminating illegal offers was 77% in 2023.

Together with other members of the European Federation of Pharmaceutical Industries and Associations ([EFPIA](#)) and through the European Alliance for Access to Safe Medicines ([EAASM](#)), we advocate for a comprehensive change in the legal foundations of and obligations on internet players. Of outstanding importance was the amendment to the Digital Service Act (DSA), which was adopted by the European Parliament in July 2022. The provisions of the DSA highlight possible approaches for further improvement and added security in online retailing that we have identified together with other impacted parties via the EAASM, the ASOP EU

(Alliance for Safe Online Pharmacy) and of the EUIPO (EU Intellectual Property Office).

We also support the “Memorandum of Understanding (MoU) on the sale of counterfeit goods on the Internet” initiated by the European Commission.

For many years now, we have served on the Executive Board of the EAASM so as to educate patients about the dangers of purchasing drug products on the internet. We provide information on the associated risks and consequences through information campaigns, research projects and publications.

We are also actively involved in the [Pharmaceutical Security Institute](#), an alliance in which pharmaceutical companies provide mutual support in detecting and countering product-counterfeiting-related crimes.

In 2022, Bayer became a member of TAPA EMEA, the European branch of the Transported Asset Protection Association (TAPA), to further increase the resilience of our distribution chain as regards additional risks posed by theft and misappropriation. This gives us access to specific analyses of identified dangers and risks in the distribution chain and during transport, enabling us to examine the potential of possible defense mechanisms for implementation and their usability in our distribution chain.

Example: Zam-Buk™ in South Africa

For Zam-Buk™, which Bayer markets in South Africa, counterfeits were discovered that bore the batch designations of original Bayer products.

Internal searches and the deployment of a service provider in combination with training courses for customs authorities led to findings on the potential perpetrators and the counterfeit products' origins. The supply of these counterfeits originating in China was almost completely halted following raids involving product seizures and arrests in China.

This largely purged the South African market of counterfeit products, protecting patients, and counterfeits of Zam-Buk™ since then have only appeared occasionally, with these cases being dealt with in the same manner. At the same time, Bayer's Zam-Buk™ sales in South Africa have increased by more than 80%.

3.6 Crop Science

Before crop protection products and technologies can be introduced to the market, it must be demonstrated that their label-compliant use is without harm for humans and does not expose people or the environment to an unjustifiable risk. They therefore require official approval, which is governed by numerous international and national laws and regulations. We test products in compliance with the applicable official regulations and perform extensive risk assessments. We also observe the import regulations for the importing countries and acquire product approvals in countries in which the products are to be marketed.

Management approach

Responsibility for product stewardship in Bayer's Crop Science Division lies with the divisional function of Strategy and Sustainability, which reports directly to Bayer's Crop Science Executive Leadership Team (ELT), the highest decision-making body within the division. The ELT is led by the head of Bayer's Crop Science Division, whose position makes him a member of the Board of Management of Bayer AG.

Bayer works continuously to improve its products and develop solutions for more sustainable agricultural practices. The focus is on optimizing product benefits, including safety for people and the environment, and applying the findings from product monitoring. For us, product stewardship is a life cycle approach that begins at the research and development stage of a new product, continues through its production, marketing and safe use, and ends with the final disposal of any waste.

We have specified our principles of responsible product management in our [Group Regulation on Product Stewardship Commitment, Principles and Key Requirements](#). This is based on established and internationally recognized standards such as the International [Code of Conduct on Pesticide Management](#) issued by the Food and Agriculture

Stewardship Measures



Organization of the United Nations (FAO) and the World Health Organization (WHO), the guidelines of the crop protection association [CropLife International](#), and the guidelines of the industry initiative [Excellence Through Stewardship](#) (ETS) for seeds and plant traits. This initiative promotes, for example, the introduction of product stewardship programs and quality management systems for seeds throughout the entire life cycle and entrusts independent outside experts with the performing of audits to verify that member companies are complying with its guidelines. Our plant biotechnology sites in South Africa were recertified for the product stewardship programs in 2023.

For more information on our commitment to smallholder farmers in low- and middle-income countries (LMICs), please see the Sustainability Strategy chapter.

Online transparency platform

Transparency is very important to Bayer, especially with respect to the safety of our products. Through transparency, we aim to strengthen our customers' and stakeholders' confidence in our products. Bayer was the first company in the agriculture industry to make safety-relevant data on crop protection products and genetically modified crops accessible. Summaries of scientific studies assessed by the European Food Safety Authority (EFSA) in connection with the registration procedures for 30 of our crop protection active ingredients are available on our [online transparency platform](#), including toxicological and ecotoxicological studies and investigations into degradability. There, we have also published summaries of scientific studies for 16 biotechnology traits within our seeds business that were previously evaluated by the responsible regulatory authorities in the United States. Comprehensive reports on the registration studies for the approval of

our crop protection products and genetically modified crops are available on specific request.

In addition, we facilitate access to information – including official documents and data – on the procedure for granting emergency authorizations for crop protection products, including why this process is so important for European agriculture.

We present our principles for responsibly handling our products throughout their life cycle based on our [Group Regulation on Product Stewardship Commitment, Principles and Key Requirements](#) in the sections below.

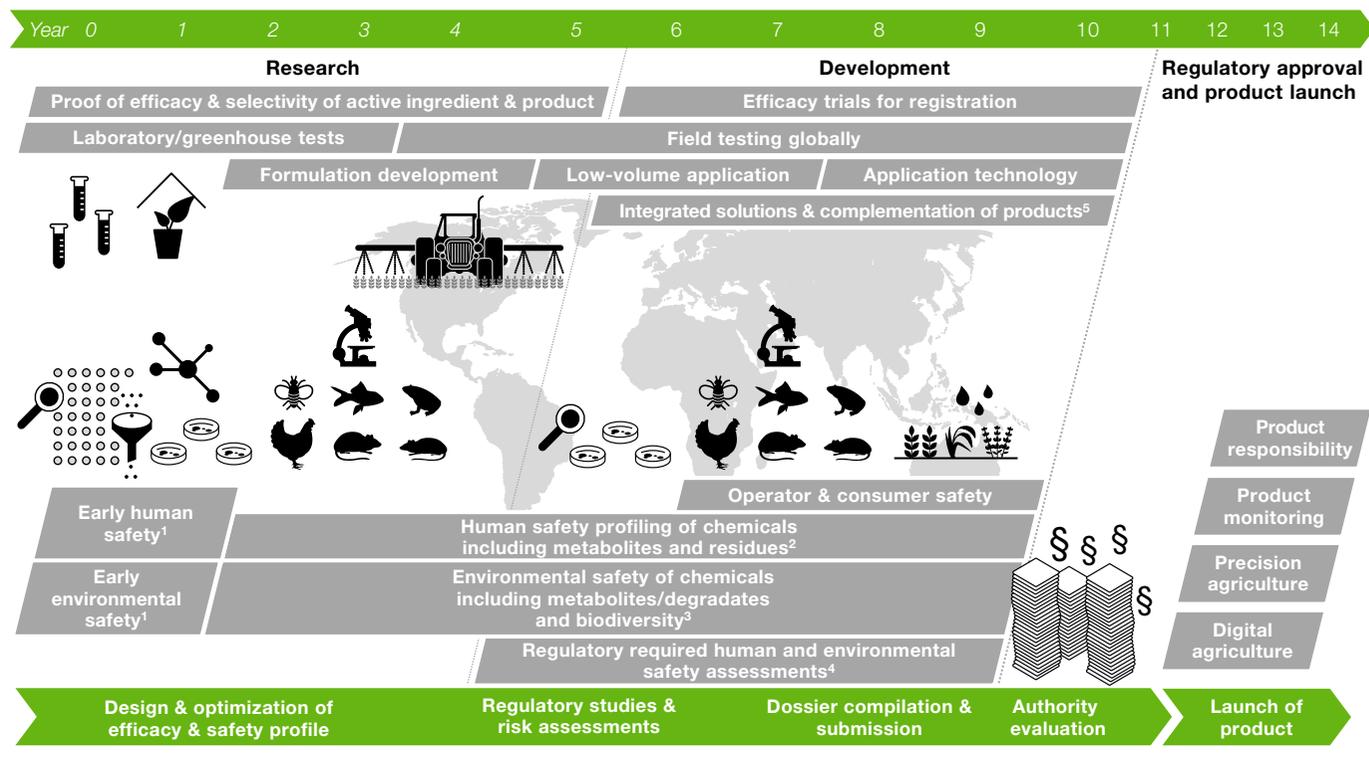
Research and development (R&D)

We use the latest knowledge and technologies to develop products and services so that we can continuously optimize their efficacy and safety for people and the environment.

As part of the testing process, chemical and biological crop protection products are examined early in the development phase with regard to their mode of action, their (eco)toxicological properties and the extent of potential residues in plants and the environment to ensure that we only continue to develop those products with the best safety profile. It usually takes 12 to 14 years to develop a new active ingredient for crop protection products.

Development and in-licensing projects for crop protection products whose toxicology is classified as World Health Organization (WHO) class 1a or 1b, or that do not meet the OECD (Organisation for Economic Cooperation and Development) Guidance for Pesticide Registration, will not be pursued. In all other cases, further activities and refined risk assessments are performed. This enables selection and implementation of the right projects in a sustainable manner

Research & Development Process for Crop Protection Products



¹ Including in-vitro screening and in-silico approaches (including on nonbioaccumulation)

² Including in-vitro and in-vivo studies (mammals) on acute, subchronic, chronic toxicity; mutagenicity, carcinogenicity, teratogenicity, reproduction; endocrine disruption, residues (e.g. plants, animals); dietary and nondietary risk assessments

³ Including risk assessments and research on biodiversity & ecosystems, as well as acute and long-term effect investigations on nontarget organisms, e.g. on algae, daphnia, fish, birds, bees, soil organisms, plants; environmental behavior in soil, water and air; endocrine disruption; drinking water

⁴ Including data from previous research and in addition the regulatory-required safety studies & assessments, e.g. in/on nontarget organisms, environmental behavior & corresponding environmental exposure, metabolism and degradation in plants & animals, residues, acute, subchronic, chronic toxicity in mammals, endocrine disruption

⁵ Integrated solutions; complementation with nonchemical and biological solutions

and makes the best use of available resources in research and development.

Each R&D project must undergo a thorough safety assessment as defined by the respective regional and country regulatory environments following a risk-based approach that

often exceeds these country requirements – particularly in low- and middle-income countries (LMICs). This risk-based approach takes account of local agronomic use conditions in LMICs, especially common local application techniques that are not widespread in Europe or the United States (e.g. manual application of crop protection products in dense

crop scenarios). For these scenarios, we have developed relevant exposure models globally that consider these actual use conditions. They are consistently applied before triggering development work for new products. R&D projects that we do not consider safe under the current use conditions will not be pursued further. The development of genetically modified seeds is also subject to extensive international guidelines and stringent national laws and regulations.

We have specified internal processes in a Group regulation to ensure a responsible approach to biotech-based manufactured products throughout their entire life cycle. For more information on plant breeding and genetically modified seeds, please see the Focus on: Agriculture chapter.

CropKey – using AI and machine learning in R&D

CropKey, our novel and innovative approach to crop protection chemistry allows us to achieve unprecedented levels of precision, safety and sustainability. Our ambition is to unlock new ways to protect our crops, going above and beyond current standards, and to potentially further reduce the impact of crop protection on the environment substantially.

In a scientific process called Target Based Discovery, CropKey uses AI (artificial intelligence) and machine learning – the subset of AI that uses algorithms to find patterns in data – to single out specific proteins present in the make-up of pest species far faster and with greater accuracy than ever before. These unique proteins can be thought of as “locks.”

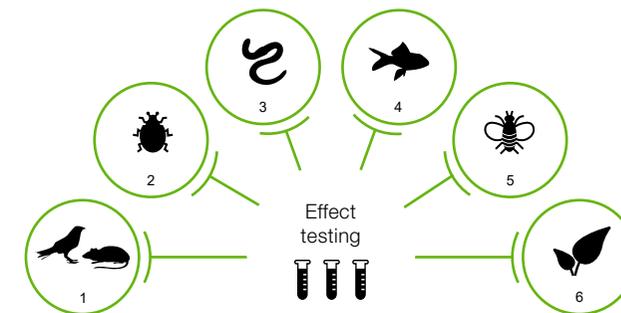
Using computational predictive modelling, we are designing the crop protection molecule according to pre-defined safety and sustainability profiles that will inhibit the identified target protein – a process called Profile Driven Discovery. The molecule designed can be thought of as a precise “key” for the unique “lock.” The uniqueness of the lock and the precision of the key means that other nontarget species are protected.

Environmental safety

We take aspects of environmental safety into account very early on in the process of designing a new active molecule for a crop protection product. This includes the design of active molecules that can degrade in the environment in the spirit of “safe by design.” Therefore, our 270 specialized researchers globally conduct experiments in vitro, in vivo, in the lab and in the field. Our studies are conducted according to internationally agreed test guidelines (e.g. OECD) or under Good Laboratory Practices (GLP), which ensures the best possible study quality, reliability, documentation and traceability. We also use scientific literature, biomonitoring data and computer models.

We investigate the fate and effects of the molecule itself and also of its degradation products in the different compartments of the environment and for a large variety of animal and plant species. Combining the results from effect and exposure level testing, we can quantify the environmental risk.

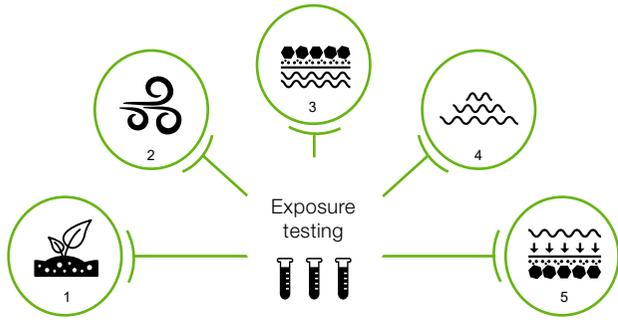
Effect Testing (ecotoxicology)



- ¹ Birds & mammals: acute (mortality) and chronic (reproduction) effects on birds and mammals from exposure to residues in feed items
- ² Nontarget arthropods: effects on survival and reproduction for arthropods like beetles, spiders and mites – both in the field and in field margins
- ³ Soil organisms: acute and chronic effects on earthworms, soil macro-organisms (e.g. soil mites) and micro-organisms (bacteria)
- ⁴ Aquatic organisms: acute and chronic effects on all levels of aquatic food chain/web – algae, plants, invertebrates and fish
- ⁵ Bees: mortality of individuals as well as honeybee colony health after oral and contact exposure for honeybees and – if required – other bee species
- ⁶ Nontarget plants: effects on seeds and young plants outside of the cropped field

// Testing of side-effects on the environment (ecotoxicology): Toxicity to different species is tested – usually we look at up to 60 species from different trophic levels and taxonomic groups that are sensitive to chemicals, widespread and representative of the biology and ecology of other species. To protect them, we investigate effects of our technologies on their survival, development, growth, behavior and reproduction.

Exposure Testing (environmental fate)



- ¹ Soil: time it takes until a substance is degraded; adsorption and desorption studies describe the immobility or mobility
- ² Air: volatility of a substance to check its potential to evaporate into the air
- ³ Groundwater: likelihood and concentration level of active ingredient or its metabolites reach groundwater
- ⁴ Surface water: degradation and distribution of active ingredient or its metabolites in surface water bodies
- ⁵ Sediment: degradation and distribution of active ingredient or its metabolites in sediments

// Exposure testing (environmental fate): Laboratory and field experiments as well as model calculations and monitoring programs are used to investigate and understand the distribution of substances between the different environmental compartments (soil, groundwater, surface water, air and sediments), how and how fast they degrade and which metabolites they form. Identified metabolites are investigated in the same way to understand their environmental fate, too.

Using this scientific data, we evaluate the risks of the product, and we define the conditions under which the products can be used safely. These conditions are written in the product label, which are the instructions a grower needs to follow when using our products. The product will cause no unacceptable harm to the environment (as defined by the specific protection goals set by the regulators) if it is used according to this label. We support farmers worldwide in the professional handling of our products. For more information about this, please see our [website](#).

Around the world, regulatory authorities systematically check our data, risk assessments and labels, and perform their own risk evaluation before they authorize (or do not authorize) a product to be launched on the market. In the EU, a typical dossier for the registration of a new active molecule consists of 130 studies on ecotoxicology and 20 studies on environmental fate.

In most countries, the safety of our products is re-evaluated by authorities (every 10 to 15 years) in view of the latest status of science and regulations. This allows us to progressively withdraw old chemicals from the market and replace them with new products with an improved safety profile. For crop protection products over the past three years (2020–2023), we conducted more than 1,600 studies on ecotoxicology and around 270 studies on environmental fate.

Human safety

We apply the evaluation criteria of our [Bayer Crop Protection Safety Standards](#) as well as stewardship measures to ensure that our crop protection products are safe when used according to label instructions.

Since 2021, we have shared our crop protection safety standards on our [website](#). Our voluntary standards reflect the guidelines and standards of international organizations such as the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO) and the Organisation of Economic Cooperation and Development (OECD), as well as those of reference regulatory authorities around the world. These safety standards use information on the toxicological profile of the active ingredients and crop protection products, their behavior during and after use, and potential exposure of humans or the environment. They evolve continuously based on the latest scientific knowledge, and we invite internationally respected researchers from academia and other expert groups to review them.

As part of our commitment to ensuring globally consistent safety standards for our crop protection products, we also published our [Bayer Safety Standard for Operator Safety](#), which we apply in the risk assessment of our crop protection products. The operator safety standards and the associated data acquisition exceed local regulations in many countries. Here, we particularly consider specific use and application scenarios that are mostly relevant in LMICs. In 2021, an [expert review panel](#) was held with external scientists.

Studies and regulatory approval

Our Group Regulation on [Bayer Societal Engagement](#) (BASE) Principles sets out the principles of Good Scientific Practice, especially in relation to the transparency of studies conducted including publication and collaboration.

Before a crop protection product is approved for use on the market, safety studies must be conducted in accordance with scientific principles and quality standards mandated by regulatory agencies to safeguard the health of people, animals and the environment. Usually, more than 150 different studies are required to evaluate and demonstrate the safety of a crop protection product.

These studies are conducted using the services of renowned and accredited service providers that work according to Good Laboratory Practices (GLP) and follow internationally approved guidelines. GLP are principles outlining how safety studies are planned, performed, monitored, recorded, reported and archived to maintain the quality and integrity of study data that supports regulated products.

Sponsorship is disclosed on the cover page of the study reports that are part of the regulatory dossier submitted to authorities. Regulatory authorities such as the US Environmental Protection Agency (EPA) conduct independent audits on companies' processes, test facilities and studies to confirm compliance with GLP standards.

OpenLabs

Through the [OpenLabs program](#) initiated in 2020, we offered the public the opportunity to visit our site in Monheim, Germany, to observe our scientists as they carry out a safety study. Due to the COVID-19 pandemic, we replaced the Monheim onsite visitor program with a new virtual visitor platform, [Bayer OpenLabs 360°](#), which allows visitors to observe how we collect data on the safety of our crop protection

products by complying with guidelines and with Good Laboratory Practice (GLP) at any time and from anywhere in the world. Since its launch in 2022, the Bayer OpenLabs 360° platform and related online events have enabled our scientists to engage with visitors and answer their questions live.

Approved products

In general, operator safety, consumer safety and environmental safety studies have to be submitted if crop protection products are subject to reapproval or reregistration across the globe. Our portfolio contains more than 300,000 uses of crop protection products. However, not all countries' regulatory systems apply sufficiently stringent risk assessment in our opinion.

For that reason, we have undertaken of our own accord to successively screen all uses beyond the legal requirements against our own high voluntary standards of user safety. We began a systematic evaluation in 2020.

In a stepwise approach, we started with substances that have lower toxicological thresholds and high sales volumes. This screening includes checks on operator safety of use under actual, local working and agronomic conditions. We also check the label instructions for safe use of the crop protection products to ensure compliance with our safety standards.

Production, packaging, storage and transport

Health, safety, environmental protection and quality are a top priority for Bayer at all its sites around the world, including the sites where crop protection products or seeds are produced.

A health, safety and environmental protection (HSE) management system with uniform standards applies Group-wide. For more information, please see Chapter 8. Environmental Protection. Product manufacture at our sites is performed according to the quality management standard ISO 9001. As with our suppliers, we expect our third-party producers to conduct their business with Bayer in accordance with the requirements of our Supplier Code of Conduct. For more information, please see Chapter 4. Procurement.

Labeling and packaging

To ensure safe use, crop protection products must be labeled. The [FAO Guidance on Good Labelling Practices for Pesticides](#) (FAO Guidance) and the underlying Globally Harmonized System (GHS) for classification and labeling of chemicals are the relevant and acknowledged international standards.

At Bayer, overarching and uniform requirements regarding labeling and packaging of crop protection products are included in our Group Regulation on Product Stewardship Commitment, Principles and Key Requirements, among other regulations. Our product labels follow the FAO Guidance and the GHS and also comply with local regulatory requirements for classification and labeling. In countries where there are no specific requirements for labeling, our crop protection products are classified and labeled in accordance with the FAO Guidance and the GHS. When local regulations deviate from the FAO Guidance and the GHS, we use this reference to advocate for label improvements whenever possible.

Packaging materials used for crop protection products are certified according to [UN Transport of Dangerous Goods Model Regulations](#). These refer to the mechanical stability

of the packaging as well as the compatibility of the packaging material with the contained chemicals. Packaging is registered in the countries of sale according to the locally required regulations.

We also ensure that our products are stored and transported according to the applicable legal and regulatory requirements. For more information, please see Chapter 9.2 Occupational Safety – Transportation and storage safety.

Marketing, sale and distribution

Our [Corporate Compliance Policy](#) sets out the principles that apply to all Bayer employees throughout the Group worldwide. Moreover, our Group Regulation on Bayer Societal Engagement (BASE) Principles establishes how we interact worldwide with various stakeholders.

Marketing and sales

We are committed to ethical marketing and sales practices that meet the standards set by external regulations and codes of practices, in particular the laws and regulations dealing with advertising and marketing practices, the applicable global, regional and local industry codes relevant for our business as well as data protection and the privacy of customer or consumer information.

The Group Regulation on Integrity & Responsibility in Communications and Marketing holds our employees, contractors and agencies accountable for ensuring that communications and marketing activities and materials are compliant, appropriate, honest, fair and respectful.

In line with our binding [Group Regulation on Product Stewardship Commitment, Principles and Key Requirements](#), which is based on the [International Code of Conduct on Pesticide Management](#) issued by the Food and Agriculture Organization of the United Nations (FAO) and the World

Health Organization (WHO), we adhere to ethical marketing and sales practices that meet applicable regulations. Our Group Regulation on Stewardship and Compliance Incident Management ensures the management and investigation of external complaints.

Distribution

In its distribution of crop protection products and technologies, Bayer follows the [International Code of Conduct on Pesticide Management](#) of the Food and Agriculture Organization (FAO) of the United Nations and the World Health Organization (WHO). Our principles are defined in our [Group Regulation on Product Stewardship Commitment, Principles and Key Requirements](#).

Self-commitment

Our crop protection products are classified according to their WHO acute toxicity class, and this classification is maintained in our internal database. Internal processes ensure that no new product with a WHO class 1a or 1b category can be marketed. In addition, since 2012, we have no longer sold WHO Class 1a or 1b agricultural crop protection products, despite continued formal authorization to do so. We also withdrew registrations on WHO Class 1a or 1b agricultural crop protection products.

Not all of our crop protection products are registered in Europe. There are various reasons for this, e.g. different customer needs and agricultural practices outside Europe.

These crop protection products are registered in accordance with national regulations outside Europe. Bayer complies with international regulations, e.g. the UN Rotterdam Convention concerning the export of such products that could be produced in Europe but are not registered in Europe, being registered instead in the importing country. In this context, Bayer committed itself to only selling crop protection products according to our OECD commitment.

We regularly review the products we offer in emerging markets and developing countries with respect to the applicable specifications for ensuring the safety of our products and reducing the risks associated with their use. We voluntarily withdraw such products from the market if identified risks cannot be limited sufficiently. For more information on the safety of crop protection products, please see our [website](#).

To ensure the safe use of our crop protection products based on adequate research, we made an important voluntary commitment in 2016 – we will market only those crop protection products with active ingredients registered in at least one OECD country or, in the case of new active ingredients, for which an [OECD data package](#) has been compiled. OECD data packages require the preparation of complete dossiers for crop protection products and their active ingredients in support of regulatory decisions in OECD countries. They include the findings of all test and study reports and other relevant information submitted by the company and other interested parties. This data needs to be made available to facilitate checking by regulatory authorities as a basis for decision-making with respect to the approval of individual active ingredients, the registration of crop protection products, the establishment of a maximum residue limit, or the determination of an import tolerance, as appropriate. The guidance contained in the OECD package can be used by regulatory authorities, where the evaluation of extensive data submissions is necessary.

For the marketing of genetically modified seeds, we have established internal processes and defined the requirements for the responsible use of biotechnology in our [Group Regulation on Product Stewardship Commitment, Principles and Key Requirements](#).

Counterfeit products

Counterfeit products harbor substantial risks for users and the environment. For more information on our strategy for preventing product piracy, please see Chapter 3.5 Protection against Product Counterfeiting.

Integrated weed management

Bayer offers farmers sustainable integrated weed management (IWM) programs to help guide them through science-based, best practices for crop protection and herbicide stewardship. These customized solutions show farmers the benefits of a holistic approach to weed management, for example by using crop rotation, planting cover crops or utilizing multiple modes of action or other cultivation practices.

IWM is a systematic approach for long-term weed management and is particularly useful for managing and minimizing herbicide resistance. Thus, incorporating a combination of weed management measures helps to sustain weed control systems over time and maintain farms' ability to provide productive harvests while protecting the soil by helping to reduce soil erosion and increasing soil organic matter levels.

As our global reference center, our Weed Resistance Competence Center (WRCC) drives research and innovation in the field of weed resistance. It develops proactive programs that, when implemented locally, promote the sustainability of weed control. The WRCC cooperates globally with leading institutions and weed scientists to jointly solve different weed management issues. The WRCC has started developing digital solutions, including recommendation models, the prediction of resistance and IWM advisory mobile apps.

Bayer ForwardFarming initiative

[Bayer ForwardFarming](#) promotes sustainable and regenerative agriculture by fostering dialogue and showcasing on-farm practices with independent farmers. Together with farmers and scientific experts, we are improving and pioneering agronomic practices with a strong focus on biodiversity conservation, environmental impact reduction, carbon-neutral agriculture and water conservation, for example.

On ForwardFarms, we share how end-to-end stewardship solutions, including integrated crop management and resistance management, can be put into practice. In this context, ForwardFarmers demonstrate modern cultivation techniques and the sustainable and safe use of seeds and crop protection products, as well as managing resources responsibly.

We aim to inspire a greater number of farmers to adopt regenerative agricultural systems that produce more with less while restoring nature. Via the worldwide ForwardFarming network we promote dialogue and the exchange of ideas and findings among a wide range of stakeholder groups. This dialogue is conducted via in-person visits and virtual events. In addition, the ForwardFarm in Belgium offers a [360° tour for a virtual visit](#).

The global network currently embraces 29 ForwardFarms spread across Europe (17), Latin America (6) and Asia (6).

Responsible use of crop protection products

Bayer's consistent safety standard aims to ensure that our crop protection products are safe for humans (from operators to consumers) and cause no undue harm to the environment if used according to label instructions. Aside from our high safety standards for the crop protection products we sell, we apply a wide range of product stewardship instruments in compliance with the [International Code of Conduct on Pesticide Management](#) issued by the Food and Agriculture Organization (FAO) of the United Nations.

Training

Through targeted training courses, we show farmers, seed treatment professionals, distributors and other users how to use our products both effectively and safely to maintain healthy plants and thereby increase the yield and quality of their harvested goods. Our objective is to continuously increase the outreach of our training activities through more widespread use of digital media.

The training courses cover aspects such as the safe handling of our products during use, transport, storage and disposal, the correct use of protective clothing and equipment, and first aid measures in the event of emergencies. The training topics can be adapted for specific target groups, a particular crop being used in cultivation or a particular product, according to local requirements. Our training materials are available in various formats – from on-site presentations to brochures, videos, posters, manuals and live chats. In addition to special training measures for farmers and those who use crop protection products, we also combine training

activities with events such as product launches or field days to reach a large number of farmers and distributors. Our training videos on the safe handling of crop protection products are also available [online](#).

In 2023, we continued to offer virtual training activities that we had widely introduced during the COVID-19 pandemic, but also resumed on-site training wherever possible. The flexible approach and use of digital tools enabled us to reach almost 5.3 million external contacts worldwide (i.e. farmers, field workers, distributors, retailers and other stakeholders in the agriculture industry), including around four million smallholder farmers. We focused many of our training activities on countries in which there are no statutory certification requirements for farmers concerning the safe handling of crop protection products. Most of the people we trained were in Asia, followed by Africa and Latin America. Our partnerships enable us to increase the reach of the activities and conduct joint events, for example with universities, information centers or local, regional and international associations.

Bayer also trains farmers in various technical areas in the correct use of individual products. This includes training as mandated by the US Environmental Protection Agency (EPA) as a condition of registration for products containing the herbicide dicamba for use in dicamba-tolerant soybean and cotton crops. This training course was developed in cooperation with other dicamba herbicide registrants and governmental certification authorities. Successful completion of the

training helps enable farmers to apply low-volatility dicamba products for use in dicamba-tolerant soybean and cotton crops. More than 37,000 users in the United States completed this certification in 2023, 53% of whom were trained by Bayer.

Bayer Safe Use Ambassadors

Besides training farmers, we are also engaged in training agricultural students and physicians in LMICs through our [Bayer Safe Use Ambassador](#) initiative. Our goal is to advance farmers' safety and reduce the environmental impact of crop protection products through knowledge transfer and empowerment.

Since 2017, through the initiative, we have partnered with more than 50 universities across Asia/Pacific and Africa. In collaboration with agricultural universities, we offer students training in the safe use of crop protection products, prioritizing safety for both users and the environment. These students then become safe use ambassadors and transmit their knowledge to farmers during internships. Additionally, we have been regularly conducting webinars and online events on the sustainable use of crop protection products since 2020.

In the medical sector, we provide physicians and poison control centers with guidance about the hazards, toxicity and treatment of crop protection product poisoning as well as the treatment of snake bites. Looking ahead, we plan to expand the Bayer Safe Use Ambassador initiative to more universities, countries and regions.

Product stewardship for glyphosate

The nonselective herbicide glyphosate is used in many countries for effective, simple and cost-effective weed control. The active ingredient was first introduced in 1974 and has since been marketed under a number of different tradenames in hundreds of crop protection products by several dozen different companies worldwide. In Europe, glyphosate-based herbicides are most frequently used, according to the label, to control weeds in various field crops. According to the label, applications also include weed control in noncultivated areas, such as in industrial complexes and along railway tracks. Glyphosate works in plants by specifically inhibiting an enzyme that is essential to plant growth. This enzyme is not found in the cells of humans or animals.

Glyphosate use enables conservation tillage, which brings its own benefits in terms of reduced soil erosion, improved water retention in soil and lower carbon dioxide (CO₂) emissions. In agricultural systems where glyphosate-tolerant crops are not available, glyphosate provides benefits for farmers and the environment by simplifying weed management, reducing the need for mechanical tillage and enabling the adoption of cover crops. Outside of agriculture, glyphosate delivers benefits for noxious or invasive weed control.

Glyphosate has a proven track record of 50 years of safe use when used according to label directions. This is confirmed by science-based evaluations conducted by European regulatory bodies such as the [European Food Safety Authority \(EFSA\)](#), the [European Chemicals Agency \(ECHA\)](#) and the German Federal Institute for Risk Assessment (BfR), and other leading regulatory authorities such as the US Environmental Protection

Agency (EPA) and the Canadian governmental authority for pest control belonging to the Department of Health (Health Canada Pest Management Regulatory Agency [PMRA]). The most extensive agricultural epidemiological study ever with detailed information on glyphosate use, the Agricultural Health Study published in the Journal of the National Cancer Institute in 2018, also found no association between the use of glyphosate-based herbicides and the occurrence of non-Hodgkin lymphoma. The study followed more than 50,000 licensed applicators of crop protection products for more than 20 years.

Glyphosate's environmental safety profile underlies its ability to be used in many diverse settings. Detailed reviews by the EFSA, PMRA and other regulatory authorities have concluded that approved uses of glyphosate-based herbicides are unlikely to cause adverse effects on the environment. In the United States, EPA scientists reached the same conclusion following their primary environmental review and have initiated a final step in the re-registration process to ensure current uses account for potential effects on endangered species. This is a standard review for all crop protection products in the United States and can take several years to complete. Bayer scientists reviewed the draft report on endangered species and engaged in the public comment period.

Extensive information on the public discussion surrounding the safety of glyphosate for users and the environment is available on our website. For information

on the lawsuits against Bayer in the United States, please see the [2023 Annual Report](#) under Note [30] to B Consolidated Financial Statements (Legal Risks).

It is of central importance for Bayer to offer farmers a broad range of solutions to improve the sustainability and productivity of their operations.

Glyphosate will continue to play an important role in agriculture and in our product range. Additionally, we plan to invest around €5 billion in the current decade to research additional weed control methods and thus provide farmers with more options in the future. This includes the development of an entirely new herbicide mode-of-action for broadacre weed control, the first in the industry for over three decades. This molecule has demonstrated effective control of key resistant grasses in research and is expected to be commercialized toward the end of this decade.

In 2023, the European Commission renewed the approval of the active ingredient glyphosate in the EU for 10 years. This decision is based on EFSA's safety evaluation for the renewal of the EU approval of glyphosate completed in July 2023. Following a comprehensive scientific review, EFSA concluded that glyphosate fulfills all required approval criteria according to the EU Plant Protection Regulation. EFSA published its conclusions and all background documents related to the peer review and risk assessment on its [website](#).

A proactive dialogue with a wide range of stakeholders took place throughout 2023. This dialogue and information exchange was on behalf of the Glyphosate Renewal Group (GRG), national organizations such as the German Glyphosate Working Group (GLAR) as well as on behalf of Bayer or other GRG member companies. The broad offer included a wide range of activities, for example a bi-monthly GRG newsletter, press releases and statements posted on the GRG website, along with dialogue formats such as informative sessions with stakeholders and regulators, not to forget online webinars and media briefings with journalists.

Product monitoring

We provide our customers with comprehensive, transparent and reliable information about our products and services in accordance with our Group Regulation on Integrity & Responsibility in Communications and Marketing. Users of our products can contact us through a range of communication channels should they have inquiries or complaints, or if they wish to report any incidents. These channels include both direct contact with our sales staff and hotline numbers printed on our product packaging.

We follow up on every incident relating to our crop protection and seed products reported anywhere in the world and manage the incidents with the aid of a dedicated incident management system. Reported incidents are classified based on severity and risk. Our Group Regulation on External Adverse Incident Management for Crop Protection Products provides clear guidance on handling incidents.

Our incident management system and continuous product use screenings form the key reference points when it comes to monitoring the safety of our products and to identifying necessary improvements. In general, steps to mitigate risks can vary from increased training efforts, change of formulation, revised application recommendations and use limitations, to product withdrawal. This is fully in line with the FAO/WHO International Code of Conduct on Pesticide Management and the FAO [Guidelines on Highly Hazardous Pesticides](#) (HHPs).

Our incident management system also analyzes data from national poison control centers, where available. We work with hospitals and poison control centers to further improve their incident management capability and data quality, also with the support of CropLife International. Since 2022, we have also engaged with medical professionals through our [Bayer Safe Use Ambassador](#) Initiative, in which we encourage physicians in LMICs that do not have national incident monitoring institutions to report any incidents related to the use of our crop protection products directly to us.

Use of digital technologies

For Bayer, digital technologies are key enablers for creating a better balance between agricultural productivity and environmental conservation. The goal of digital farming is to use resources such as water, fertilizer and crop protection products more efficiently and to sustainably increase productivity.

Utilizing these new technologies makes it possible to reduce the resources needed for crop production, while also promoting the safe and responsible use of crop protection products. For example, the use of satellite and drone data

means that even slight differences in the field can be taken into account and crop protection products can be individually and precisely applied in the required amount only where they are needed (zone/spot spraying plus variable rate application).

In 2023, Bayer continued its strategic partnership with major drone-producing companies, for example for the targeted treatment of crops with crop protection products. Through these partnerships, we strive to provide farmers with reliable and high-quality spray applications. At the same time, we are collaborating with local professional drone spray service providers, who are also interesting for regions with large numbers of smallholder farmers as they can boost productivity and increase operator and farmer safety at the same time. Through our [Leaps by Bayer](#) unit, we also invested in two companies with their own drone application development programs.

We emphasize quality and safety throughout the trials we perform with drones. The existing guidelines on the safe use of drones have been further refined. We worked together with regional CropLife organizations, such as CropLife Asia and CropLife America, to frame guidance documents for the application of crop protection products through unmanned aerial systems (UAS). In various countries, we conduct corresponding training courses for our employees and those of our research partners, often virtually. To further refine guidelines and enrich the data set needed for risk assessments, Bayer is engaged in various initiatives, such as the OECD Working Party on Pesticides Drone/Unmanned Aerial Spray Systems (UASS) Subgroup and is playing a leading role

in the Unmanned Aerial Pesticide Application System Task Force (UAPASTF). Bayer also supported the OECD Cooperative Research Program-funded “Applying Pesticides Using Drones” conference held in York, United Kingdom, in May 2023, aimed at developing aligned best management practices for UAS applications of crop protection products.

Sensors on the latest tractors and harvesters can supply important information on plant health and yield data. Along with other data, this is incorporated into the digital applications developed by the digital farming unit of Bayer – [Climate LLC](#) (formerly The Climate Corporation) – to help farmers achieve more efficient and sustainable agricultural operations.

With digital tools such as [MagicScout](#) and [MagicTrap](#), a digital yellow trap for pest monitoring, we aim for crop protection to be applied in the right amount and only when needed, for example by faster identification and documentation of causes of damage such as weeds, pests and diseases.

Our digital farming platform [Climate FieldView™](#) enables farmers to use data to optimize their agricultural inputs (costs) used on the field and to improve their output (yields). This takes place through the sensor-based collection and storage of large volumes of machine-generated agronomic and machinery-related data directly on the farmers' accounts. The application of this data not only enables farm management to be economically sustainable by providing higher return on investment, but also creates substantial advantages for the environment. Thanks to precision

agricultural machinery and digital tools, inputs such as seeds, water, fertilizer and crop protection products are only used when and where they are necessary. FieldView™ is currently available in North America, South America, Europe, Turkey, South Africa and Australia.

We launched [ForGround](#) in 2022. This farmer-first digital platform offers growers tools and resources, as well as the potential to earn revenue through participation in the Bayer Carbon Program, for the adoption of more sustainable practices such as cover cropping and reduced tillage. ForGround is expanding and evolving beyond carbon sequestration (part of the Bayer Carbon Program) to explore other approaches and collaborations that could enable farmers to make a positive impact in their business operations and on the environment. ForGround is currently available in North America.

Water protection

Avoiding discharges of crop protection products into water bodies is an important aspect of sustainable agriculture. Alongside point source discharges into water bodies that can occur during the handling of spraying devices, diffuse substance discharges from treated fields can also play a significant role. That is why many of our training measures for farmers also focus on protecting water bodies in the context of the correct use of our products.

To avoid point source discharges, Bayer recommends the use of biological remediation systems such as Phytobac™, which are offered by third-party manufacturers. Phytobac™ is designed to prevent water contamination with residues of crop protection active ingredients generated during the filling and cleaning of spraying devices or the disposal of residual liquids. This solution is increasingly being used in several countries. In Europe, more than 5,000 Phytobac™

systems are currently in operation. Demonstration farms using Phytobac™ systems have been implemented in Australia, Canada, China, Thailand, Argentina, Brazil and Colombia.

We also drive digital innovation to address the problems arising from water runoff from agricultural fields. Field runoff can cause soil erosion and input losses, such as of fertilizer and crop protection products, leading to water quality problems. Furthermore, runoff causes rainwater losses, which can reduce the yield potential. This is highly relevant in many regions in times of progressing climate change. In collaboration with external partners, we have developed a digital geoinformation system for agriculture in order to diagnose field-specific runoff risks and offer risk mitigation measures to reduce adverse effects on farming output and the environment. Site-specific runoff risks are visualized by means of high-resolution maps supplemented with a selection of risk mitigation proposals. The tool supports farmers in sustaining rain-fed cropping systems without artificial irrigation under the intensifying pressures of climate change. So far, the following countries have been mapped: Germany, the Netherlands and parts of Belgium.

Further, we support the implementation of closed transfer systems. Closed transfer systems help prevent spills of crop protection products and hence help to further increase convenience, operational safety and environmental protection. This is consistent with the CropLife Europe commitment to making closed transfer systems universally available to European farmers and operators by 2030.

We jointly developed the “easyFlow” system with agrotop GmbH, which has been available to farmers for several years already. Additionally, Bayer has joined the cross-industry group developing the “easyconnect” closed transfer system. A pilot for the system is planned in the Netherlands in 2024.

Protecting pollinators and other beneficial insects

Bees and other pollinators are important for sustainable food production, and we also depend on healthy pollinators in our seeds business. We are actively involved in [various projects](#) and research activities to protect bees and other pollinators.

Bayer shares the concerns about currently declining insect populations and has published a [position](#) on this issue. As the causes of this decline have not yet been fully clarified, we believe further scientific studies of the causes and the development of corresponding countermeasures are urgently needed. We have therefore established a dedicated working group to address the issue, and are involved in researching the factors leading to this decline and developing measures to counter the trend.

Our research supports farmers in food production, while at the same time contributing to the health, safety and biodiversity of pollinators. We promote dialogue with all stakeholder groups through our global network. In cooperation projects worldwide, we are looking into some of the major stress factors for pollinators and into approaches for protecting them and fostering the pollination of crops. At the same time, we are engaged in the development and implementation of approaches to protect insect biodiversity in the agricultural landscape, where the current state of knowledge already allows for the definition of effective measures.

To reduce potential risks posed to pollinators by our crop protection products, initial tests – particularly to measure bee toxicity – are already being conducted at an early development stage to ensure that only products with an environmental profile that allows pollinator-safe use undergo further development. Crop protection products are stringently regulated and are subjected to thorough testing to make sure they can be used safely. Extensive safety testing and risk assessments enable us to recommend specific bee safety measures to farmers.

Furthermore, we have contributed to the creation of a new label pictogram (see icon) designed by CropLife International and published by the Food and Agriculture Organization (FAO) of the United Nations to be used as a precautionary icon on labels for crop protection products to protect pollinators. The new label pictogram serves on the one hand to optimize global consistency in pollinator safety labeling, and on the other hand puts emphasis on the protection of wild pollinators beyond honeybees, and on pollinator habitats. We have started to adopt this label pictogram for Bayer’s crop protection products containing imidacloprid.



Even beyond the regulatory requirements for pollinator safety testing, our experts drive extensive activities in fundamental and applied research to ensure the pollinator safety of our existing product portfolio.

In the early stages of product development, we have started exploring digital phenotyping in honeybee toxicity screening assays as well as computational modelling approaches with the goal of further enhancing the mechanistic understanding of the interaction of insecticides with pollinators to support the targeted design of new molecules. In the area of toxicogenomics, we continue to drive research in the field of bee pollinator toxicology using functional genomics and other innovative technologies that contribute to the optimization of the bee safety profile of our products.

Another focus of our pollinator research is the regulatory system that is designed to ensure the safety of pesticides to bees, and its continuous optimization. In recent years, Bayer scientists have been actively contributing to the development of optimized risk assessment programs in different regions of the world. This applies, for instance, to the revision of the European Food Safety Authority (EFSA) Bee Guidance Document in the EU, the activities of the Pollinator Research Task Force in the United States, and the development of risk assessment programs in Latin American countries.

Bayer is actively participating in the development of new ecotoxicological testing systems, for instance for wild bees, together with partners in academia, contract research organizations and authorities. Furthermore, Bayer experts have, in collaboration with academic scientists, proactively driven the development of modelling tools for the ecotoxicological risk assessment. Finally, our experts are working with external research partners toward the development of digital methods to advance the pollinator risk assessment for crop protection products.

Our contributions go beyond the safety of our products; we also contribute to approaches addressing pollinator health in a holistic way. An example is the Healthy Hives Partnership in North America, through which we aim to identify and implement practical data-based solutions to improve the health of honeybees as a key pollinator of various crops.

Meta-studies on plants featuring Bt technology (genetically modified plants that contain genes of the soil bacterium Bacillus thuringiensis [Bt]) have not identified any biologically relevant effects on honeybees. For more information, please see the Focus on: Agriculture chapter.

Bayer is one of the founding members of Growing Matters, an initiative that is committed to open and scientific discourse on stewardship, benefits and alternatives to neonicotinoid insecticides in North America. Together with its partners, Growing Matters launched the BeSure! campaign, designed to strengthen awareness and adoption of stewardship practices to protect bees and other pollinators during the handling, planting and disposal of neonicotinoid-treated seeds and other neonicotinoid applications used during the growing season.

Neonicotinoids

The introduction of the neonicotinoid class of insecticides in the 1990s brought new features to improve sustainability and to reduce the environmental impact of insecticides in agriculture. Neonicotinoids replaced older, frequently much more toxic insecticides, reinforced the concept of seed treatment minimizing environmental exposure to agrochemicals, and brought a broad spectrum of efficacy and new mode of action to assist integrated resistance and pest management on many crops.

Some years after introduction, there were a few reports of incidents where the use of neonicotinoid products was associated with negative effects on bees. The most severe example was when dust from treated seeds was accidentally released during planting in Germany in 2008, which resulted in significant intoxication of bees nearby.

At Bayer, the incidents triggered a period of internal review/research into suitable risk mitigation measures or product replacements. It also changed the risk assessment and profiling of existing and new products in Research and Development (e.g. systematically considering toxicity to pollinators in the early compound candidate selection process already). Several initiatives and processes were introduced to minimize further risk through the exposure of bees to neonicotinoid insecticides.

Since 2021, we have published details on the measures we have taken in recent years in [a separate report](#) that is updated on a yearly basis. We have also published detailed information as appendices to the report.

Mitigating measures taken include the following:

- // Bayer has continued to make updates to product labels to improve pollinator safety. All labels for imidacloprid-containing products (foliar and seed treatment) have improved explanations of use regarding pollinator safety. These labels include, where approved, a pollinator safety icon such as the one developed by CropLife International, which has recently been approved by the Food and Agriculture Organization (FAO) of the United Nations.
- // Various tests in Research & Development to characterize the toxicity of novel development compounds to bees at an earlier stage of the screening process

in order to further optimize the establishment of pollinator-safe use patterns as an integral part of product development

- // Innovation in seed coatings to improve adhesion: seed coatings protect operators and the environment from dust, with emissions reduced by up to 95%
- // Bayer's invention of the Seed Treatment End Point (STEP) technology, which enhances the quality of the treated seeds by avoiding abrasion

In countries outside of the EU, competent authorities regularly review neonicotinoids to assess the risks to humans and the environment. Regulatory authorities in India and Brazil recently published their evaluation conclusions regarding imidacloprid. The active ingredient was considered safe and will stay on the market with some additional label restrictions regarding pollinator safety.

We believe that continuing to manufacture and market neonicotinoids under the conditions authorized by regulatory authorities around the world is responsible, beneficial and consistent with the UN Global Compact environmental principles.

Monarch butterfly

Populations of the migratory monarch butterfly, which is common in North America, have declined in recent decades, primarily due to the loss of milkweed in the United States, habitat loss in the Mexican forests, weather extremes and climate changes. Second, impacts from natural enemies, crop protection products, disease, pathogens and parasites are also possible contributing factors. To enhance the habitat for the monarch butterfly and other pollinators, [Bayer is collaborating](#) with conservation groups, academic experts, farmers and government agencies to find meaningful and proactive ways to help these important pollinators thrive. We are working to ensure that the growth of the wild plants (esp. milkweed/Asclepias) that constitute the monarch butterfly's main larval source of food is supported along its migration routes outside of cultivated areas. Combined with a diversity of blooming plants throughout the seasons, this habitat benefits not only monarchs but also many other insects, birds and mammals.

Through an app called HabiTally, which we developed together with Iowa State University in 2019, farmers and landowners can document the habitats they have created for monarch butterflies and track the gains made in milkweed (Asclepias) stems/acres across the United States. The app enables better estimates of how much current habitat exists and where, while also better facilitating further habitat planning and development. The United States Fish and Wildlife Service can use the data to better assess and monitor the population dynamics of the monarch butterfly. For more information, please see our [website](#).

Disposal of containers and old inventories, discontinuation policy

Processes are in place at Bayer to ensure the safe sell-off of products, including the disposal of obsolete inventories or waste.

The crop protection industry has set up voluntary initiatives in various countries for the proper disposal of obsolete stocks. As part of its activities in the international CropLife association, Crop Science is also working with the Food and Agriculture Organization (FAO) of the United Nations and the World Bank to support the proper collection and disposal of obsolete crop protection products in Africa.

Empty crop protection product containers must be safely disposed of to ensure that any remaining product residues are not released into the environment and that empty containers are not improperly reused. As the proper disposal of crop protection product containers is handled differently in many countries, the crop protection industry collaborates with authorities, distributors, and farmers to establish or maintain suitable disposal systems.

Bayer supports programs worldwide to ensure the safe recycling and disposal of empty packaging and containers. Users can learn about how to safely dispose of our products through information on their labels.

We support the safe disposal of empty crop protection product containers in many countries together with our CropLife International industry association. As a result, some 1.3 million metric tons of plastic have been collected since 2005. This partnership has also facilitated the development of environmentally friendly packaging design

programs, the implementation of training courses on the proper handling of crop protection product containers for distributors and farmers, and the testing of plastic recycling options. Particularly successful disposal programs have been established in Brazil, Canada, France, Germany and Australia. In Brazil, more than 700,000 metric tons of empty crop protection product containers have been disposed of since 2002 through the inpEV (National Institute for Processing Empty Packages) program.

In Germany, the crop protection industry partnered with agricultural wholesalers to develop the voluntary PAMIRA system for disposing of agrochemical packaging materials. Crop protection product manufacturers cover the costs for collection, logistics and utilization of packaging, while wholesalers provide the collection points. In 2022, around 3,000 metric tons of crop protection product and liquid fertilizer packaging in Germany were returned free of charge to the almost 400 collection points and disposed of in an environmentally friendly manner through the PAMIRA system.

3.7 Biodiversity

According to the latest report of the Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services (IPBES), more than one million species of animals and plants face extinction, driven by human activity. The number one threat to biodiversity is the loss, deterioration and fragmentation of habitats contributing to the extinction of species. This is why attention is centered on raw material production (primary sector), and particularly agriculture.

Biodiversity is an interdisciplinary topic that is relevant for Bayer and our value chain in various respects. Activities at Bayer therefore focus on the responsible use of natural resources to conserve and protect ecosystems, species and genetic biodiversity. The drug discovery process and discovery of crop protection active ingredients can benefit from biodiversity, while biodiversity is vital for the development of new seed varieties. We have spelled out this stance in our [Position on Conservation and Restoration of Biodiversity in Agriculture and Forestry](#).

Bayer is committed to the objectives of the United Nations' Convention on Biological Diversity (CBD), including the fair and equitable sharing of benefits arising from the utilization of genetic resources, as well as the goals of the International Treaty on Plant Genetic Resources for Food and Agriculture of the Food and Agriculture Organization (FAO) of the United Nations, which prescribes the balanced and fair division of use of plant genetic resources. Our Group Regulation on Access & Use of Genetic Resources defines the principles of how to manage access to and the use and transfer of genetic resources and/or traditional knowledge throughout the company.

Own sites

When planning new production sites, Bayer takes into account that they must not be set up in areas that are statutorily protected with regard to their natural characteristics, biodiversity or other factors. Using the international Integrated Biodiversity Assessment Tool (IBAT), we conducted a comparison of the geographical coordinates of our 553 production sites, plant breeding stations and research sites in 2020 with those of internationally recognized protected areas (such as ASEAN Heritage Parks, Wetlands of International Importance according to the Ramsar Convention, Specially Protected Areas of Mediterranean Importance according to the Barcelona Convention, UNESCO-MAB Biosphere Reserves and World Heritage Sites). The comparison showed

that 30 of our sites are located within six kilometers of such protected areas.

Since 1993, Bayer has partnered with the [Wildlife Habitat Council](#) (WHC) to promote sustainability, wildlife preservation, biodiversity and environmental education at the company's WHC-certified sites. There are currently 56 Bayer programs in total registered with the Wildlife Habitat Council. Some 42 of our sites are certified, three of which achieved Gold Certification and three Silver Certification. Sites seeking certification from WHC must demonstrate a high standard of achievement through observations, documentation and employee participation in protecting habitats. Programs at the certified sites include habitats such as grassland and forest, along with species such as pollinators and birds, and also focus on promoting awareness and community engagement. Through initiatives on our corporate grounds, we have established habitats at around 70 Bayer research and manufacturing sites across North America, Latin America and Europe.

Forests

Forest habitats are of central importance for biodiversity and forests play a key role in protecting the climate. With our [Position on Deforestation and Forest Degradation](#) we aim to address the causes of these issues within our sphere of influence, as well as in cooperation with our customers and within our supply chains. We also aim for net-zero deforestation in our supply chains. In our current Report to [CDP Forest](#), we have included a detailed statement on this.

In 2023, we launched the Bayer Forest Protection initiative, which aims to increase our positive impact on the agricultural chain and take a leading role in the conservation of forests. Brazil is the first country in which we are developing this program, since it holds important environmental assets, such as the Cerrado, the Amazon rainforest and other habitats. The program has two pillars:

- // The first pillar is dedicated to creating new tools that enable forest protection, through which we intend to establish new commercial incentives, improve the implementation of our own objectives and traceability systems and expand our participation in multi-sectoral coalitions to build collective action.
- // In the second pillar, we aim to create value for existing forests together with partners who are committed to conserving native vegetation. We have established a research investment effort to broaden the scientific knowledge of the interconnection between agriculture and forest conservation.

Agriculture

Land-use change (including fragmentation and degradation of habitats and intensification of land use) is the main direct driver of terrestrial biodiversity decline according to IPBES. We acknowledge that farming is one of the root causes behind this decline, namely because of factors acting at landscape and habitat levels, such as cropland expansion into natural habitats (land-use change), landscape homogenization (bigger field sizes, fewer structural elements, narrower crop rotations) and land-use intensification (e.g. increasing mowing frequency and increased nitrogen fertilization in grasslands).

What does this mean for agriculture? Agricultural production benefits from [ecosystem services](#) such as pollination, natural pest control and nutrient cycling. Species that create and maintain these important ecosystem services are thus essential for food, feed, fuel and textile fiber production. However, agricultural landscapes are not only habitat to these service-providing species but are also home to species that may not have direct benefits or may even damage agricultural production (e.g. pests).

- // From a farmer-centric perspective, it is important to maintain and restore the corresponding functional biodiversity (pollination, natural pest control, soil health) and to reduce the occurrence of organisms that could compromise the harvest.
- // From a biodiversity conservation perspective, it is likewise important to protect and restore habitats that harbor a broad range of species in agricultural landscapes.

It is necessary to obtain a better balance between production and conservation. We therefore promote a concept of regenerative agriculture (for more information, please see the Focus on: Agriculture chapter). We engage in numerous partnerships and collaborations to further shape the definitions and underlying metrics for enabling a transition toward regenerative agriculture. In addition, we are members of the regenerative agriculture program of the [Sustainable Agriculture Initiative](#) (SAI) and the [Agribusiness Taskforce](#) of the [Sustainable Market Initiative](#). We also contribute to the regenerative agricultural metrics workstreams that are led by the [WBCSD](#) (World Business Council for Sustainable Development).

Soil health, habitats and genetic diversity are important aspects that both we and farmers need to consider when striving for a better balance between production and conservation. In the following section, we highlight promising approaches, actions and partnerships we are pursuing for each of these aspects.

Soil health

Our main objective in soil health is the development of a soil health value proposition for key cropping systems. We want to contribute to solutions for an entire crop rotation system and not only for one cropping season. Combining our solutions in seeds and traits, crop protection, crop nutrition and digital agriculture, with corresponding agronomic advice regarding cover crops and tillage, crop residue management can not only improve farmers' yield, productivity and profitability, but also lead to beneficial effects on soil health. This in turn increases yield stability, soil carbon sequestration, resilience to extreme weather events and potentially reduced costs (inputs, machinery, labor). Through our Bayer Carbon Programs, farmers can even generate additional income. To confirm soil health and economic outcomes, we started to run corresponding long-term trials in selected regions and cropping systems.

In a partnership with the [Midwest Row Crop Collaborative](#), we collaborate with stakeholders to facilitate the adoption of regenerative farming practices to improve soil health and long-term productivity in the Midwestern United States – where some 80% of US corn and soybeans are harvested.

Habitats

From a farmer's viewpoint, protecting or restoring habitats can sometimes be seen as a direct trade-off for farming activities unless habitat creation or protection generates some kind of benefit or provides important [ecosystem services](#) to the farmers.

As part of our Forest Protection Strategy, our PRO Carbono Commodities Program currently includes soybean production by Brazilian growers and agricultural companies in the state of Mato Grosso, within the Cerrado and Amazon biomes. As a prerequisite for taking part in this initiative, farmers may not work on agricultural fields that have been converted from natural vegetation in the last 10 years, even if legally authorized. Additionally, farmers in the program commit to conserving the surplus of natural vegetation on their properties. In turn, farmers stay on top of innovations and trends, experience new market opportunities and get publicity for the good practices they already apply. A total area of 159,000 hectares is enrolled in this program – with 90,000 hectares of corresponding native vegetation. For more information about this program and our Forest Protection Strategy, please see the [Crop Science Sustainability Progress Report](#).

Across North America, Bayer collaborates with conservation groups, academic experts, farmers and government agencies to protect pollinator habitats. Conserving and enhancing pollinator habitats is beneficial in multiple ways. It can support multiple other insects, birds and mammals, improve

soil structure and water infiltration and decrease field run-off to local water bodies. [Through our partnerships](#), we have supported the creation of more than 171,000 hectares (423,000 acres) of pollinator habitat since 2015.

In Europe, we closely collaborate with biodiversity consultancies in the context of our [BayDiversity program](#) to facilitate the creation and implementation of biodiversity management plans. So far, 70 farms have participated in the program.

To be able to support impactful measures to counteract biodiversity decline, we continuously invest in research activities to better understand the root causes of the decline of pollinators and other insects. A dedicated working group at Bayer is evaluating the factors behind the reduction of diversity and abundance of insects and potential countermeasures. Moreover, we support activities to counteract insect decline – such as our engagements focusing on milkweed habitat creation for monarch butterflies in North America, and our activities with German farmers and conservation institutes so that [ecological enhancement measures can be implemented in intensive agricultural areas](#).

Genetic diversity

Conserving crop genetic diversity, helping farmers to access better crop genetics and breeding crops with higher resilience to the negative consequences of climate change are our main objectives in this context. By providing in-kind support to public gene banks, we help to ensure the

conservation of global collections of agricultural crops for current and future generations. At the same time, we access and incorporate novel genetic variation into our varieties. We support renowned research centers like the national gene banks of the Netherlands (CGN), France (INRAE) and the United States (USDA) with collection missions and the conservation of agricultural crops and their wild relatives from different regions of the world before they become extinct from their natural habitats. This is particularly important for vegetable crops, where many species are not yet conserved in any gene bank. Please find more information on our [website](#).

We work with the World Vegetable Center (WorldVeg) in rescuing their unique collection of Brassica crops such as broccoli, cabbage and cauliflower. This collaborative approach also supports smallholder farmers.

Partnerships and research collaborations

Our collaborative research with [ETH Zürich and the International Food Policy Research Institute \(IFPRI\)](#) in 2021 and 2022 outlined challenges regarding synergies between [biodiversity and agriculture](#). Insights into the challenges around result-based payment schemes as well as farmers’ perception and behavior were published in corresponding scientific journals. In general, [the study](#) revealed further need for action and research. We continue to address these in partnership with academia, research organizations, consulting companies, NGOs and others to help us to become even more effective in our efforts.

To gain experience with modern biodiversity monitoring methodologies and potential new incentive mechanisms for the biodiversity-friendly agriculture that they enable, we are part of the EU Horizon Program [Biomonitor4CAP](#).

In Brazil, we are one of the sponsors [supporting research](#) to better understand the relationships between natural vegetation and agricultural production as well as the value of standing forests for farmers in the Amazon and Cerrado regions.

Reduced impact from crop protection products

We understand that crop protection products are often perceived as one of the root causes of biodiversity decline. However, the available data assessed in a recent [meta-analysis](#) we jointly commissioned does not support the claim that pesticides are a main driver of insect decline.

Potential impacts of crop protection products on the environment are diligently assessed in the development process and additionally by authorities for approval purposes. Moreover, our researchers work successfully on the discovery of new molecules aimed at further reducing such unintended and detrimental environmental effects. Environmental safety plays a key role in various stages of our research and development of crop protection products, starting in early development. We investigate the environmental fate and the effects (ecotoxicology) of the molecule itself and also of its degradation products in the different compartments of the environment and for a large variety of animal and plant species. Data on environmental safety is also included in regulatory studies. Furthermore, with CropKey, we use artificial intelligence (AI) in developing new crop protection products with greater accuracy than ever before regarding their effect on specific targets. For more information, please see Chapter 3.6 Crop Science – Research & Development (R&D).

Crop protection products are labeled to inform farmers about correct usage. To ensure that farmers understand the label instructions and learn about correct usage, Bayer conducts training for farmers. For detailed information, please see Chapter 3.6 Crop Science.

We also support and encourage the development of integrated pest management (IPM) and pollinator management methods that conserve the abundance and diversity of beneficial insects, protect pollinators and reduce the use of crop protection products, or replace compounds with less favorable environmental safety profiles with modern, more environmentally friendly solutions. We are therefore conducting comprehensive field trials under agronomic conditions in various crops around the globe with the objective of deriving recommendations regarding the best positioning of our products within an IPM system to protect pollinators and beneficial insects.

With digital tools such as [MagicScout](#) and [MagicTrap](#) (a digital yellow trap for pest monitoring), we aim for crop protection to be applied in the right amount and only when needed, for example by faster identification and documentation of the causes of damage such as weeds, pests and diseases.

We are continuing our efforts to further reduce the environmental impact of our crop protection portfolio. Therefore, we aim to reduce the treated-area-weighted environmental impact per hectare of Bayer’s global crop protection portfolio by 30% by 2030 against a 2014–2018 average baseline. For more information, please see the Focus on: Agriculture chapter.

Risk mitigation for pollinators and other insects

Insects play a key role in all terrestrial ecosystems, representing a significant part of worldwide biodiversity. One of the [ecosystem services](#) provided by insects is pollination, which plays an important role in global crop production and in safeguarding nutrition. To minimize the risks posed to nontarget insects, including pollinators, by our crop protection products, we perform extensive safety testing and risk assessments and implement product stewardship measures.

For more information on protecting pollinators and on the effects of our products, please see Chapter 3.6 Crop Science. For more information on measures we have taken with regard to neonicotinoids, please see our [separate report](#).

3.8 Pharmaceuticals and Consumer Health

Quality and safety of pharmaceuticals and medical devices

Extremely stringent safety standards for patients and medical professionals apply to pharmaceuticals and medical devices. That's why both the development and the manufacture of pharmaceuticals and medical devices are subject to very strict quality requirements.

The quality management system of the Pharmaceuticals and Consumer Health divisions is based on internationally recognized standards and applicable legal, regulatory and ethical requirements for all stages of the provision of a pharmaceutical or a medical device – from development to registration, production and distribution. In particular, these standards include the rules for good working practice (GxP) in the development and manufacture of pharmaceuticals – such as Good Manufacturing Practice (GMP), Good Distribution Practice (GDP), Good Clinical Practice (GCP), Good Pharmacovigilance Practice (GVP), ISO certifications such as those for the manufacture of medical devices (e.g. ISO 17025 and 13485), and the guidelines of the ICH (International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use).

Internal experts and external assessors regularly conduct risk-based audits to verify compliance with the statutory requirements and relevant standards in development and production, as well as for registered product specifications. Such audits also cover institutes subcontracted by Bayer, service providers, our suppliers and contract manufacturing organizations (CMOs). Deciding the frequency of audits at CMOs follows the same risk-based approach as for internal manufacturing sites. Observations made during these audits are systematically evaluated, and compliance with corrective measures is verified at regular intervals. The quality requirements derived from regulatory requirements, permits and authorizations, and from relevant standards, are regularly reviewed and integrated into our quality management system.

In addition to the internal quality assurance mechanisms, all our sites are regularly inspected by the health authorities of the respective countries to verify compliance with the various national and international requirements, and certified according to the respective product category (e.g. through GMP certificates or in the form of a manufacturing license). All our sites received the targeted certifications in 2023.

The quality, safety and efficacy of pharmaceuticals and medical devices are always assessed relative to the possible risks associated with their use. Such an assessment results in a benefit–risk profile, which is crucial for the product's approval and is also continuously reviewed thereafter. Accordingly, the Pharmaceuticals and Consumer Health divisions assess the medical benefit–risk profile of their pharmaceuticals and medical devices throughout their entire product life

cycle. For medical devices, the initial production and subsequent update of the benefit–risk profile are undertaken within the scope of the quality management system. For pharmaceuticals, this takes place through a corresponding pharmacovigilance system.

Sustainability criteria for radiology products

In the research and development (R&D) of new radiology products, we have begun introducing sustainability criteria according to a “sustainability by design” approach. We want to examine the sustainability of future radiology products at various stages of R&D using sustainability checkpoints.

Safety in pharmaceutical development and production

Drug development is a complex and time-consuming process and is subject to stringent rules. The first step in developing a pharmaceutical is to find substances that can serve as the starting material for a new active ingredient. The next step is to test the new active ingredient – for example by using computational simulation processes, conducting tests in cell or tissue cultures, or with the help of bacteria or animal studies. These tests are prescribed by law and subject to strict guidelines and governmental controls. For more information, please see Chapter 3.4 Animal Welfare.

The active ingredient is then used to produce a safe and easy-to-dose pharmaceutical. The requirements of the active ingredient and the product's acceptance by patients

both play a role when developing a suitable delivery form (such as a tablet or ointment). The dosage form must also be such as to ensure that patients can safely dose the product and handle it easily.

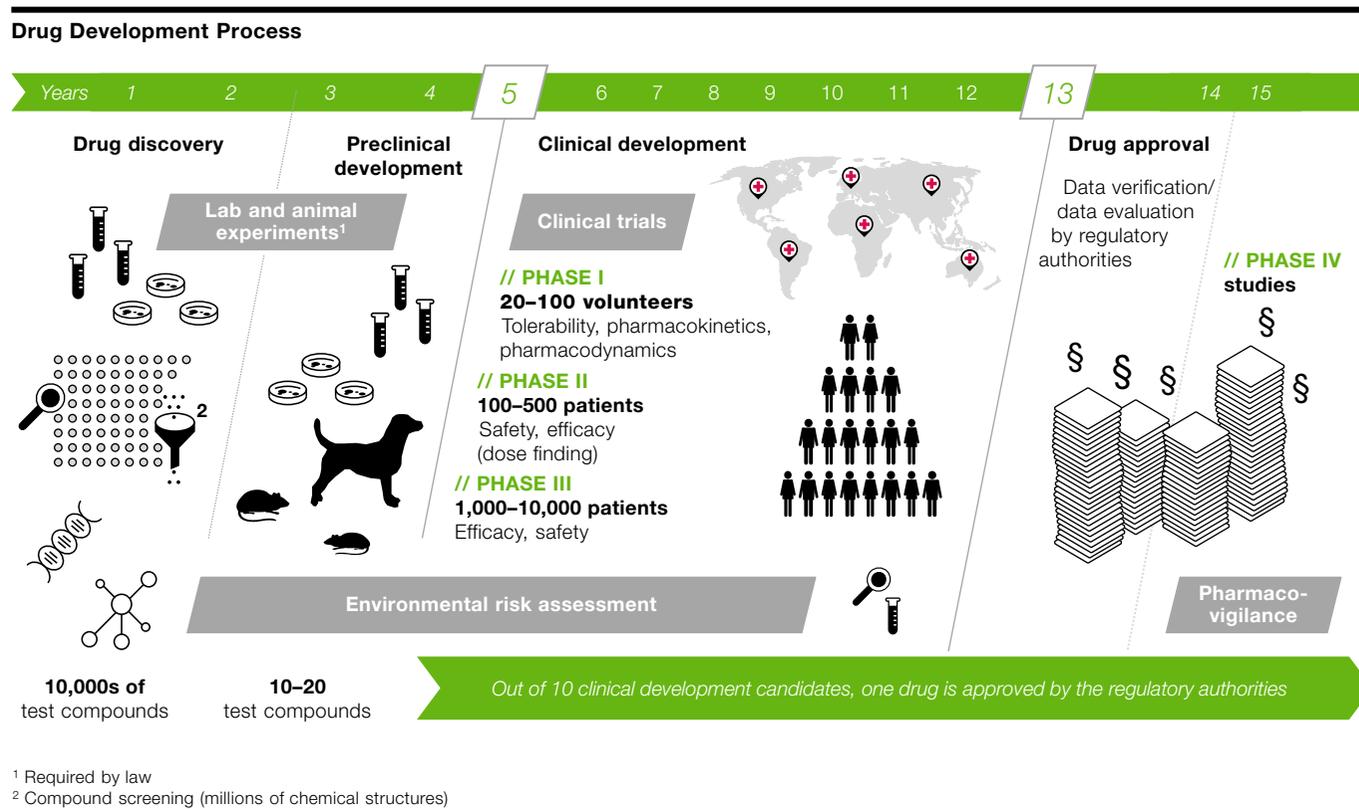
Before the pharmaceutical can then be submitted for approval, its efficacy, safety and tolerability must be examined in various preclinical and clinical trials (Phases I-III).

Clinical trials

Clinical trials are an essential tool for determining the efficacy and safety of new drugs before they can be used to diagnose or treat diseases. The benefits and risks of new medicinal products must always be scientifically proven and well documented. However, clinical trials are also necessary to examine already approved products for new indications or to confirm their safety profile.

With respect to clinical trials, we strictly align ourselves to the Declaration of Helsinki, an ethical standard in place since 1964 that regulates research conducted on humans. This commitment is stipulated in our Human Rights Policy and applies to all research institutes (clinical research organizations, CROs) tasked with conducting clinical trials on our behalf.

Additional statutory regulations, directives and ethical codes supplementing the Declaration of Helsinki have been further developed and introduced worldwide to ensure that the health and safety of participants in clinical trials are the top priority. We follow the Harmonized Guideline on Good Clinical Practice (International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals



for Human Use – Good Clinical Practice, ICH-GCP). This international ethical and scientific standard for planning, implementing, documenting and reporting clinical trials in human subjects ensures the rights, safety and well-being of trial participants in accordance with the Declaration of Helsinki. Its requirements include the deployment of an independent ethics committee for each clinical trial involving

human subjects. Such ethics committees are based at university hospitals, for example, and composed of medical experts from various disciplines. A clinical trial on behalf of Bayer cannot begin without a positive vote from such an ethics committee. The commitment to complying with the ICH-GCP is also included in the agreements with the clinical research organizations (CROs) we commission to conduct clinical trials.

Clinical trial phases

Stringent scientific and ethical principles apply to all clinical trials involving humans. A trial protocol lays out what is to be investigated, how the trial is to be conducted and why it is necessary. It is approved by the pharmaceutical regulatory authorities and an independent ethics committee. The voluntary trial participants are comprehensively informed in advance about the planned trial and the possible risks. Their participation is subject to written consent that can be retracted at any time, this having no impact on standard medical care.

In Phase I, physicians investigate an active ingredient with respect to its safety, tolerability and behavior in the body of healthy trial participants. Blood values and additional parameters are monitored, and it is determined how the ingredient is taken up, distributed, metabolized and excreted by the human body. In further studies, physicians investigate interactions with other pharmaceuticals or food. If an active ingredient proves to be tolerated well in this phase, it is subsequently tested on patients. Active ingredients with possible serious side effects, such as for the treatment of cancer and other serious diseases (e.g. Parkinson's), are tested in patients from Phase I.

In Phases II and III, physicians examine how effective the ingredient under investigation is, if at all, what dose is ideal for treatment and how frequently side effects occur. To rule out distorted measurement results as far as possible, the scientists compare the new active ingredient with an established therapy form or a placebo that does not contain any active ingredient.

The patients do not know which group they belong to. In what are known as double-blind, placebo-controlled studies, the attending study team at the trial center doesn't know which patient belongs to which group either. Participants in a clinical trial conducted by Bayer can contact the responsible investigator and/or the contact person at the trial center who is listed in the patient information at any time.

Physicians participating in a clinical trial keep records of the treatments, measurement values and findings, and forward the data to the drug producer in pseudonymized form. Finally, the data is interpreted to determine whether the results are medically relevant and the prospects for seeking regulatory approval of the active ingredient in the form of a drug product are promising. The clinical trials last in total eight years on average. Additional clinical studies (Phase IV, post-authorization safety studies) take place following registration to further assess the benefit-risk profile in the determination of the therapeutic value of the product under practical conditions.

Bayer only conducts clinical trials in countries in which there are plans to launch the respective drug product onto the market. Once a clinical trial has concluded, patients can be provided with the trial medication until the date of approval and availability within the scope of compassionate use programs or extension studies.

Wherever in the world we conduct clinical trials, they comply with these strict international directives and high standards of quality, as well as the respective applicable national laws and standards. We review whether they comply with these

by means of risk-based audits, which also cover those trials performed by the institutes we commission (clinical research organizations, CROs). Bayer publishes information on clinical trials in compliance with the respective local laws. Bayer publishes information on its own clinical trials both in the [publicly accessible registers](#) and on its own [Clinical Trials Explorer website](#).

Summarized results of Phase II, III and IV clinical trials are accessible online through the Clinical Trials Explorer – irrespective of whether the results of a study for one of our products were positive or negative. Upon request, scientists can receive access to anonymized data from clinical trials at the patient level via [Vivli](#), the website of the Center for Global Clinical Research Data, provided the studies in question are listed in the portal. Through this, Bayer observes the principles of the European Federation of Pharmaceutical Industries and Associations (EFPIA) and the Pharmaceutical Research and Manufacturers of America (PhRMA) on the responsible communication of clinical trial data, which were defined in a [joint position paper](#). Since September 2022, Bayer has been a member of Vivli, together with other pharmaceutical companies and universities around the world. In January 2022, Vivli was [awarded](#) funding by the National Institute of Health (NIH) in the United States to promote the sharing of clinical trial data.

For further information about our globally uniform standards, the monitoring of clinical studies and the role of the ethics committees, please see our [website](#).

In line with our Group Regulation on Bayer Societal Engagement (BASE) Principles, we communicate transparently about our research and development activities. This needs to be done objectively, precisely and on a timely basis, and

must conform with current internal and external legal and ethical standards, including those of Good Publication Practice (GPP). We disclose our participation in scientific studies and publications of third parties and the participation of third parties in the development of our publications. As a result, we act transparently and grant access to scientific findings.

Easy-to-understand summaries

Since 2020, we have published clinical trial results on our [Clinical Trials Explorer website](#) in language that is easily understandable.

The results of Phases II through IV interventional trials and of Phase I patient trials are generally published within 12 months of the completion of the trial or – in the event of premature termination – within 12 months of the conclusion. We publish the summarized results using clearly comprehensible formulations in English and eight other globally important languages, along with the languages of the countries in which the trial was carried out. Bayer thus goes well beyond the requirements of the EU regulation on clinical trials on human pharmaceuticals that entered into force on January 31, 2022.

In 2021, Reuters Events awarded Bayer the prize for the [Most Valuable Awareness Initiative](#) for our commitment to making scientific research available to patients in a comprehensible form. This recognizes Bayer's dedication to providing patients and all affected parties with clear and easily understandable concepts, including in scientific publications.

Diversity in clinical trials

Conducting clinical trials with participants from various demographic groups such as in terms of ethnicity, sex and age helps ensure that trial results are applicable to broader patient populations, which may support the identification of differences in treatment response. The inclusion of diverse patient voices from previously underrepresented communities across medicine development also helps build societal trust in the medical and research process.

To ensure diversity, equity and inclusion is foundational in our research and development practices, Bayer consults and partners with a variety of relevant stakeholders, including clinicians, scientists, health and regulatory authorities, ethics committees and patient advocacy groups.

In 2023, we advanced clinical trial diversity by establishing and systematically employing methods to enhance inclusion of underrepresented patient populations in clinical trials, such as consistent policies, resource allocation and community outreach.

In addition, every study program fully explores opportunities for pediatric development and initiates early engagement with patients, parents, caregivers and health authorities to address unmet needs in children and to support earlier access to innovative treatments for this population as well.

Beyond our internal operations, at Bayer we actively engage across the wider healthcare ecosystem, taking leadership roles in private and public partnerships that focus on improving health equity and empowering underserved communities, to help shape together the future of healthcare.

Since 2022, we have partnered with [TransCelerate](#) in initiatives on the diversity of participants in clinical trials, collaborating across the global biopharmaceutical research and development community to develop tools and information for stakeholders to improve the representation of diverse patient populations in clinical trials.

Diverse representation in study on finerenone

To improve diverse representation in clinical trials, it is essential to truly understand the needs of underserved or underrepresented populations and build trust within communities that may have been historically marginalized in society or underrepresented in medical research. While chronic kidney disease exhibits a higher prevalence among the Black/African American and Hispanic/Latino communities in the United States, the trial participants enrolled in prior chronic kidney disease trials have not accurately represented the disease incidence in the population.

To address the impact of chronic kidney disease among people that identify as Black/African American and people who identify as Hispanic/Latino in the United States, Bayer partnered with the [American Association of Kidney Patients](#) (AAKP), a leading patient advocacy organization in the sphere of chronic kidney disease to enhance diverse participation in clinical trials.

The collaboration started with the goal of improving representation of people from the Black/African American and Hispanic/Latino populations in a trial. This trial aimed to assess the efficacy and safety of finerenone, along with the existing standard treatment, in delaying the progression of chronic kidney disease in people with chronic kidney disease but without diabetes. Working together with AAKP, we developed a comprehensive diversity plan, encompassing:

- // Prioritizing feasibility and selection of clinical sites with access to diverse patient populations
- // Forming an external diversity council, consisting of experts, investigators and patient advocates, to monitor enrollment targets and obstacles to enrollment of patients on a monthly basis. We also worked with a Standing Patient Council on a monthly basis to co-create on an ongoing basis throughout the study.
- // Launching an external community outreach and engagement campaign to raise awareness about the importance and impact of enrolling ethnically diverse patients at clinical sites.

The study doubled the number of Black/African American participants and more than doubled the number of Hispanic/Latino participants, leading to a trial participation diversity that mirrored the broader population and better represented the real-world patient demographics.

Building on this success, Bayer and AAKP established a lasting partnership beyond individual studies, including a dedicated working group to address disparities and raise awareness.

Vulnerable patient populations

Vulnerable groups are defined as groups of people at a higher risk of experiencing adverse health outcomes or facing disparities due to various factors, such as women who are pregnant or breastfeeding, children, minorities, people who are disabled, people with rare diseases and older people. These special populations are often at highest risk, yet are underrepresented in clinical trials. Consequently, health disparities among vulnerable populations may be exacerbated, meaning that these groups may experience higher barriers to medical care and may not receive the same access to treatments and interventions, potentially leading to worse health outcomes.

Patient centricity and collaboration with key patient groups is essential for identifying and addressing the comprehensive needs of a specific population, for example through development of new treatments that provide the best overall benefit-risk profile for them, including considering special needs for the formulation, e.g. the swallowing difficulties that many elderly or very young patients experience, ensuring age-appropriate formulations for all patient groups.

To address the various structural and ethical challenges, Bayer advances continuous efforts to improve and innovate research methodologies and data collection techniques, for example through real world evidence approaches.

Bayer is co-leading the conect4children (c4c) Consortium (IMI conect4children, 2018–2025), a collaborative network consisting of more than 40 beneficiaries from academia, the industry, patient groups and young people advisory groups supported by the Innovative Medicines Initiative, aiming to create a pan-European pediatric clinical trial network. The network seeks to improve the way pediatric clinical trials are designed and conducted across Europe, thereby improving the health of babies, children and young people.

Bayer is also actively participating in the Rare Disease Moonshot, an initiative created jointly by EFPIA (European Federation of Pharmaceutical Industries and Associations), and EURORDIS, a nonprofit alliance of over 1,000 rare disease patient organizations, to foster development in white-spot areas in rare and ultra-rare diseases.

Retinopathy of prematurity (ROP)

Premature babies constitute a highly vulnerable population due to their underdeveloped organ systems, increasing their susceptibility to infections. These infants often require specialized medical care and long-term treatments. However, safety concerns and the relatively low percentage of premature births have limited their inclusion in clinical trials, resulting in a higher reliance on off-label medications for neonates compared to adults.

One condition of particular concern is retinopathy of prematurity (ROP), a rare but serious disease that can lead to childhood blindness in premature infants, and for which conventional treatment options were limited and had the potential to lead to long-term complications. Recognizing the pressing need for new, effective and well-tolerated treatments for ROP, Bayer initiated clinical trials to assess the effectiveness of the drug aflibercept with the goal of preventing severe visual impairment in premature babies.

Bayer collaborated with key patient groups and conducted face-to-face interviews with parents who had experienced premature birth before. Bayer also engaged with external patient networks. These efforts led to timely trial completions and, more recently, to multiple health authority approvals for aflibercept across the globe for the treatment of ROP in pre-term infants in recent years, including in the United States, Switzerland, the United Kingdom and Brazil in 2023, and the EU and Japan in 2022.

Approval process

The respective documentation submitted to the regulatory authorities contains the research results from the Phase I to III clinical trials and the data generated for a pharmaceutical during its development. It includes both the data from the developmental phases, such as chemical-pharmaceutical and toxicological data, and a comprehensive benefit–risk assessment of the pharmaceutical. A new pharmaceutical must comply with all regulatory safety requirements to secure marketing authorization. The same applies to medical devices, dietary supplements and medicated skincare products. Based on these documents, the regulatory authority

assesses whether the efficacy, safety and quality of the pharmaceutical have been demonstrated for the intended indication. The product is only approved if its benefit–risk ratio has been assessed as positive.

As each country has its own strict regulations for drug development, product approval and market launch, we work closely with the respective national regulatory authorities to ensure that we act in a compliant manner at every development stage. The authorities in other countries often take the assessments of the EMA and/or the FDA into consideration in their own evaluations.

Key regulatory authorities for Bayer are:

- // The US Food and Drug Administration (FDA)
- // The European Medicines Agency (EMA)
- // The Pharmaceuticals and Medical Devices Agency (PMDA) in Japan
- // The National Medical Products Administration (NMPA) in China

Drug safety

The preclinical and clinical trials prescribed for pharmaceutical research investigate drug candidates in terms of their quality, safety and efficacy. At the same time, the genesis and progression of a disease differ from one person to another, and the effect of a drug product can vary accordingly. We continue to observe and evaluate our products following their approval and throughout their entire

life cycle. This enables adverse effects to be identified at an early stage and a decision to be taken as regards the necessary risk mitigation measures.

The collection and evaluation of safety-relevant information about our products are the responsibility of the global Patient and Drug Safety (Pharmacovigilance) department, in which scientific and medical experts from various disciplines work together in safety management teams (SMTs). These teams evaluate internal benefit and safety data, clinical trials, post-marketing studies, external databases and scientific publications to identify potential safety concerns at an early stage and detect possible changes in the benefit–risk profile. All reported side effects are entered into our pharmacovigilance database. The evaluation of information about a benefit–risk profile applies not just to pharmaceuticals and medical devices but also to dietary supplements and medicated skincare products. This information is regularly evaluated in collaboration with the regulatory and oversight authorities at both national and international level.

As it is particularly important to not just collect data during the clinical development of a medical product but also to monitor the product after marketing authorization has been granted, we conduct the aforementioned Phase IV studies (post-authorization safety studies) to record rare or very rare side effects, for example. As a pharmaceutical manufacturer, we receive reports on side effects either directly or through the health authorities, as well as through stakeholders such as physicians, pharmacists or patients themselves. Suggestions derived from these reports regarding possible supplementary safety-relevant information for the package inserts are passed

on to the regulatory authorities by us. Such suggestions usually come to the authorities from the respective pharmaceutical manufacturers. The relevant health authorities decide on the steps resulting from the reports and suggestions in close cooperation with us as the producer.

Should risks be identified, we immediately take steps to safeguard the health of patients and consumers in coordination with the authorities. These measures range from updating product information for patients, users, pharmacists and physicians through patient education brochures and further training measures for medical professionals to direct communication with medical experts (Direct Healthcare Professional Communication, DHPC) and even product withdrawals. Implementation of risk mitigation activities is coordinated by our local safety management teams (SMTs) in the country organizations.

All these processes are documented, regularly updated and integrated into the quality management system. To maintain the high quality of Bayer's pharmacovigilance system, our medical and scientific experts undergo regular training. Furthermore, in line with our Group Regulation on Product Safety and Quality: Reporting Obligations of Employees, all Bayer employees are required to undergo training as regards their obligation to immediately report safety- and quality-relevant information to the Pharmacovigilance department. We regularly test whether the pharmacovigilance system can cope with emergency situations such as pandemics.

The information that we compile on side effects is reported to the national health authorities in the relevant countries, where it is processed. As processes in the EU are centralized, European marketing authorization holders such as Bayer are now required to enter all suspected cases of undesirable side effects directly into EudraVigilance, the European Medicines Agency's electronic information system, rather than reporting them to the 27 national authorities individually.

Large data volumes must be analyzed to identify relevant information in the drug safety process. Where it makes sense, Bayer employs automation technologies, artificial intelligence (AI) and machine learning. This enables side effects to be discovered at an earlier stage, meaning that risk mitigation measures can be implemented faster, which in turn helps to further improve patient safety.

About AI in radiology

Aging populations and changing lifestyles are leading to an increase in chronic conditions, such as cardiovascular disease and cancer. Consequently, the demand for medical imaging to detect diseases, guide treatment decisions and support therapy planning is growing – bringing additional challenges such as staff and budget shortages.

Artificial intelligence (AI) comes with the value proposition of aiding diagnosis and increasing the throughput of radiological examinations.

In the area of medical imaging, Bayer offers [Calantic™ Digital Solutions](#), a cloud-hosted platform including digital radiology AI-enabled applications that assists radiologists and their teams. Such AI applications are developed by specialized partner companies and integrated with the IT systems of medical staff via Calantic™.

The vendor-neutral, cloud-hosted platform includes a growing number of applications designed to aid in prioritization and lesion detection, as well as apps that automate routine tasks and measurements, improve radiology suites' workflow and help medical staff to spend more time on patients and their diagnosis. For more information, please see our [website](#).

Trace substances of active pharmaceutical ingredients in the environment

Our Pharmaceuticals and Consumer Health divisions carry out ecotoxicological investigations on active pharmaceutical ingredients. These investigations serve as the basis for the environmental risk assessments within marketing authorization for [human pharmaceuticals in Europe](#) and the [United States](#). In line with legal requirements, we thus evaluate possible environmental risks that could result from the intended use of human pharmaceuticals. The results of these environmental risk assessments are outlined in general terms in the specialized information for physicians. This information includes details on how to properly dispose of expired or unused pharmaceuticals so that users are able to avoid unnecessary environmental emissions. These details are also included in the packaging inserts.

We take additional action in our production facilities to minimize discharges of pharmaceuticals into the environment based on risk-oriented assessment parameters. For more information, please see Chapter 8.2 Air Emissions and Chapter 8.3 Water.

In some cases, monitoring can detect active pharmaceutical ingredients in environmental media as trace substances, in other words in low concentrations. According to an [OECD publication](#) from 2021, discharge into the environment in these cases occurs primarily through patients' excreta, as well as partially through the improper disposal of unused and expired medicines, and from hospitals. According to this report, discharges into the environment via pharmaceutical production facilities are minor. The main path of entry into the environment for these trace substances is through wastewater discharged into surface waters such as rivers or the sea, as current treatment plants are not always able to eliminate trace substances sufficiently.

In some areas, surface water is used as a source of drinking water. However, current knowledge indicates that the trace substance concentrations of active pharmaceutical ingredients measured in drinking water are harmless to human health. This assumption is based partly on the findings of the WHO's Drinking Water Parameter Cooperation Project report of 2017. Among the aspects studied in this report were the concentrations of active pharmaceutical ingredients measured in environmental media and mixtures of such substances measured in drinking water. The report found that there were no immediate health risks and consequently no need to act in the short term. This has been confirmed by [more recent studies](#). Against the backdrop of a potential increase in the use of pharmaceuticals and to further guarantee the safety of drinking water resources, the WHO recommends that the discharge of trace substances be observed comprehensively over a longer period of time.

In addition to human health, there is now a focus on the environmental impact of pharmaceutical trace substances. Such trace substances are the subject of scientific publications and a matter of public interest. The European Commission also acknowledges the issue of trace substances, including those of medicinal products, in the environment. Strategic approaches to managing pharmaceuticals in the environment have been published in connection with the Pharmaceuticals Strategy initiated in 2020 and were specified with the proposal of the European Commission on the review of the pharmaceutical legislation in Europe in April 2023.

For many years, the pharmaceutical industry has also been addressing the issue of trace substances of medicinal products in the environment and the environmental risk assessment of active ingredients. Between 2015 and 2019, for example, an initiative of the manufacturers' associations EFPIA (European Federation of Pharmaceutical Industries and Associations), AESGP (Association Européenne des Spécialités Pharmaceutiques Grand Public) and Medicines for Europe put together key points for a strategic approach to dealing with pharmaceuticals in the environment and developed possible solutions for this problem. This initiative, which is supported by Bayer, focused partly on expanding the current legally required risk assessment for active pharmaceutical ingredients within the scope of the pharmaceutical marketing authorization process. At the end of 2022, the three pharmaceutical associations published a position paper that proposed specific improvements under the designation of "[extended Environmental Risk Assessment](#)" (eERA). Another focus was the development of a concept for analyzing and managing wastewater from pharmaceutical production facilities. This is currently being implemented at Bayer (please see Chapter 8.3 Water).

The pharmaceutical industry initiative also comprised various large-scale projects. Within this initiative, Bayer served as coordinator of the [iPiE](#) (Intelligent Assessment of Pharmaceuticals in the Environment) subproject from 2015 until 2018. A total of 25 partners from Europe and the United States participated in iPiE, including 13 major pharmaceutical companies and nine universities and research organizations. The project was established by the Innovative Medicines Initiative (IMI), a public-private partnership of the European Commission and the EFPIA aimed at developing new models and assessment strategies for predicting the environmental impact of active pharmaceutical ingredients.

For the first time, a database of environmental information for active pharmaceutical ingredients was created in the EU within the scope of iPiE, enabling a comprehensive, transparent and comprehensible overview of more than 2,000 studies on the environmental behavior of active pharmaceutical ingredients already on the market. Scientific evaluations of the database have found that only a few of the registered active ingredients pose a potential environmental risk. These primarily include hormones or antibiotics, which impact the environment even at very low concentrations and are also marketed by companies such as Bayer.

Bayer is also active in the iPiE follow-up project IMI [PREMIER](#) (Prioritisation and Risk Evaluation of Medicines in the Environment). More than 25 public- and private-sector partners currently participate in PREMIER, including public authorities, universities and EFPIA companies. This IMI project, scheduled to run from 2020 until 2026, is geared toward continuing and expanding the iPiE database. The objectives of PREMIER include making more data and details on the studies publicly accessible and providing modeling and evaluation tools. Furthermore, it aims to develop strategies and processes that enable the prioritization of active ingredients for which little or no environmental data is currently available (there has only been a legal obligation to conduct an environmental risk assessment in the EU since 2006). The goal is to identify the active ingredients that can lead to heightened risks in the environment. The intention is to generate new environmental data for these prioritized active ingredients and enable risk assessments to be performed on them. This in turn will obviate the need for unnecessary studies – such as those involving vertebrates (fish) – for active ingredients classified as unproblematic. PREMIER also aims to research and promote options for more environmentally friendly active ingredient design.

Bayer also remains involved in the [stakeholder dialogue initiated by the German government](#) with the goal of drawing up a strategy for dealing with trace substances in bodies of water. In roundtable formats that bring together stakeholders from water management, environmental authorities and associations, health service providers and industry, measures are developed that aim to reduce the discharge of relevant trace substances.

re:contrast

As part of our re:contrast program, we take back residues of our iodinated X-ray contrast agent iopromide and our gadolinium-containing contrast agent gadobutrol from our customers. This makes it possible to avoid unnecessary environmental discharges and properly reuse the iodine or gadolinium in an industrial cycle. Once contrast agent containers have been opened, their contents need to be quickly used. Collection enables iodine and gadolinium contained in residues of unused contrast agents from doctor's surgeries, hospitals or radiology centers to be reused. The residues are collected in special containers that can be obtained from Bayer for free and that an external service provider picks up on our behalf. This makes our system customer-friendly and participation easier for medical personnel.

Iodine recovery is already a common practice in Bayer's contrast agent production. Tons of iodine have already been recovered using our patented process and fed back into the value chain. The recovered iodine can be used for many different purposes, but not for the production of contrast agents themselves as the legal quality requirements for medicinal products do not permit this.

Product carbon footprint

In 2023, we determined the first product carbon footprint (PCF) based on a scalable calculation methodology. Applying a cradle-to-gate approach we have calculated both upstream and our own greenhouse gas emission volumes for Aspirin Cardio 100 mg 28 tablets. The result has been certified externally. We want to use this standardized calculation approach in the future to calculate PCFs for other products and make this information available to our customers.

Focus on: Access to Healthcare

Millions of people in many parts of the world do not have access to basic medical care. According to the World Health Organization (WHO), there are various reasons for this – a lack of medicines, poverty, a lack of or inadequately trained medical personnel, a lack of political will and insufficient access to medical data.

As a leading pharmaceutical company, we believe we have a responsibility to improve access to healthcare for all. For this reason, we are focusing on areas in which we can have the biggest impact by leveraging our scientific know-how, products, partnerships and global network.

In accordance with our strategy, we aim to fulfill the need of 100 million women in low- and middle-income countries (LMICs) for modern contraception by 2030. We also want to support 100 million people in economically or medically underserved communities with self-care interventions from Bayer in 2030. For more information, please see the Sustainability Strategy chapter. Responsibility for implementing the access to healthcare strategy lies with the heads of the Pharmaceuticals and Consumer Health divisions, both of whom are members of the Board of Management of Bayer AG due to their positions. The Supervisory Board of Bayer AG monitors the attainment of the established goals.

It is also our ambition to improve access to our prescription products for people in LMICs through improved availability and modified drug pricing, as well as through our patient access programs.

We have implemented strategies for improving access to healthcare throughout the value chain.

Access to Medicine Index

Since 2008, the [Access to Medicine Foundation](#) has published a ranking of the 20 biggest pharmaceutical companies. The Access to Medicine Index evaluates the companies' measures to make medicines and diagnosis more easily accessible to people in LMICs. Bayer was ranked 9th in 2022, an improvement of four places compared with the assessment conducted in 2021. This is partly because sustainability issues are now managed systematically and better, including in terms of the research and development of medicines for people in LMICs and our endeavors to achieve a secure supply chain in LMICs.

The Access to Medicine Foundation also highlighted best practice examples from Bayer [in its report](#). Our broad approach for improving access to contraceptives in LMICs and our efforts to combat tropical diseases such as Chagas disease and sleeping sickness were also acknowledged. We are working on further improvements for future rankings, such as the 2024 Access to Medicine Index.

Family Planning

The ability of girls and young women to complete their education and thus improve their opportunities for a self-determined life is highly dependent on family planning options. For this to happen, they must be able to make their own

well-founded decisions about whether to have children, and, if so, how many and when. Knowledge about their own sexuality and access to modern family planning are crucial to helping young people make important life decisions. Furthermore, both education and conversations about family planning strengthen gender equality and the role of women worldwide. That is why access to voluntary family planning has been an established human right for more than 50 years.

According to the United Nations, more than 200 million women in LMICs would like to prevent pregnancy but do not use safe and effective family planning methods. And according to the United States Agency for International Development (USAID) and the studies of the [Copenhagen Consensus Center](#), investment in family planning is a “best buy” for development that can support the attainment of various Sustainable Development Goals (SDGs). Family planning provides the foundation for more equality, education and affluence, and plays a crucial role in reducing poverty (SDG 1) and hunger (SDG 2), improving health (SDG 3) and increasing participation in high-quality education. It also strengthens gender equality (SDG 5), which in turn is a crucial factor in future economic and social development.

Collaborations

Bayer works together with international partners to improve education on sexual rights and contraceptive options. Back in 2007, in close cooperation with 15 international partners, we launched the [Your Life](#) information campaign, which is targeted at young people around the world. The associated social media activities provide facts and figures on current contraception options and address concerns about contraceptives.

For many women, a lack of social acceptance for contraception – along with incomplete information or limited choices as regards the methods of contraception – is the biggest obstacle when it comes to deciding how to go about their own reproductive life planning. For this reason, it is important to not only strengthen young people's knowledge but also increase awareness among politicians and physicians about the sexual rights of women in LMICs. Against this background, we have supported the [International Dialogue on Population and Sustainable Development](#) – an annual conference with participants from civil society, politics and the private sector – for many years.

Access to family planning products is not adequately guaranteed in many regions of the world. As a global leader in women's health, Bayer is a longstanding partner of international family planning programs. Bayer's contraceptive products are made available there at preferential prices.

Irrespective of whether its own products are used, Bayer has been providing financial support to [The Challenge Initiative](#) (TCI) – a family-planning program based at Johns Hopkins University and implemented by the Bill & Melinda Gates Institute for Population and Reproductive Health – since July 2020. TCI aims to establish various family planning options on a broad scale quickly and sustainably. The program is currently being implemented in more than 185 Asian and African cities. In total, some 3.1 million women received access to voluntary family planning with the help of TCI in 2023.

Bayer is an anchor partner of the Bill & Melinda Gates Foundation in preclinical research pertaining to nonhormonal contraception. We undertake to make such a product available in LMICs at an affordable price as soon as it has been approved by the health authorities following the development phase.

Since 2007, Bayer has been a member of the [Reproductive Health Supplies Coalition](#) (RHSC), a global partnership of public, private and nongovernmental organizations. The RHSC endeavors to ensure that people in LMICs can access affordable and high-quality contraceptives.

In addition, Bayer works together with the United Nations Population Fund (UNFPA), USAID and international NGOs to make hormonal contraceptives such as birth control pills, three-month injections, implants and coils available. As a strategic partner, we also provide support with expertise in the areas of supply, logistics and product registration.

In accordance with the Sustainable Development Goals (SDGs) of the United Nations (particularly SDG 3.7 and 5.6), the UNFPA and Bayer have a common vision: to measurably increase the number of women who can meet their need for modern contraceptives. The intention is to reach this goal through interventions supported by this collaboration, with the objective of strengthening the autonomy and resilience of local health systems by focusing on four specific areas: measures to sustainably develop their structure and expertise (capacity building); supply chain management; innovation; and gender equality and inclusion and diversity at the workplace.

We therefore concluded further cooperation agreements with the UNFPA in 2022, and Bayer became the first company to join the [UNFPA Equalizer Accelerator Fund](#).

Current status

We currently provide contraceptives to 46 million women in LMICs. More than a third of these women are reached through commercial distribution channels – particularly in higher middle-income markets. The rest – mainly women in

low- and lower-middle-income countries – receive access through the international development network, such as through UNFPA or participating national family planning programs. Shipments provided through such programs are usually free of charge for the women. To address the challenges associated with facilitating access to contraceptives over the next decade and reach our target of enabling 100 million women to access modern contraceptives, we are continuously expanding our partnerships and increasing our production capacities. For more information on our Group target, please see the Sustainability Strategy chapter or our [website](#).

Expansion of production capacities

In 2021, we approved capital expenditures of more than €400 million to expand the contraceptive production facility at our site in Finland and build a new plant in Costa Rica. Planning and construction measures at both sites have since continued as scheduled. We inaugurated the new production unit in Finland in September 2023. The production plant project in Costa Rica continues to go smoothly. Teams at both sites are collaborating closely to ensure the long-term provision of long-acting reversible contraceptives and thus achieve Bayer's corresponding sustainability target.

Access to Self-Care

More than half the world's population does not have access to basic, vital medical services because the people do not have sufficient income, live in medically underserved regions or cannot access hospitals, pharmacies or other treatment options for various reasons. This means that billions of people rely on self-care to prevent diseases, maintain their health or treat illnesses.

We want to support 100 million people in economically or medically underserved communities with self-care interventions from Bayer in 2030. As a leading supplier of medical self-care products, we are present in many countries and regions in which people depend on self-care, and already reached 75 million people in 2023, including our strategic investments in India. For more information, please see the Sustainability Strategy chapter.

Neglected Tropical Diseases

Together with other pharmaceutical companies, Bayer plays an important role in fighting neglected tropical diseases (NTDs). Bayer supports the WHO NTD road map 2021–2030, which aims to permanently eliminate 20 NTDs by 2030. For nearly 20 years, we have provided the WHO with two essential drugs to treat [African sleeping sickness](#) and [Chagas disease](#) in Latin America free of charge. We also provide funding for logistics and the distribution of these drugs in the affected countries, as well as for other activities. Bayer reaffirmed its commitment in 2022 by signing the [Kigali Declaration on Neglected Tropical Diseases](#).

African sleeping sickness

Sustained control efforts have reduced the number of new cases by 97% in the last 20 years. The disease has thus been eliminated as a global public health problem after decades of efforts.

Chagas disease

Currently, between six and seven million people are infected with the Chagas disease pathogen. Less than 1% of those infected have access to adequate diagnosis and treatment

of the disease. Newborn babies and children are at particular risk because infected, and in some cases asymptomatic, mothers can pass on the pathogen to their unborn children.

Our preclinical and clinical research has resulted in the development of a formulation of our active ingredient nifurtimox that is suitable for children, and this was approved by the US Food & Drug Administration (FDA) in August 2020. Approval was granted in Bolivia in 2021, making it the first Latin American country in which this formulation is available. The formulation enables the drug to be precisely dosed for children based on body weight. It also has better solubility and is easier to administer, which means it can be given to infants aged zero to two years. That makes this formulation of nifurtimox the first Chagas treatment approved for this age group.

Bayer signed a letter of intent for a cooperation agreement with the Brazilian Institute for pharmaceutical technology (Farmanguinhos/[Fiocruz](#)) to supply nifurtimox directly to the Brazilian government in the future. This is an important step in facilitating access to effective treatment via government programs.

Pork tapeworm

Bayer also supports the WHO in the fight against infection with the pork tapeworm (*Taenia solium*), which is transmitted through the consumption of raw or insufficiently cooked pork. When people and pigs live closely together in unhygienic conditions, infection can also occur when the tapeworm's eggs are excreted with feces. The disease is asymptomatic but can also attack the brain in the late stages if left untreated (neurocysticercosis). Infection with the pork tape

worm at this stage has led to epilepsy in about 13 million people, accounting for about one-third of all epilepsy cases in the affected countries. Bayer provides two essential drugs to treat pork tapeworm infection, and financially supports the logistics and distribution of the medicines within the scope of national programs to eliminate the illness.

Onchocerciasis

Since 2014, Bayer has worked together with the Drugs for Neglected Diseases initiative (DNDi) to develop an active ingredient for the treatment of onchocerciasis. The first clinical trials in humans (Phase II) began in mid-2020. Transmitted by threadworms, this tropical disease leads to incurable river blindness in about 10% of chronically ill patients. Some 30 million people around the world are infected with these threadworms, of whom more than 99% live in Africa.

Soil-transmitted helminths

A partnership between Bayer and the Swiss Tropical and Public Health Institute ([Swiss TPH](#)) launched in 2023 aims to jointly develop an effective therapy for people infected with soil-transmitted helminths. Worldwide, more than 1.5 billion people are infected with at least one soil-transmitted helminth species, with the highest prevalence reported from sub-Saharan Africa, Asia and South America.

ESCuLab

Furthermore, Bayer is a member of the European [ESCuLab project](#) (European Screening Centre; unique library for attractive biology) of the Innovative Medicines Initiative (IMI), which seeks drugs that will treat neglected tropical diseases and malaria effectively, among other objectives.

Further Engagement

In addition to infectious diseases, noncommunicable diseases are a major challenge, particularly in LMICs. More than three-quarters of deaths from cardiovascular disease occur in LMICs. Between 1990 and 2013, sub-Saharan Africa was the only geographic region in the world to register an increase in deaths due to cardiovascular disease. The number of cardiovascular patients is expected to double by 2030. For this reason, Bayer is working in partnership with the German Society for International Cooperation (GIZ) and local health authorities in Ghana to develop a model project to establish an integrated diagnosis, treatment and continuing education concept for cardiovascular diseases. The Ghana Heart Initiative, which Bayer supports, aims to facilitate more specific drug access programs by strengthening the healthcare system. The intention is for this model project to serve as a foundation and a catalyst for subsequent initiatives to develop capacities that can help treat noncommunicable diseases.

Besides the development of national guidelines for the treatment of cardiovascular diseases, over 5,000 medical specialists have so far been trained to diagnose and treat these illnesses and a total of nine centers have been established to diagnose and treat deep vein thrombosis. For further information, please see the [Ghana Heart Initiative](#) website.

Bayer and the [Bayer foundations](#) are similarly committed to numerous projects and local partnerships to strengthen health systems and build up capacities.

Social commitment, access programs and innovative, inclusive business models jointly contribute to the implementation of our “Health for all, Hunger for none” mission. For more information, please see Chapter 10. Social Engagement.

Antimicrobial resistance

Antimicrobial resistance (AMR) is an increasing problem in healthcare, and suitable antibiotics are urgently needed. Therefore, together with other pharmaceutical companies, we support the AMR Action Fund, which aims to bring two to four additional antibiotics to market maturity by 2030 to address AMR. The development of these antibiotics would otherwise be jeopardized by funding problems.

Equitable Drug Pricing

The cost of medicines can present a major obstacle for patients, especially when they have to pay for this themselves. This is particularly true in LMICs, most of which do not have central systems for reimbursing the costs of medicines. We are therefore working on various options, including in collaboration with charitable organizations and governmental authorities, on the one hand to give more patients improved access to much-needed medicines and on the other to optimize the therapeutic benefit of the medication by giving the patients the chance to prolong the drug therapy.

For some of our most important products (Adempas™, Eylea™, Kerendia™, Kyleena™, Mirena™, Nexavar™, Stivarga™, Verquvo™ and Xarelto™), including specific new launches, we have established the framework conditions for adjusted, equitable pricing, which also account for per capita gross national income and thus enable more flexible decisions to be made about drug prices taking into account local purchasing power.

Patient Access Programs

Our patient access programs help patients in LMICs to better overcome financial obstacles to taking prescribed medicines in a timely manner or, on a long-term basis, to give patients not only reliable drug access, but also sustainable treatment. We cooperate with insurance providers, charitable organizations and other partners to advance these options. Our patient access programs are developed according to the framework conditions in each country and take account of patient needs, which are supported in various ways, e.g.:

- // Individual assessment of patients' financial solvency and derivation of a corresponding financing and treatment plan
- // Reduction of the financial burden on patients, for example through the combined provision of free and payment-based medicines or the granting of discounts on the original selling price

For more information, please see our [website](#).

Patents in low-income countries

In low-income countries (LICs), Bayer does not register or enforce patents for human pharmaceuticals. This applies as long as a country retains the status of an LIC according to the World Bank classification and the country's government does not take any measures that would justify a change in that status.

We have also joined the Patent Information Initiative for Medicines (Pat-INFORMED), which provides basic patent information on our registered products, making it available to the public to facilitate the procurement of medicines, particularly in LICs.

The WHO Model List of Essential Medicines that should be available in functioning healthcare systems has been published by the WHO since 1977 and includes various medicines produced and sold by Bayer. We generated some €8.5 billion through sales of these products in 2023 (equivalent to about 18% of total Bayer sales).

4. Procurement

As a global company, Bayer procures services and materials from all over the world. We align our procurement and supplier management processes to ambitious ethical, social and environment-related principles. We expect our suppliers to observe these principles, too, and we support them in doing so. Through this approach, we help to improve sustainability in our supply chain.

4.1 Management Approach

The procurement organization supplies the company with raw materials, goods and services all around the world. It acts on behalf of all divisions and enabling functions, leveraging synergies by bundling know-how and procurement spend. The head of Procurement reports directly to the Chief Financial Officer.

We exert influence on society and the environment through our procurement activities and supplier relationships. In addition to this, economic, ethical, social and ecological principles are all anchored in our Procurement Policy, which is binding for all employees worldwide.

Procurement operates according to established procurement and supplier management processes. As the market and supply chain management are very dynamic and constantly evolving, long-term contracts and active supplier management for strategically important goods and services are important elements here. They serve to minimize procurement-specific risks such as supply bottlenecks or significant price fluctuations, and to safeguard the company's competitiveness and ensure smooth production processes.

Sustainability in procurement

We have integrated sustainability aspects into our supplier management to ensure that the way we conduct business with our suppliers is in line with environmental, social and ethical standards. Bayer regards adherence to these sustainability standards within the supply chain as a crucial factor.

By acting responsibly in collaboration with our suppliers, we aim to identify and minimize risks and create stable, long-term business relationships with our partners. It is also an important strategic lever for Bayer in safeguarding both its global competitiveness and the supply of materials and services. For this reason, the company applies not just economic standards, but also environmental, social and corporate governance (ESG) standards in choosing new suppliers or continuing its relationships with existing ones. These principles are defined in Bayer's Supplier Code of Conduct, which generally forms the basis for our collaboration with suppliers. In addition, our comprehensive Supplier Code of Conduct Guidance document aims to provide concrete examples of good practices and benchmarks that suppliers can use, and references such as the regulatory framework and standards governing Bayer's sustainability efforts. We actively use the EcoVadis methodology for our supplier assessments.

To effectively address the wide-ranging challenges of a sustainable supply chain and to leverage synergies, Bayer is a member of two industry initiatives: the Pharmaceutical Supply Chain Initiative (PSCI) and Together for Sustainability (TfS). These initiatives are integral elements of Bayer's

commitment to sustainability in the supply chain. For further details, please refer to Chapter 4.3 Sustainability in the Supply Chain.

We are continually streamlining our processes and guidelines in response to new regulations and obligations. For example, the German Supply Chain Due Diligence Act (SCDDA), which requires companies to undergo a due diligence process on human rights and some environmental standards in the supply chain, or to fulfill the requirements of the upcoming Corporate Sustainability Reporting Directive (CSRD).

4.2 Procurement Activities

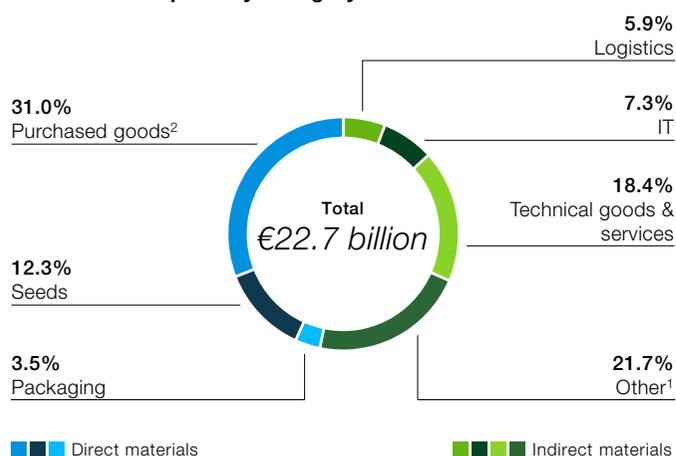
In 2023, we had a total of 85,895 (2022: 91,149) suppliers. Our procurement spend was €22.7 billion (2022: €23.3 billion).

Procurement spend

Our procurement spend is managed in procurement categories and based on dedicated category strategies. The spend can be split into direct and indirect materials.

- // Direct materials include the categories of active ingredients, raw materials, intermediates, finished products and seeds.
- // Important components of our indirect purchasing portfolio include services for research and development (R&D), marketing & distribution, and administrative functions, along with materials required for our technical teams such as technical, engineering and infrastructural goods and services.

Procurement Spend by Category 2023



¹ Incl. services for Marketing & Sales, R&D, HR, Legal

² Incl. active ingredients, raw materials and intermediates, finished goods, medical devices

At 77%, most of our purchasing volume is attributable to companies from OECD countries, particularly the United States and Germany.

Procurement Activities per Country in € Billion

	2022	2023
Procurement spend	23.3	22.7
Spend in OECD countries	17.7	17.6
USA	8.1	8.0
Germany	4.5	4.4
France	0.6	0.6
UK	0.7	0.5
Other	4.5	4.7
Spend in non-OECD countries	5.6	5.1
Brazil	1.6	1.5
China	1.4	1.1
India	0.9	0.9
Argentina	0.5	0.5
Other	1.6	1.6

Bayer purchases locally wherever feasible in order to respond promptly to the requirements of our sites and simultaneously strengthen local economies. In 2023, this applied to 82% (2022: 81%) of our procurement spend at our significant locations of operation, and to 77% (2022: 77%) of procurement spend worldwide.

We procure various petroleum-based chemicals, but these account for 21% of our overall procurement volume at most.

Alternative raw materials

Seed is a renewable raw material that is in turn used by our customers in agriculture to grow plants.

Renewable raw materials for the manufacture of our products account for a minor proportion of our chemical and pharmaceutical procurement volume. These materials are primarily used when it makes technical, economic and ecological sense to do so. For more information, please see our website.

We support value chains with the focus on sustainable production, transparency, traceability and certification. Bayer's commitment to net-zero deforestation (please also see Chapter 3.7 Biodiversity) includes the ambition to source sustainable palm (kernel) oil derivatives and soy derivatives. Our activities are aligned with the elements of the Accountability Framework and cover the products that we directly purchase. As part of our initial assessment, we have conducted a risk assessment and due diligence. In our current report to CDP Forest, we have included further information.

Palm oil

Compared to our overall procurement spend, Bayer only sources a small number of palm (kernel) oil derivatives for our businesses (less than 1% of our procurement spend). A detailed and comprehensive traceability of the origin of these already processed products is generally not possible.

Bayer has participated in the Roundtable for Sustainable Palm Oil (RSPO) since 2004. We started to transition our supply chain to RSPO mass balance certified sustainable palm oil in 2021. Though there are various challenges, including the availability of products, we aim for 100% of palm oil derivatives purchased by 2027 to be covered with RSPO mass balance.

Roundtable for Responsible Palm Oil (RSPO)

	2022	2023
Volumes of palm oil derivatives purchased ¹	10,947	11,467
of which RSPO mass balance certified	18%	28%

¹ Metric tons

Soy

We support the production of sustainable soy via the purchase of credits certified by the Round Table on Responsible Soy (RTRS). Bayer has been a member in the RTRS board since 2017, and 100% of our purchases of soy derivatives are covered by RTRS credits.

Since 2022, we have also significantly increased our efforts to gain more insights into the value chain, with the result that we can trace approximately 80% of our purchases to a jurisdictional area.

Suppliers

Conducting business with a diverse supplier portfolio enhances Bayer's competitive advantage, enabling us to provide innovative and cost-effective products to customers. When selecting suppliers, we therefore consider all types of suppliers.

Number of Suppliers per Country

	2022	2023
Number of suppliers	91,149	85,895
of which from OECD countries	47,689	45,558
USA	12,606	11,883
Germany	7,131	6,790
France	3,341	3,354
UK	1,331	1,188
Other	26,623	25,704
of which from non-OECD countries	43,463	40,355
India	10,014	10,430
Brazil	7,449	7,411
Argentina	2,792	2,372
China	1,931	1,808
Other	24,071	20,722
Number of countries	148	147

Supplier Diversity Program

Bayer promotes diversity within the global supply chain by intentionally giving consideration to suppliers owned and operated by underrepresented groups and those that might not be noticed if we were not seeking them out when purchasing goods and services. Underrepresented groups include women, members of ethnic minorities, people with a disability and members of the LGBTQ+ community. Together with chambers of commerce and external organizations, we help these

small and diverse suppliers to further professionally and assist them in qualifying for tendering processes.

Bayer has partnered with [WEConnect International](#), an NGO that connects women-owned businesses to buyers around the world, on co-branded capacity-building programs for women entrepreneurs – in Mexico in 2022 and Brazil in 2023 – in addition to actively participating in other NGO-facilitated capacity-building programs. Since 2022, supplier diversity has been included in our targets for procurement. The procurement spend with certified women-owned enterprises, specifically, was €109.2 million in 2023.

In 2023, Bayer committed to disability-inclusive procurement by signing up to the [Disability:IN Procure Access initiative](#) that connects companies that recognize the importance of buying and selling technology that is accessible to people with disabilities.

4.3 Sustainability in the Supply Chain

Clear, sustainability-oriented criteria and standards apply to our supply chain at both global and regional level.

Strategic sustainability focus areas

Bayer works continuously to strategically evolve sustainability topics in procurement, particularly in relation to environmental and human rights issues and in connection with the

Supplier Diversity Program. We developed indicators to monitor progress in various sustainability focus areas (e.g. supplier diversity) and define suitable targets. We also continued to ensure that all suppliers of strategic importance had to present an EcoVadis rating of at least 45 out of 100 points ("green" assessment) or a comparable audit result. Furthermore, potential new suppliers with a high inherent sustainability risk and procurement spend of more than €250,000 are examined in advance regarding sustainability aspects. In 2023, we piloted a supplier questionnaire containing various ESG-related questions to identify the supplier's engagement and performance as part of our sourcing activities where no supplier sustainability assessment is available.

The focus in 2023 was on developing strategic and operational approaches for ensuring respect for human rights and the reduction of the carbon footprint in the supply chain.

Human rights in the supply chain

Respecting human rights along the supply chain is firmly anchored in Bayer's sustainability strategy, and Procurement plays a key role in implementing all necessary measures. In 2023, we continued providing training to our procurement employees and our suppliers in respecting human rights in the supply chain. We started to reinforce our procurement category strategies, embedding responsible purchasing practices among other measures, to enhance our procurement processes to comply with the requirements of the German Supply Chain Due Diligence Act (SCDDA).

In the agriculture industry, seed producers are subject to particular risks, especially as regards respecting human rights. We carry on implementing measures to prevent and mitigate such risks. In 2024, we plan to continue improving our procurement processes and take additional measures in relation to respecting human rights in our supply chain. For more information, please see Chapter 5. Human Rights.

Scope 3 greenhouse gas (GHG) emissions

As part of our decarbonization strategy (please see Chapter 7. Climate Protection), we have committed to achieving a reduction target in accordance with the requirements of the Science Based Targets initiative (SBTi) in line with the Paris Agreement. We aim to reduce greenhouse gas emissions from relevant Scope 3 categories in our supply chain by an absolute 12.3% (compared to the 2019 base year) by 2029 (in accordance with the criteria set out by the Science Based Targets initiative (SBTi)). The following Scope 3 categories of the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting & Reporting Standard are relevant for Bayer: (3.1) purchased goods and services, (3.2) capital goods, (3.3) fuel- and energy-related activities, (3.4) (upstream) transportation and distribution and (3.6) business travel). According to the GHG Protocol Corporate Value Chain (Scope 3) Accounting & Reporting Standard, the majority of Scope 3 emissions are in Category 3.1 purchased goods and services.

To effectively steer and reduce these emissions in the upcoming years, we initiated a new program in 2023 to drive supply chain decarbonization (Scope 3 Decarbonization Accelerator), including experts from all divisions and relevant enabling functions (please see Chapter 7. Climate Protection).

Together with other companies, we cooperated in various initiatives, such as the Partnership for Carbon Transparency (PACT) from the World Business Council for Sustainable Development (WBCSD), the PSCI Decarbonization Team and Together for Sustainability (TfS). In this context, TfS published an open-source Product Carbon Footprint (PCF) Guideline in 2022 to support PCF-related data exchange across the chemical industry, which can be considered as a crucial tool for decarbonizing this industry. We also use CDP's supply chain module to evaluate the goals, strategies and performance of our suppliers. For more information, please see Chapter 7. Climate Protection.

Training for procurement employees

To enable our employees to understand the importance of sustainability aspects in our supply chain and to effectively manage our processes, we use dedicated training measures to instruct our procurement employees in our sustainability requirements. In 2023, we offered a comprehensive sustainability training package to our procurement employees covering the focus topics.

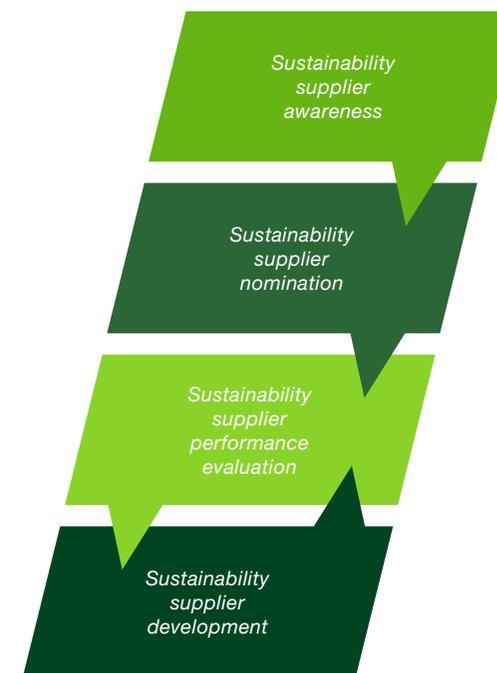
After embedding a revised version of Bayer's Supplier Code of Conduct in 2022, a web-based training was rolled out in 2023 that focuses on the main principles as well as implementation and monitoring processes. We also conducted advanced or in-depth training courses on selected focus topics. Procurement employees take part in EcoVadis webinars, and all Bayer employees also have free access to the TfS Academy and the Pharmaceutical Supply Chain Initiative (PSCI) resource library.

In an open series of dialogues on sustainability topics, we invite our procurement employees to grow their knowledge, ask questions and to interact on topics related to sustainability.

Process to improve sustainability in the supply chain

We have established a four-step process throughout the Group to improve sustainability practices in the supply chain. This process is implemented through cross-functional cooperation between the Procurement and Public Affairs, Science, Sustainability & HSE enabling functions.

Four-Step Management Process to Improve Sustainability Practices in the Supply Chain



Step 1: Sustainability supplier awareness

The core principles of our sustainability requirements are established in Bayer's [Supplier Code of Conduct \(SCoC\)](#), which is based on our [Bayer Human Rights Policy](#), our [Compliance Policy](#), the principles of the [UN Global Compact](#) and the core labor standards of the [International Labour Organization \(ILO\)](#). The code is available in 21 languages and covers the areas of ethics, relations with employees and other stakeholders (including human rights), health, safety, environmental protection and quality, and corporate governance and management systems. The Bayer Supplier Code of Conduct is frequently reviewed and updated. The Bayer Supplier Code of Conduct includes the legal requirements of the German Supply Chain Due Diligence Act (SCDDA). In our Supplier Code of Conduct, we state that complaints and (compliance) violations can be reported – anonymously if desired – via a central, globally available compliance hotline set up by Bayer (for more information, please see Chapter 2.6 Compliance). Additionally, we expect our suppliers to make an adequate complaint mechanism available to their stakeholders.

The Supplier Code of Conduct is applied in the selection and evaluation of our suppliers and is integrated into electronic ordering systems throughout the Bayer Group. Our Supplier Code of Conduct is supplemented by a global guidance document ([Supplier Code of Conduct Guidance](#)), which was updated in 2023 and, like the Supplier Code of Conduct, is available on our [website](#).

Furthermore, our standard supply contracts contain a clause that authorizes us to verify suppliers' compliance with our sustainability requirements. This clause has been integrated into our central contracting and purchase order systems and is included in contracts that were up for renewal in 2023 and beyond.

Bayer also takes proactive approach in raising awareness of sustainability expectations toward our strategic important

suppliers. We leverage formats such as direct communication or supplier events like our Supplier Day.

Step 2: Sustainability supplier nomination

All strategically important suppliers and all suppliers identified with a high sustainability risk are required to undergo a sustainability evaluation.

Bayer partnered with [BSR \(Business for Social Responsibility\)](#) to draw up a detailed sustainability risk framework based on internationally recognized sources such as the World Bank and United Nations. The risk framework focuses on a supplier's sector of activity (category risk) and country sustainability risk. Both risk factors are based on different risk dimensions, such as environment (e.g., climate and energy), social standards (e.g. risk of child labor) and corporate governance (e.g. data privacy risk). The combination of category and country risk, combined with the threshold of an annual spend of €500,000, identifies Bayer's high sustainability risk suppliers.

Bayer examines the suppliers identified in these two steps in order to request a sustainability assessment. In 2023, this process included 190 strategically important suppliers, making up around 29% of the total spend, and 339 suppliers with a high sustainability risk and a significant procurement spend (> €0.5 million p.a.) of nearly 10% of the total spend.

Furthermore, suppliers can be nominated for a sustainability evaluation by different functions, business areas or category managers, e.g. in case of newly planned business cooperations, insufficient in-depth knowledge or outdated supplier data.

Also included in the nomination are selected suppliers from the sustainability development process (see Step 4) and suppliers for which evaluations were performed according to the TfS and the PSCI audit frameworks.

Step 3: Sustainability supplier performance evaluation

Bayer verifies the observance of the code requirements by the suppliers selected in Step 2 by means of [EcoVadis](#) online assessments and through audits conducted by both external and Bayer auditors. [EcoVadis](#) monitors sustainability in global supply chains through an online assessment. Using technology and sustainability expertise, [EcoVadis](#) engages with companies and helps them adopt sustainable practices.

The online assessment criteria of [EcoVadis](#) – broken down into the areas of environment, ethics, labor and human rights, and sustainable procurement – correspond to the requirements of our [Supplier Code of Conduct](#), and also consider country- and industry-specific conditions and supplier size. In total, our service provider [EcoVadis](#) assessed 1,118 (1,145 in 2022) suppliers on our behalf in 2023.

The [EcoVadis](#) methodology is based on international sustainability standards (Global Reporting Initiative [GRI], United Nations Global Compact, ISO 26000), and supervised by a scientific committee of sustainability and supply chain experts, to ensure reliable third-party sustainability assessments.

As Bayer is also supplying products to other companies, we are subject to the [EcoVadis](#) assessment from the perspective of a supplier. In 2023, we updated our [EcoVadis](#) assessment, scoring 76 out of 100. We therefore belong to the top 1% of companies rated by [EcoVadis](#) in the industry group for manufacturers of basic pharmaceutical products and pharmaceutical preparations.

In 2023, 134 audits were conducted at our suppliers by external or internal auditors. The audit criteria included both the specifications of our Supplier Code of Conduct and the industry-specific requirements of industry initiatives such as TfS and PSCI. These audits provide the opportunity for further standardization of the sustainability requirements that

suppliers in the chemical and pharmaceutical industries are expected to meet. The sharing and mutual recognition of assessment and audit results also create synergies within the members of the respective initiatives.

In 2023, more than 50% of our purchasing volume (€11.4 billion) was attributable to suppliers with a sustainability rating (EcoVadis) or subject to a sustainability audit (TfS or PSCI).

Evaluated Procurement Spend 2023¹

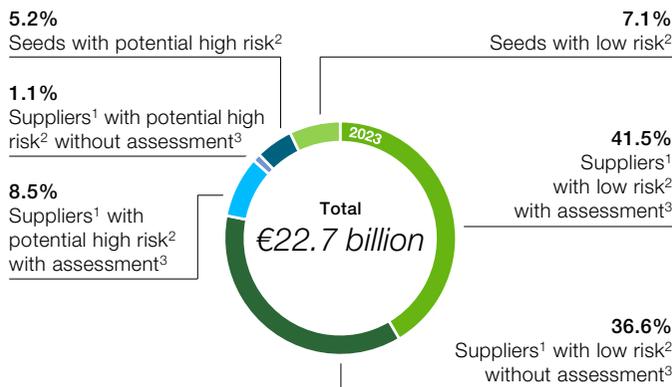


¹ Sustainability evaluation by EcoVadis, TfS or PSCI

We use the specialized methodologies of EcoVadis, TfS and PSCI to assess the sustainability of companies. However, the seed supply chain is structured differently, which is why these approaches cannot currently be implemented in the same way by agricultural businesses. Suppliers in the seeds segment have a particular risk of human rights violations. Therefore, prevention and mitigation measures have been developed within the seed supply chain, which are explained in Chapter 5. Human Rights.

Excluding seeds, around 9.6% (€2.2 billion) of our procurement spend in 2023 was attributable to companies with a potentially high sustainability risk. Of this, we covered a total of 88% of the procurement spend (€1.9 billion) with a sustainability rating (EcoVadis, TfS or PSCI).

Risk Analysis of Procurement Activities 2023



¹ Procurement spend for all categories excl. seeds
² Potential sustainability risk based on country and category risk
³ Sustainability evaluation by EcoVadis, TfS or PSCI

Bayer's HSE audit activities also contribute to our overall responsibility for a sustainable supply chain. HSE and sustainability audits complement each other, forming an efficient evaluation approach, depending on the individual risks. The results of all audits are factored into the supplier selection and management processes. In 2023, 361 (2022: 233) suppliers were evaluated by means of HSE audits and audits covering HSE topics (please see also Chapter 9.1 Health and Safety – Management Approach).

Assessments and Audits of Bayer Suppliers¹

	2021	2022	2023
Sustainability assessments ² via the EcoVadis platform	802	1,145	1,118
Sustainability audits ³ by external or internal auditors	77	113	134

¹ The online assessments of our suppliers that form part of a group generally take place at the parent-company level.
² Initial and reassessments of suppliers
³ Initial and follow-up audits of suppliers

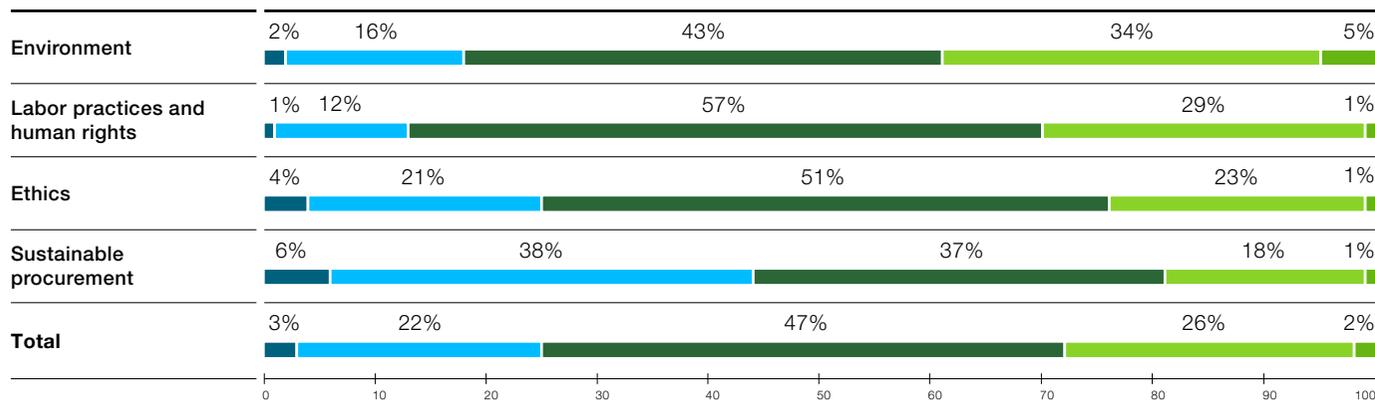
Analyzing the EcoVadis assessments of our suppliers in 2023, we learned that the greatest need for improvement lies in the categories of ethics and sustainable procurement. For audited suppliers, most gaps were identified in the areas of health and safety and labor. Bayer provides relevant capability-building training to the suppliers. The main sources for training are the platforms from PSCI and TfS.

In addition, we have established verification processes for the fulfillment of further international regulations such as those requesting companies to disclose the origin of certain raw materials. This applies, for example, to conflict minerals. When surveying our relevant suppliers, we use the internationally recognized Conflict Minerals Reporting Template to identify the use, sources and origin of certain minerals in our supply chain. In our [Supplier Code of Conduct](#), we make clear that our suppliers have to ensure that products they supply to Bayer do not contain metals derived from minerals or their derivatives that originate from conflict regions where they help – directly or indirectly – to finance or support armed groups and cause or foster human rights abuses. Suppliers who do not meet these requirements are immediately notified that these standards must be complied with and are requested to take corresponding action.

Step 4: Sustainability supplier development

Evaluated suppliers identified in the nomination step (Step 2) receive a corrective action plan based on their sustainability performance and are requested to verify their performance improvement via a re-evaluation after a reasonable period.

Evaluating the Sustainability Performance of Our Suppliers



Valuation according to EcoVadis (in points): 0-24 25-44 45-64 65-84 85-100
 Number of suppliers assessed: 1,118 (as of December 31, 2023)

Second, we focus on improving suppliers that have a poor sustainability performance, and we established a new supplier sustainability development approach in 2023. Suppliers are included in the development process based on their sustainability performance, their strategic importance for Bayer and their sustainability risk. The evaluation results are analyzed, specific improvement measures are jointly defined with the supplier, and these are documented in an action plan. Bayer supports suppliers with capability-building activities and a monitoring process. The development cycle is rounded off by a re-evaluation to verify the implementation of improvements. Bayer retains the right to terminate a supplier relationship if no improvement is observed during a re-evaluation.

In 2023, 121 suppliers were added to the development process. Some 30 suppliers have already completed the development and conducted a re-evaluation with a 93% rate of successful improvement. Some of the suppliers showed

minor improvements and will continue the development cycle to achieve better performance in the future.

If critical results are recorded as a result of a serious violation or several major shortcomings are identified during a supplier's sustainability performance evaluation, specific improvement measures are then jointly defined. In 2023, critical results were determined for 18 suppliers (1% of all assessed and audited suppliers). In these cases, we request that the suppliers remedy the identified weaknesses. We monitor the implementation of these activities through re-assessments or follow-up audits. In 2023, we were not prompted to end any supplier relationship solely due to sustainability performance.

In total, 687 (2022: 676) of the 1,252 (2022: 1,258) suppliers assessed via EcoVadis or audited via TfS or PSCI improved their sustainability performance in 2023.

External partnerships

Bayer is a member of two important industry initiatives: the [Pharmaceutical Supply Chain Initiative \(PSCI\)](#) and [Together for Sustainability \(TfS\)](#). Both initiatives are integral elements of Bayer's commitment to sustainability in the supply chain, providing sustainability-oriented upskilling training for suppliers and supplier managers.

TfS is an initiative of chemical companies committed to making sustainability improvements within their own – and their suppliers' – operations. This is to build global standards for environmental, social and governance performance of chemical supply chains. TfS members are chemical companies who represent a global annual turnover of over €800 billion and a global spend of more than €500 billion in the chemical industry in 2023.

The [TfS Academy](#) is a practical-oriented learning environment for suppliers and Bayer procurement employees. It covers topics as ethical aspects, conflict minerals, waste management and anti-corruption measures. In 2023, Bayer selected around 200 suppliers to participate in TfS training courses based on their sustainability performance and Bayer's assessment plan. The training courses dealt with labor and human rights guidelines, whistleblower procedures, environmental reporting and sustainable procurement guidelines.

The purpose of the PSCI is to define, establish and promote responsible supply chain practices, human rights, environmental sustainability and responsible business along the pharmaceutical supply chain, using the [PSCI Principles for Responsible Supply Chain Management](#) as a blueprint for responsible practice.

The PSCI organized more than 50 training sessions and webinars for suppliers on various human rights, ethics and HSE topics in 2023. A global supplier conference and a

supplier capability-building conference in China were conducted virtually, and a face-to face supplier capability-building event took place in India in 2023. These conferences were attended by more than 750 supplier representatives. Through the [PSCI online resource library](#), our suppliers can use additional training materials, which are supplemented every year.

In 2023, PSCI introduced the e-learning platform Learnster, which allows organizations to create their own interactive and engaging courses. Via Learnster, both PSCI members and their suppliers have access to the PSCI catalogue of courses and can track progress against the PSCI maturity framework.

Bayer is also a member of the [Sustainability Procurement Pledge's](#) (SPP) League of Champions, which provides access to a wide range of capability-building resources and engagement opportunities – developed for Procurement, by Procurement – across all regions, sectors and issues. SPP is an international organization for procurement professionals, academics and practitioners, driving awareness and knowledge about responsible sourcing practices and empowering people working in procurement.

5. Human Rights

Bayer is a founding member of the UN Global Compact and respects the Universal Declaration of Human Rights and the International Covenants on Civil and Political Rights and on Economic, Social and Cultural Rights of the United Nations. Our human rights due diligence is based on the related principles described in the [UN Guiding Principles on Business and Human Rights \(UNGPs\)](#) and the OECD Guidelines. The UNGPs are considered to be among the most important international standards for preventing and combating possible human rights violations in connection with business activities. We are committed to meeting this responsibility along the entire value chain and within our scope of influence worldwide. We also support the Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy of the International Labour Organization (ILO), and the latter's core labor standards.

5.1 Management Approach

Human rights are among the responsibilities of the Chairman of the Board of Management (CEO). In his role as Chief Sustainability Officer, he is supported in the topic of human rights by the Public Affairs, Science, Sustainability & HSE Enabling Function. Since 2022, Bayer has had a Human Rights Officer who oversees risk management in regard to human rights and reports to the Board of Management about his or her work. The implementation of our human rights standards in business operations is regulated by Group regulations, processes, and management and monitoring systems.

Bayer is fully committed to upholding human rights and has documented its stance in a globally binding [Bayer Human Rights Policy](#), which defines the human rights requirements within the company and obligates us to respect and foster human rights within our own business activities and in business relations. This policy was adopted by the Board of Management and is publicly available on the company's [website](#). This applies to all Bayer employees worldwide and the entire value chain, i.e. vis-à-vis suppliers, business partners, customers, consumers and local communities alike. In accordance with international human rights standards, we are always mindful to respect the rights of disadvantaged or vulnerable groups throughout our value chain – from indigenous peoples to individuals and groups who can benefit from Bayer's innovations.

Guided by our [LIFE](#) values and supplementary to our Human Rights Policy, we substantiate specific standards and responsibilities for respecting human rights in existing rules and Group regulations. These include the [Bayer Societal Engagement \(BASE\)](#) principles, along with regulations on data privacy, [corporate compliance](#), fairness & respect at work, [HSE management & HSE key requirements](#), security and crisis management, and the [Supplier Code of Conduct](#). This code specifies what we expect of our suppliers and obligates them to fully respect human rights. The Supplier Code of Conduct is based on the principles of the UN Global Compact and the core labor standards of the ILO.

As a central element of Bayer's corporate strategy, "SDG 5 Gender equality" is anchored in our work on behalf of equal opportunity, diversity and inclusion. For more information on

the topic of women's empowerment and gender balance and our targets for our own business activities, please see chapters 6.4 Diversity, Equity and Inclusion and 6.5 Fair Compensation. For more information on how we perform due diligence with respect to human rights within our own workforce, please see chapters 6. Employees and 9. Health and Safety.

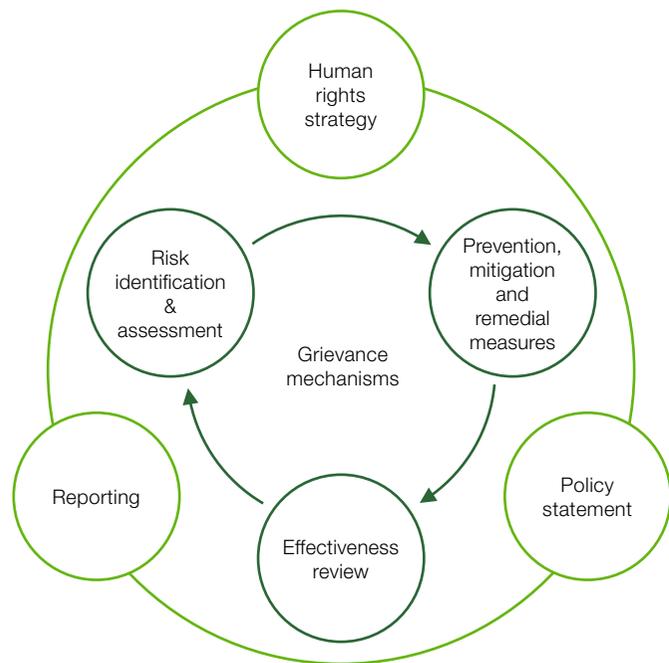
We have put in place suitable directives and management systems to meet our product stewardship responsibility in regard to human rights, too. For us, product stewardship means that our products meet the highest quality standards and that neither their development and manufacture nor their disposal should cause damage to people or the environment. For more information, please see Chapter 3. Product Stewardship.

5.2 Implementing Human Rights Due Diligence

We implement measures to respect human rights both within our own company and along our entire value chain. Group regulations and processes, as well as management and monitoring systems, regulate the implementation of human rights standards.

We are aware that the implementation of human rights due diligence is a continuous process that must be constantly adapted and improved. To ensure respect for human rights in the value chain in a targeted manner, Bayer operates according to a due diligence approach that is based on the UNGPs and OECD Guidelines for Multinational Enterprises.

Human Rights Due Diligence in Accordance with UNGPs and OECD at Bayer



Guided by our human rights strategy and Group-wide management systems, our due diligence process comprises a declaration of principles, risk identification and assessment processes, prevention and mitigation measures, the implementation of remedial measures, and measures for determining effectiveness and reporting, along with access to grievance mechanisms.

Human rights strategy

By 2030, we want to be industry-leading in our approach to human rights, based on our human rights strategy, which comprises three interlinking phases:

- 1. Definition of the framework:** derivation of the human rights strategy based on an analysis of the status and risks in accordance with the UNGPs and OECD Guidelines, our mission “Health for all, Hunger for none” and the legal requirements such as those stemming from the German Supply Chain Due Diligence Act (SCDDA)
- 2. Operationalization and full integration:** expansion of existing due diligence processes to address human rights risks
- 3. Strategic positive contribution:** support for the protection of human rights in areas that concern our business

The issue of human rights is among the responsibilities of the Chairman of the Board of Management (CEO), who consults regularly with the Human Rights Officer. In 2023, the Board of Management was briefed three times by the Human Rights Officer on the officer’s work and developments in this regard.

In addition, the Sustainability Decision Committee chaired by the Human Rights Officer serves as an advisory and decision-making committee for human rights matters. This body is composed of decision-makers with responsibility for areas relevant to sustainability and human rights. The tasks of the committee include, where required, examining potential human rights risks and approving mitigation and prevention plans based on our human rights strategy. Furthermore, the Committee examines courses of action with regard to actual or emerging human rights violations and releases guidelines for remedial measures.

In 2023, our external Sustainability Council, which advises the Board of Management of Bayer and other functions in sustainability matters, was expanded to include two experts from the areas of human rights and equitable health. In this way we want to further enhance our engagement for human rights.

The implementation of our human rights strategy is also overseen by the ESG (Environment, Social, Governance) Committee of the Supervisory Board.

For more information on the ESG Committee and the Sustainability Decision Committee, please see Chapter 2.11 Sustainability Management.

Policy statement

Our commitment to human rights is documented in a globally binding Group regulation, the Bayer Human Rights Policy. This commitment includes internationally recognized human rights in accordance with the International Bill of Human Rights and the Declaration on Fundamental Principles and Rights at Work of the ILO. This commitment was directly approved by the Board of Management and is available at our [website](#).

This Group regulation is regularly reviewed. The results of the annually conducted risk analysis and the requirements from the SCDDA are accounted for in the revised version.

The updated Group regulation took immediate effect for all Bayer employees worldwide with its publication in October 2023. It applies both internally and when dealing with external business partners of Bayer, (direct and indirect) suppliers, contractors, customers, consumers, members of local communities and government officials.

Our employees were notified about this updated Human Rights Policy through a communication campaign. New employees are made aware of Bayer’s human rights obligations during their onboarding activities.

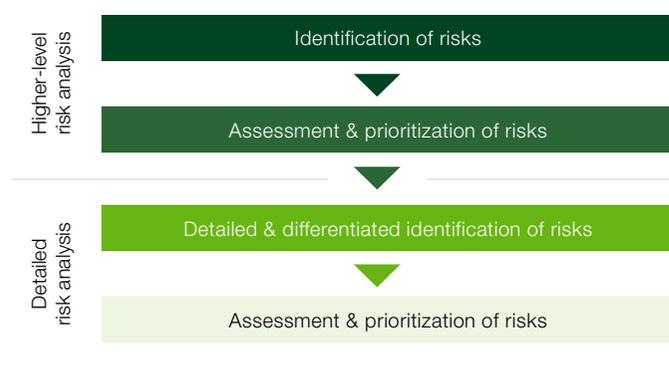
Reporting

We regularly inform the public in this annually published Sustainability Report about our strategy, approaches and results in connection with human rights due diligence. Furthermore, we report explicitly on our measures to combat modern slavery in our annually updated [Modern Slavery Statement](#). For the 2023 reporting year, we will publish the first report under the German SCDDA in 2024.

Risk identification and assessment

We use a risk analysis to identify potentially detrimental effects of our business activity on human rights. In doing so, human rights risks are identified, evaluated and prioritized, from an overarching risk analysis for the entire company to detailed analyses in selected areas. Our risk analysis is aligned to the [Chemie³ industry standard](#):

Levels of Risk Analysis according to Chemie³ Industry Standard



The analyses are conducted at least once per year and on an ad hoc basis. The results of this human rights risk analysis are communicated to relevant internal decision-makers and incorporated into the Bayer risk portfolio of our Group-wide, integrated risk management system in cases where the threshold values are exceeded. There, decisions on risk mitigation measures are also documented. The risk portfolio is regularly reviewed by the Bayer Assurance Committee (please see Chapter 2.10 Risk Management).

We have identified six priority issues:

- // Right to health
- // Responsible use of natural resources
- // Protection against child labor
- // Right to freedom from slavery, servitude and forced labor
- // Right to fair and favorable working conditions
- // Right to freedom of association

Risks are identified and assessed at a superordinate level in a two-step process:

- // The first step is to identify potential human rights risks that we could encounter, either through our business activities, products and services or in our value chain.
- // The second step is to assess these rights separately in terms of their risks with regard to their degree of severity (based on their extent, scope and reversibility), materiality and likelihood of occurrence.

Salience and materiality

Two dimensions must be accounted for when managing human rights risks:

- // The first comprises salient human rights issues, which refer to those human rights that can be most severely impacted by our activities and business relationships.
- // The other concerns material human rights, which are those that are of great importance for our internal and external stakeholders.

In addition to the yearly risk analysis, an ad hoc risk analysis was conducted in 2023 on the topic of preventing child labor in the United States. This analysis was prompted by a change in local US legislation on child labor and the related, potentially expected elevated risk of child labor. The analysis found that although the risk for Bayer’s business activities in the United States has increased, this did not have any impact on our business relations.

For more information on the detailed risk analyses, please see chapters 4.3 Sustainability in the Supply Chain, 6. Employees, 8. Environmental Protection and 9.2 Occupational Safety.

Prevention/mitigation and remedial measures

We offer numerous ongoing training programs to enhance employees' awareness of the importance of human rights in their day-to-day activities and outside the organization. This includes a basic training course entitled "Respecting Human Rights at Bayer" to further anchor awareness about, and respect for, human rights throughout the Bayer Group. The training course is available to employees in nine languages (English, Chinese, French, German, Italian, Japanese, Portuguese, Russian and Spanish).

In 2023, more than 86% of our employees received training on aspects of our Human Rights Policy in sessions totaling more than 224,000 hours. The topic of human rights is an integral element of training measures for the management teams of our country organizations.

We continue to be members of the Together for Sustainability (TfS) industry initiative and the Pharmaceutical Supply Chain Initiative (PSCI) to successfully meet the wide-ranging challenges of a sustainable supply chain and work out synergies. This involves conducting audits and assessments and offering further education activities such as training and conferences. Furthermore, we participate in a working group within the scope of Chemie³ – part of a joint initiative of the German chemical employers' federation (BAVC), the German Mining, Chemical and Energy Industrial Union (IGBCE) and the German Chemical Industry Association (VCI) – whose aim is to develop industry standards for sustainable value creation for the chemical and pharmaceutical industry. The intention is for these standards, which were published in the spring of 2023, to support companies in implementing human rights due diligence.

We verify the observance of human rights at our sites partly by means of Bayer audits. Bayer Internal Audit regularly conducts audits following the standards of the Institute of Internal Auditors (IIA). The annual audit planning follows a risk-based approach. These audits include a verification of our human resources processes, particularly concerning labor contracts, compliance with hiring requirements (including a minimum age verification) of our permanent and temporary employees, and employees' working hours. Internal Audit also examines whether employees are paid a living wage. Our procurement processes are audited as well, for example the commissioning of contractors. A total of 88 audit reports were compiled in 2023, of which eight were preventive compliance program audits or incident-related investigations.

If we determine that a human rights violation has occurred or is imminent within our own business activities or those of a supplier, we immediately take appropriate remedial measures to prevent or stop them or to minimize their scope.

We report in detail on human rights due diligence for our workforce and the local communities in the relevant chapters 3. Product Stewardship, 5.3 Respect for Human Rights in the Supply Chain, 6. Employees, 8. Environmental Protection and 9. Health and Safety.

Effectiveness review

We are working on a concept for measuring the effectiveness of our human rights due diligence approach. In 2023, we conducted a workshop that looked at how to evaluate the effectiveness of the risk management system, the prevention and remedial measures and the grievance mechanisms. We continue to develop the individual measurement systems, taking into account established measurement systems such as supply chain monitoring.

Grievance mechanisms

If there are indications of violations of our Human Rights Policy, employees and members of the general public can contact the worldwide compliance hotline, which is operated by an independent, external provider and available in more than 300 languages. This can also be done anonymously, if desired. Alternatively, employees can also report suspected violations to the respective compliance functions or to the Internal Audit unit or submit information via an internal company email address (known as the Speak-Up Inbox) or in the form of an incident request via a platform (also anonymously).

The compliance function records and processes all compliance violations. This enables us to systematically register, track and sanction various types of human rights violations. The action taken depends on factors including the gravity of the violation and applicable law. All cases are recorded according to uniform criteria throughout the Bayer Group and dealt with under the rules set forth in Bayer's Group Regulation on Management of Compliance Incidents.

For more information on compliance management at Bayer, please see Chapter 2.6 Compliance.

5.3 Respect for Human Rights in the Supply Chain

Regarding the topic of human rights, we are focusing particularly on our supply chain because this connects us with several million rights holders – in other words, people who are directly or indirectly impacted by our activities. For this purpose, Bayer Procurement undertakes a classification of the sustainability risk of our suppliers. This risk classification encompasses all procurement countries and categories such as services and seed production, the latter also including seasonal workers. This enables us to identify and

systematically address human rights risks by country and category.

Aspects of human rights are also covered in the training offerings and the Bayer [Supplier Code of Conduct Guidance document](#), which supplements our Supplier Code of Conduct and supports the suppliers in implementing the requirements of the code.

Furthermore, we verify the observance of human rights by our suppliers, partly by means of on-site audits that include interviews with the suppliers' management and employees. In 2023, we actively worked together with suppliers in whose operations we had identified critical findings with regard to human rights in the previous year. Where necessary, the suppliers were included in our Sustainability Supplier Development Program, follow-up audits conducted in 2023 already or further audits planned. In this way, we attempt to improve the situation for suppliers' employees not just in the short term, but also in the long term. In 2023, audits of suppliers uncovered a very small number of critical findings regarding applicable wages, employee benefits, working hours, health and safety, as well as a risk of child labor as documents verifying the age of the workers were not provided. In each of these cases, we also actively cooperated with our suppliers by agreeing on a time-bound corrective action plan to improve the situation for employees in a timely fashion. In 2023, we piloted a supplier questionnaire containing ESG-related questions to identify the supplier's engagement and performance as part of our procurement activities where no supplier sustainability assessment is available.

For more information, please see Chapter 4. Procurement.

Challenges in the seed supply chain

The risk of human rights violations is a fundamental risk in the seed supply chain and therefore also a risk for Bayer. In 2023, we again dealt in detail with human rights risks along our global seed supply chain and continued our risk prevention and mitigation measures. A detailed risk analysis was undertaken for the seed supply chain in 2022 to find out in which countries we need to intensify our efforts to prevent and mitigate human rights risks. The risk of human rights violations in the seed supply chain is potentially higher in the following countries in which we are active:

Potentially High-Risk Countries for Human Rights Violations in the Seed Supply Chain

Asia/Pacific	Europe/Middle East/Africa	Latin/Central America	North America
India	Kenya	Honduras	-
Indonesia	Malawi		
Philippines	Romania		
Thailand	United Republic of Tanzania		
Bangladesh	Ukraine		
	Republic of Zambia		

Measures undertaken to mitigate the risks included Bayer's Child Care Program to identify and prohibit child labor.

Tackling child labor in the seed supply chain

Bayer works to prevent child labor through the Child Care Program. The program is established in India, Bangladesh and the Philippines.

Through our Child Care Program, we continuously raise awareness among our suppliers about the problem of child labor and clearly communicate our requirements, because our position on child labor is unambiguous: it is strictly prohibited at Bayer. We therefore oblige our suppliers to refrain from employing children.

The goal of the Child Care Program is to take action against child labor in the seed supply chain. It therefore involves systematic and repeated inspections of individual seed producers in their fields by local Bayer employees during the growing season. Furthermore, a pilot of the program is planned for Thailand in the 2023/24 growing season. Through systematic audits in the second half of the growing season (January–April 2024), we want to carry out systematic checks to find out how high the risk of child labor actually is among local seed producers in Thailand. So far, we have not uncovered any concrete indications of child labor cases among our seed producers in that country.

Through the Child Care Program, we also conduct activities outside the growing season to prevent child labor. Off season, Bayer employees visit schools to underscore the importance of a good education to schoolchildren and their teachers. Accompanied by medical personnel, they also accentuate the importance of good hygiene.

Graduated sanctions are applied to our suppliers for non-compliance with our prohibition on child labor. These range from written warnings to termination of the contract in the case of repeated noncompliance. Thanks to a stringent monitoring system and the support of local information and educational initiatives, no cases of child labor have been identified in India, Bangladesh and the Philippines to date since the 2021/22 growing season.

Extraction of raw materials

Our upstream, indirect supply chain includes certain raw materials whose extraction poses a heightened risk of human rights violations. This applies to the supply chains of minerals, as well as palm and soybean oil and their derivatives. In addition to our clear expectation that our suppliers also implement the principles defined in our Supplier Code of Conduct in the upstream supply chain, we have established further measures to ensure that human rights are respected.

Bayer's net-zero deforestation target and its commitment to respecting human rights throughout the supply chain also include the objective of sourcing sustainable palm (kernel) oil and sustainable soybean derivatives (for more information, please see Chapter 4. Procurement).

Bayer strives for more sustainable value chains focused on more sustainable production, transparency, traceability and certification. Our activities are aligned with the elements of the [Accountability Framework](#). We work with our partners and suppliers to further reduce our ecological footprint and to establish social and ethical standards.

We continue to advocate for the responsible procurement of conflict materials. As the procurement of minerals originating in unstable regions of the world can contribute to the financing of conflicts and the violation of human rights, our [Supplier Code of Conduct](#) communicates our explicit expectation that our suppliers ensure products supplied to Bayer do not contain metals derived from raw materials originating from conflict regions that directly or indirectly help to finance or support armed groups and cause or foster human rights abuses.

5.4 Stakeholder Engagement and Partnerships

We find it very important to consider the interests of people potentially impacted by our activities and included, for example, civil society organizations in our Group-wide risk analysis in 2022. We also coordinate our human rights due diligence approach with the works council.

We want to perform our due diligence for constructive stakeholder involvement and are working on a concept that incorporates the interests of affected parties.

In addition, our external Sustainability Council advises us on our human rights strategy, and a workshop involving members of the council was held on this topic in 2023. We looked at activities of our human rights due diligence approach such as facilitated access to our grievance mechanisms, as well as our strategic positive contribution to our mission of "Health for all, Hunger for none."

We had a cross-divisional and cross-functional working group to implement the requirements stemming from the German SCDDA. The tasks were transferred to the divisions and enabling functions in 2023.

Dialogue with stakeholders

We regularly engage in dialogue with stakeholders on the topic of human rights and actively participate in committees and initiatives established to ensure their observance. We do this, for example, in the corresponding working groups of [econsense](#), where we have overseen the themes of human rights and industry since 2022, and participate in the

[Business for Social Responsibility](#) (BSR) initiative. The member companies from various industries discuss best practices, challenges and experiences in implementing human rights and the UNGPs.

Bayer is also an active participant in the discussion on due diligence with respect to human rights at the EU level and on the implementation of the requirements stemming from the German SCDDA at the national level. In November 2023, Bayer was on a panel at the [UN Forum on Business and Human Rights](#) in Geneva, Switzerland, where panelists discussed the implementation of the UNGPs in the context of the pharmaceutical industry.

Nurturing partnerships

Continuously raising awareness about child labor in the agriculture sector requires extensive measures and the involvement of various stakeholders. Against this background, Bayer joined with other seed companies back in 2019 to establish the Enabling Child and Human Rights with Seed Organizations (ECHO) initiative. ECHO is one of the biggest multi-stakeholder forums for the promotion of children's rights and decent work – which includes fair wages, as well as healthy and safe working conditions. In 2023, ECHO organized a [walkathon](#) to mark the World Day Against Child Labour with the goal of raising awareness about the issue.

6. Employees

Bayer's success is essentially built on the knowledge and commitment of its employees. At Bayer, employees can positively change the world through their work, in addition to developing themselves further. We want our company to be characterized by diversity, equal opportunity and inclusion, and to enable people of different backgrounds and skills to generate added value for our world. We are guided in this endeavor by our company values (LIFE). We offer attractive conditions and wide-ranging individual development opportunities, and bear responsibility for our employees around the world.

6.1 Management Approach

Human Resources (HR) at Bayer assumes leadership of the HR organization and is responsible for Group-wide regulations and standards for our employees. HR is headed directly by a member of the Board of Management, the Chief Transformation and Talent Officer, who also assumes the function of Labor Director. HR is responsible for the operational design, implementation and steering of the global HR processes with the goal of accelerating the development and impact of our talent.

Corporate culture

The company aims to create a culture that is based on fairness and respect. As established in the [Bayer Human Rights Policy](#), we are committed to respecting the human rights of our employees and therefore to fair and equitable treatment as a basic principle of our work environment. This includes observing

Group-wide standards of conduct and protecting employees from discrimination, harassment and retaliation. These standards are set out in our Group Regulation on Fairness and Respect at Work, which was signed by the Board of Management. Bayer employees around the world are provided with guidance on how to comply with these standards. Further binding Group regulations specify details on HR issues (see graphic).

The [LIFE values](#) are firmly anchored in our company and give us orientation in aligning our business. The acronym LIFE (leadership, integrity, flexibility and efficiency) symbolizes our values and leadership principles and is fully in line with Bayer's mission of "Health for all, Hunger for none."

Numerous external awards and surveys bear witness to our excellent reputation as an employer. These include the awards we received in 2023 as one of the best employers in Germany, China, the United States and Brazil. More than half of the Bayer workforce is employed in these four countries.

Digitalization

We see digitalization as a major opportunity for Bayer. In accordance with the applicable laws, robotic process automation and artificial intelligence are deployed in various HR processes in order to simplify them and increase efficiency. They also help improve user experience and reduce costs and manual activities. The company provides special training in the area of digitalization.

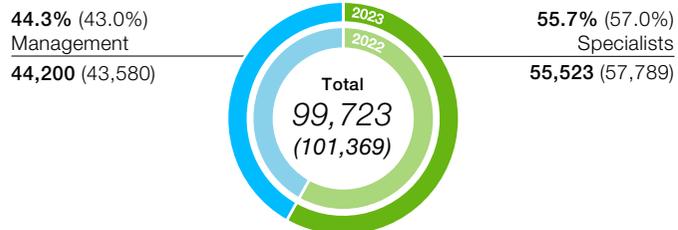
Binding Group Regulations¹



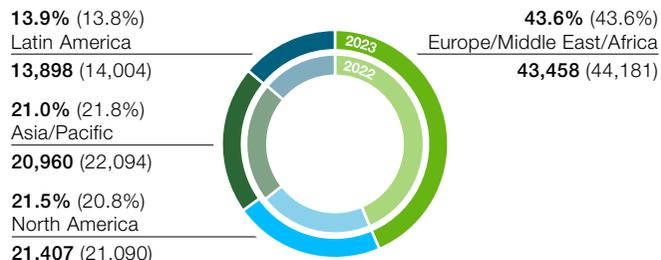
¹ Selection of relevant regulations

6.2 Employee Data¹

Total Employees 2023 (2022)

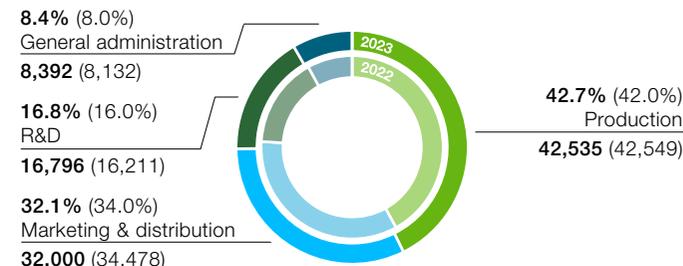


Employees by Region 2023 (2022)



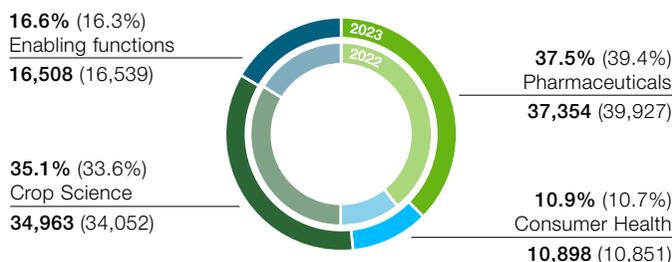
	2022	2023	Change (%)
Europe/Middle East/Africa	44,181	43,458	-1.6
North America	21,090	21,407	1.5
Asia/Pacific	22,094	20,960	-5.1
Latin America	14,004	13,898	-0.8

Employees by Function 2023 (2022)



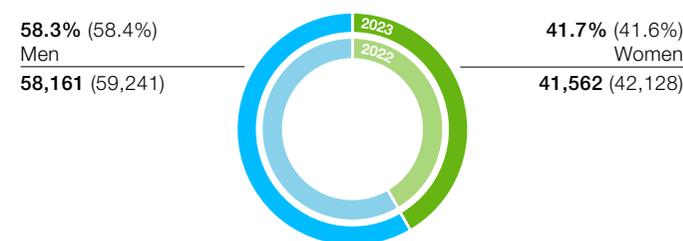
	2022	2023	Change (%)
Production	42,549	42,535	0
Marketing & distribution	34,478	32,000	-7.2
R&D	16,211	16,796	3.6
General administration	8,132	8,392	3.2

Employees by Division 2023 (2022)



	2022	2023	Change (%)
Crop Science	34,052	34,963	2.7
Pharmaceuticals	39,927	37,354	-6.4
Consumer Health	10,851	10,898	0.4
Enabling functions	16,539	16,508	-0.2

Employees by Gender 2023 (2022)



	Women		Men	
	2022	2023	2022	2023
Europe/Middle East/Africa	19,464	18,981	24,717	24,477
North America	8,138	8,270	12,952	13,137
Asia/Pacific	9,047	8,784	13,047	12,176
Latin America	5,479	5,527	8,525	8,371
Total	42,128	41,562	59,241	58,161

¹ Number of employees in full-time equivalents (FTE)

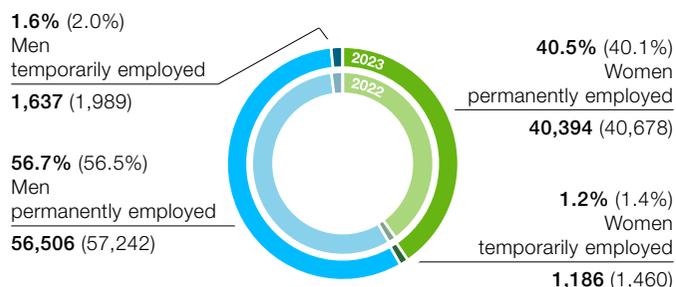
6.3 Employment in Detail

On December 31, 2023, Bayer employed 99,723 (2022: 101,369) people worldwide. In Germany, we had 22,172 (2022: 22,569) employees, which was 22.2% of the total Group workforce (2022: 22.2%). For further employee data, please see the [2023 Annual Report](#).

Employment status

Within Bayer's workforce, 2.8% of employees (1.2% women and 1.6% men) have temporary contracts. On the reporting date, our employees had worked for the Bayer Group for an average of 11 years (2022: 11 years; women: 10 years, men: 12 years).

Employees by Employment Status, Gender and Region 2023 (2022)



	Permanently employed		Temporarily employed	
	2022	2023	2022	2023
Europe/Middle East/Africa	42,477	42,025	1,703	1,433
North America	20,969	21,332	121	75
Asia/Pacific	21,336	20,442	757	518
Latin America	13,165	13,126	839	772

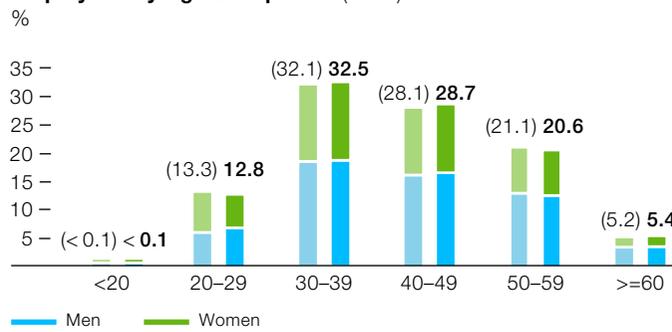
Demographics

We want to create an optimal environment for our employees in all life phases and thus safeguard the long-term availability of specialists and internal knowledge transfer. We take a range of steps to address the individual needs of our employees by offering jobs appropriate to different career stages along with health and sports programs, flexible working arrangements and active knowledge management.

Through the German Bayer Senior Experts Network (Bay-SEN) initiative, selected experts can continue to contribute their expertise even after retirement by temporarily working for Bayer on certain projects or for special tasks. In this way, BaySEN supports demographic diversity and helps different generations to work together and learn with and from one another.

The average age of our employees Group-wide is 42.

Employees by Age Group 2023 (2022)



The demographic situation differs greatly from one region to another.

Employees by Gender, Region and Age Group 2023

	Total	Europe/ Middle East/Africa	North America	Asia/ Pacific	Latin America
Women	41,562	18,981	8,270	8,784	5,527
< 20		6	3	1	5
20-29		1,902	803	2,019	1,112
30-39		5,534	2,021	3,849	2,281
40-49		5,849	2,487	2,239	1,534
50-59		4,770	2,064	621	551
≥ 60		919	891	55	43
Men	58,161	24,477	13,137	12,176	8,371
< 20		10	9	3	5
20-29		2,485	1,303	1,914	1,175
30-39		6,861	3,504	5,192	3,051
40-49		6,865	3,740	3,260	2,653
50-59		6,448	3,250	1,654	1,267
≥ 60		1,808	1,331	153	221

In Germany, the General Works Agreements on lifetime working and demographic change and on addressing demographic change at the nonmanagerial level at Bayer are among the tools we use to help shape the working environment for all life phases. These General Works Agreements provide for a reduction in employee workloads that was extended to further age groups, as well as measures to ease the return to work of nonmanagerial employees after long-term illness, and an extensive health screening program for all employees. In 2023, 98% of those who were eligible took part in the program to reduce the workload of older employees. What's more, the BayZeit long-term account makes it possible for employees in Germany to convert part of their gross salary in the early years of their employment into free time that they can take off later.

Talent acquisition

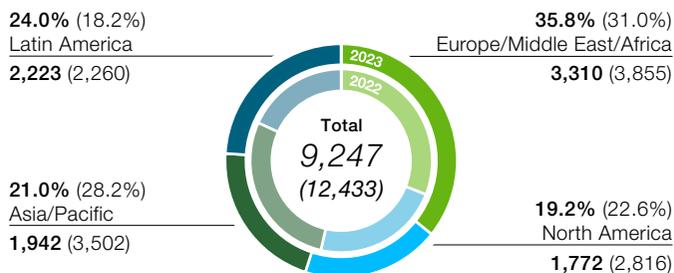
We pursue the overarching objective of attracting qualified employees and retaining them over the long term. In accordance with our HR strategy, we ensure that new employees are well integrated into the company culture and manage talent acquisition through a continuous process. In line with our Group Regulation on Talent Attraction, the Human Resources function has provided mandatory guidelines for the process worldwide, which have been signed by the Board of Management. This includes the uniform design of and compliance with the employer branding guidelines and our values, such as those described in the Group Regulation on Fairness and Respect at Work.

To acquire and retain talent, we focus heavily on social media and our global careers page. Country-specific acquisition and awareness campaigns enable local configurations as well the measurement of how many talented candidates were reached and hired. We also specifically deploy artificial intelligence to match talented candidates with vacant positions based on their skills and experience, as well as to streamline the internal pre-selection process and reduce bias. In this, we place special emphasis on diversity, equity and inclusion. The deployed technology was subjected to a thorough ethical examination.

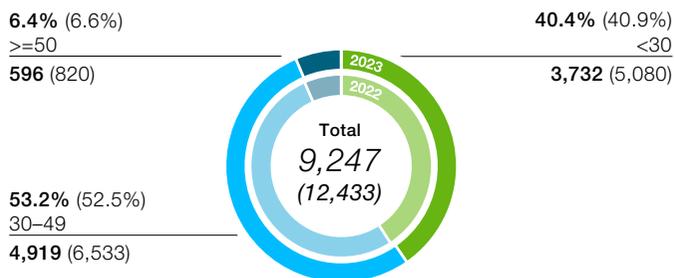
In total, the Bayer Group hired 9,247 new employees in 2023, accounting for 9.3% of the workforce.

New Hires 2023 (2022)

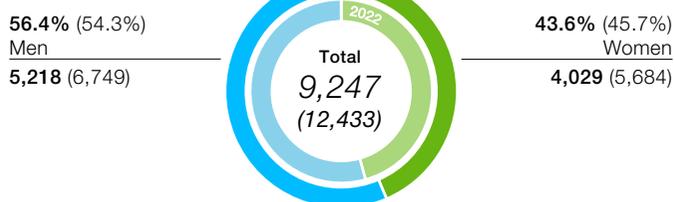
by Region



by Age Group



by Gender



Fluctuation

The overall fluctuation rate was 11.3%, a decrease of 0.9% compared with 2022. This figure includes all employer- and employee-driven terminations, termination agreements, retirements and deaths.

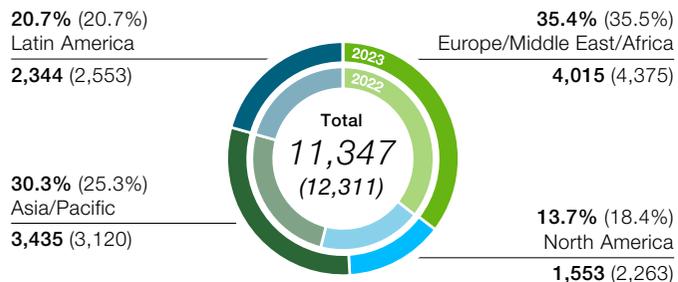
Fluctuation

%	Voluntary			Total		
	2021	2022	2023	2021	2022	2023
Women	6.7	6.2	5.3	12.6	12.1	11.2
Men	5.9	5.7	5.2	11.8	12.2	11.4
Total	6.2	5.9	5.2	12.1	12.2	11.3

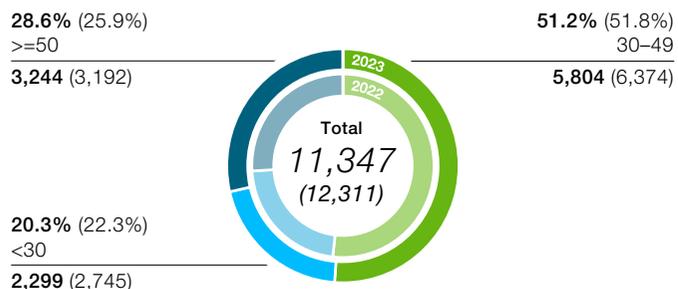
Bayer uses temporary employees from staffing agencies primarily in response to short-term personnel requirements, or fluctuations in order levels, for temporary projects or as replacements for employees suffering a long-term illness. In some countries, staff are employed via agencies for seasonal work. On December 31, 2023, some 3,370 temporary employees from staffing agencies were working for Bayer at our significant locations of operation. In Germany, the proportion of such temporary employees from staffing agencies compared with the total for the core workforce was 0.9%.

Fluctuation of Employees 2023 (2022)

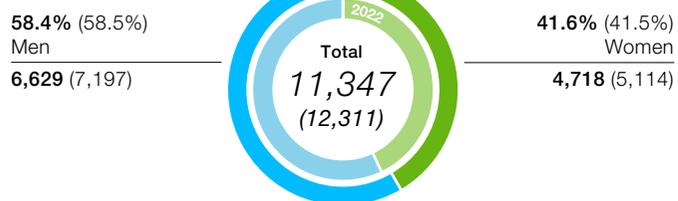
by Region



by Age Group



by Gender



Restructuring measures

We act with social responsibility when changes and restructuring measures are necessary. In all countries, we aim to minimize the impact on employees and find mutually agreeable solutions in cases where job reductions are necessary. This is also the case in Germany, where agreements are in place with employee representatives that fundamentally rule out dismissals for operational reasons in the intercompany personnel network of Bayer AG until the end of 2026. We are at different stages of development regarding the acceleration of our transformation announced in 2020. We anticipate that all the major transformation measures will be implemented by the end of 2024. Flexible models with attractive conditions are offered to employees of various age groups. Employees can also receive counseling on career reorientation and are supported through job application training measures.

Introduction of a new organizational model

We are currently working on better familiarizing our organization with the mission of “Health for all, Hunger for none,” and are therefore introducing a new system called Dynamic Shared Ownership (DSO). This new organizational model is more closely aligned to customer needs and empowers our teams to more effectively satisfy these needs and deploy our resources more efficiently in the future.

Our goal is for employees to work in small, self-administered teams. Activities are prioritized according to their contribution to fulfilling our mission, and their progress is measured in short 90-day cycles, which greatly increases our speed of action. This enables the number of coordination tasks and management levels to be reduced.

6.4 Diversity, Equity and Inclusion (DE&I)

To be successful in our mission “Health for all, Hunger for none,” we must continue to build a culture that is not just accepting of all its people, but that intentionally embraces the diverse and unique experiences, backgrounds, abilities and perspectives of our team to create a positive impact in the communities we serve.

At Bayer, our DE&I aspiration is to live a culture where everyone is valued and enabled to be their authentic self and create an inclusive and accessible workplace by advocating for DE&I across all areas and regions of our business. We employ people from around 150 nations.

Our global DE&I activities are enabled and driven by our global DE&I Council, consisting of divisional, regional and country representatives, global Business Resource Groups (BRGs) co-leads and the global DE&I Team. The council is led by our head of Talent Impact and DE&I.

Clear commitments

We established clear commitments for gender balance throughout the Bayer Group. We aspire to demonstrate year-on-year progress to increase the proportion of women in top management to 33% by 2025. We are driving our organization toward the ambition of increasing the average proportion of women at all management levels to 50% by 2025, and beyond. We then aim to increase the overall proportion of women in top management to 50% as well by 2030.

We have also defined additional commitments for further diversity dimensions for 2025 and 2030, covering generations, nationality, career experience, LGBTQ+ and people with disabilities, among others. Further aspects such as ethnic background are integrated into our commitments for our regions and country organizations.

Actions

In 2023, we started and continued the following initiatives:

- // We implemented several changes in talent acquisition and talent management to ensure equitable and inclusive processes, including training for leaders on key DE&I practices during the hiring process (e.g. diverse slates and panels).
- // We completed an assessment of gender pay equity for 86% of the Bayer workforce in 22 countries (please see Chapter 6.5 Fair Compensation).
- // Every quarter, we inform the Board of Management on DE&I.
- // We continuously monitor diversity dimensions (gender, generation, citizenship) of our top management.

- // Via our global Employee Survey, leaders receive visibility and further insights on their own inclusion index and ensure appropriate follow-up actions. Besides, the Inclusion Index is part of Bayer's nonfinancial Group targets.
- // We developed our global, individual DE&I upskilling framework to support our employees with training, resources and support along their personal DE&I journey.
- // We provide sponsorship of LGBTQ+ organizations that help to promote workplace inclusion and advocate for LGBTQ+ rights (Human Rights Campaign [United States, Brazil, Mexico]), myGwork [United Kingdom], PROUT AT WORK Foundation [Germany]).
- // We participated in Pride parades/demonstrations in 10 countries, which included four new locations in 2023.
- // We organized DE&I events with and for our employees in several countries, such as Germany (Diversity week), the United States (specific DE&I events), Brazil (Diversity week) and China (Diversity Day).
- // Our Pharmaceuticals Division hosted our first internal female talent development conference (Ladies League), supporting female career development by fostering internal visibility, long-term collaboration and upskilling.

Progress²

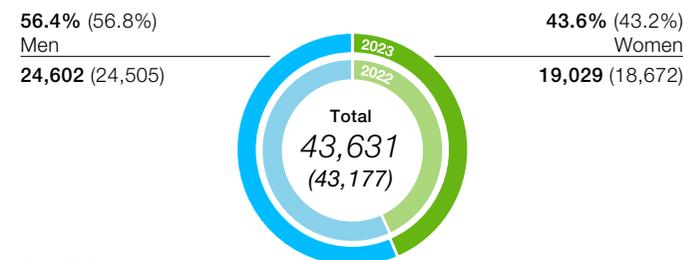
The proportion of women in management rose slightly to 43.6% in 2023 (2022: 43.2%).

The proportion of women in top management increased in 2023, amounting to 31.8% at year-end (2022: 27.9%).

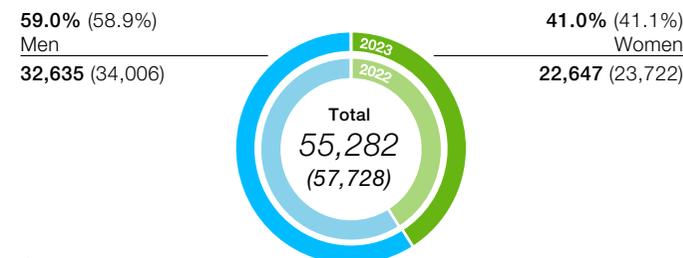
Currently, 40 nationalities are represented in our top management, with around 69% of these employees working in their home countries. There is one woman on the Board of Management, and three of the six members of the Board of Management have a nationality other than German.

Employee Structure of the Bayer Group 2023 (2022)²

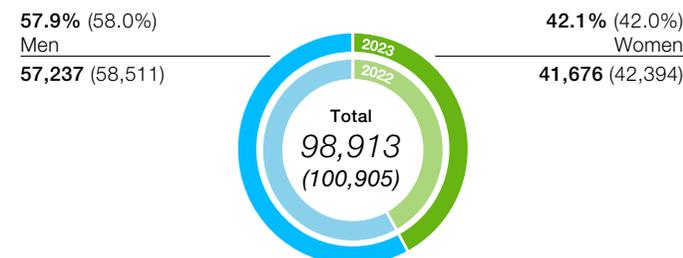
Management



Specialists



Group



² As Bayer generally reports its KPIs for Diversity, Equity & Inclusion in terms of headcount (HC), as of 2023, key figures in the DE&I chapters in the Annual Report and Sustainability Report are based on headcount as well. This is designed to include each individual characteristic of our employees independent of their working hours. To make it comparable to the previous year's values in this chapter, we have also reported and added the 2022 figures in this chapter in terms of HC. Key figures shown in the other chapters might differ from those shown in this chapter as those are still based on full-time equivalents (FTE).

The proportion of either women or men on the company's Supervisory Board should not fall below 30%. The Supervisory Board meets this target and has increased its proportion of women to 45%. For more information on the Board of Management and Supervisory Board, please see the Declaration by Corporate Management in the [2023 Annual Report](#).

The voluntary self-declaration of ethnic background is currently available in a selected number of countries. We strengthened our voluntary self-identification through communication initiatives in Brazil and the United States (e.g. regarding nationality, ethnic origin and LGBTQ+) to foster transparency and build understanding. Of our employees in Brazil, 26% are Black, 4% are Asian and 1% of other ethnic origin. Of our employees in South Africa, 37% are Black, 6% are Asian and 4% are Colored (multi-ethnic). In the United States (incl. Puerto Rico), the workforce represents 13% Asian, 5% Black or African descent, 10% Hispanic or Latino and 2% other ethnic origin.

People with disabilities are an integral part of our workforce. Based on voluntary statements by employees, we employ around 2,130 people with disability in 46 countries, 45% of whom are women and 55% men. That represents 2.4% of our workforce in countries where self-declaration is possible. Most employees with disabilities work in Germany, where they made up 4.2% of the workforce in 2023.

Business Resource Groups (BRGs)

BRGs are part of our DE&I strategy. They are voluntary, company-sponsored groups of employees who work together to promote cultural diversity, DE&I awareness and corresponding education.

By giving a voice to diverse constituencies within the company and the community, BRGs assist Bayer with cultivating an inclusive workplace.

Our global BRGs are:

- // BLEND (Advocating for lesbian, gay, bisexual, transgender and queer [LGBTQ+] people and supporters)
- // ENABLE (Advocating for people with disabilities/ diverse abilities)
- // GROW (Advocating for women's advancements)
- // BayAfro (Advocating for people of Black/African descent and allies)
- // MERGE (Enhancing multigenerational competence within the organization)

Each global BRG is sponsored by a member of the Board of Management and an executive sponsor from the business. Their role is to provide mentorship and guidance to support critical DE&I objectives and to ground the experiences gained more firmly in our corporate culture.

Additionally, Bayer has several BRGs at a country or site level with local executive sponsors to support their efforts.

Engagement

- // As a signatory (since 2016) to the [Women's Empowerment Principles](#) of the United Nations, we pursue an inclusive approach to ensure that gender equality is directly integrated into all relevant human resources processes and driven forward by the management.

The seven Women's Empowerment Principles explain how to ensure that everyone can enjoy the same rights in the workplace, on the employment market and in society at large, irrespective of their gender.

- // We are a member of the Diversity Charter (Charta der Vielfalt e.V.) corporate initiative, joined the Valuable 500 initiative and are a founding member of the German "Chef:innensache" network. Together with other members and partners, we are working on solutions to drive DE&I forward.
- // We continued our partnership with the [Healthcare Businesswomen's Association \(HBA\)](#), a global nonprofit organization that promotes the influence of women.
- // We reconfirmed the importance of disability inclusion together with our partners Disability:IN and the Valuable 500. In addition, a representative of Bayer joined the board of directors of Disability:IN.
- // Bayer participated in the recently established GDEI (Global Disability Equality Index), and Bayer US received a score of 100% (for the third time in a row) on the DEI (Disability Equality Index). Both surveys are driven by our global partner Disability:IN.
- // In Germany, we partnered with Innoklusio© to create an interactive experience that enhanced employee understanding and awareness of disability inclusion.
- // We received multiple accolades for DE&I, including the silver medal for supplier diversity and gold in the German LGBTQ+ Pride audit as well as being named Pride Champion and being among the Top 10 in the Pride Index.

6.5 Fair Compensation

Bayer applies uniform standards to ensure that employees are fairly compensated throughout the Group. Our performance and responsibility-related compensation system combines a basic salary with performance-related elements, plus additional benefits. Adjustments based on continuous benchmarking make our compensation internationally competitive.

We attach great importance to equal pay for men and women in similar roles with similar experience, and to informing our employees transparently about the overall structure of their compensation. Our Group Regulation on Total Rewards provides a binding framework specifying the global requirements.

Compensation structures at Bayer

Gender pay equity is one of the key pillars of the global diversity, equity and inclusion (DE&I) strategy at Bayer. One element here is the Group-wide ascertainment and analysis of the “unadjusted” and “adjusted” gender pay gap, with these activities being coordinated by a central team.

The average global unadjusted gender pay gap was 7.36% in 2023 and is recalculated each year. Participating here are the 22 biggest Bayer country organizations, which together account for 86% of the total workforce. We endeavor to achieve a Group-wide unadjusted gender pay gap of below 2% by 2030.

The adjusted gender pay gap is periodically calculated for each employee using a machine-learning-based algorithm that was developed in-house. Currently participating in this calculation are 15 Bayer country organizations that together account for 65% of the total workforce. The analytically calculated results were shared with HR officers in the countries and manually examined.

Wherever a case is identified as a gender pay gap, this gap must be quickly closed in line with the global stipulation. The implementation status and associated measures are monitored using a central dashboard. Our target is an adjusted gender pay gap of 0%.

In summary, the results of the global gender pay equity analysis confirm that Bayer’s compensation system actively contributes to pay equity.

Living wages

Bayer compensates employees on both permanent and temporary employment contracts in excess of the statutory minimum wage in the respective countries, paying at least a living wage that is annually reviewed and specified worldwide by the nonprofit organization Business for Social Responsibility (BSR). This also applies to part-time employees whose compensation was proportionately aligned with that of a full-time position. The payment of living wages is implemented at the country level and reviewed each year by HR to ensure that the requirements of the BSR are observed throughout the Group.

A living wage is defined as the wage that is required to purchase the goods and services needed to meet a minimum cultural and social standard of living in a country – including basic needs such as accommodation, energy and food, but also leisure activities, cultural participation and a savings rate. In other words, the concept of a living wage goes beyond the otherwise customary statutory minimum wage. In addition, living wages are adapted annually to changing conditions in specific countries, while statutory minimum wages usually remain unchanged for several years. Although minimum wages are legally established in

many countries, they often are not sufficient to enable a living standard above the poverty line. By integrating the living wage concept into our operations, we also support the Universal Declaration of Human Rights and the global Sustainable Development Goals (SDGs) of the United Nations.

At Bayer, individual salaries are based on personal and professional abilities and the level of responsibility assigned. The basis for this is a job evaluation independent of the individual. At managerial level, this is based on a uniform evaluation approach for all positions throughout the Group using the internationally recognized Korn Ferry method. Differences in pay based on gender are ruled out in areas of the Bayer Group and jobs covered by a binding collective bargaining agreement. In the emerging markets and developing countries, we exceed local market conditions in regard to compensation levels and pay at least a living wage.

In the majority of cases, full- and part-time employees at our significant locations of operation receive the same rates of fixed and variable pay. Our compensation concept also includes variable one-time payments to recognize outstanding performance. In many countries, employee stock programs enable the purchase of Bayer shares at a discount. Depending on statutory requirements, employees on temporary contracts may not be entitled to long-term compensation components such as pension plans in some countries. The long-term variable compensation (LTI) of our LTI-entitled managerial employees takes into account progress toward the Group’s sustainability targets. For detailed information on the variable compensation of our Board of Management, please see the Compensation Report in the 2023 Annual Report.

Retirement benefits

In addition to providing attractive compensation for their work, Bayer contributes to the financial security of its current and former employees. Retirement benefit plans are available to 79% (2022: 79%, 2021: 75%) of Bayer employees worldwide to complement national pension systems. The benefits provided depend on the legal, fiscal and economic conditions in each country, employee compensation and individual years of service.

Availability of Retirement Benefit Plans¹

%	2021	2022	2023
Europe/Middle East/Africa	91	86	85
North America	100	99	99
Asia/Pacific	33	53	57
Latin America	65	69	65
Total	75	79	79

¹ In addition to state pension insurance

6.6 Learning and Training

Our employees need a broad spectrum of competencies, skills and knowledge to fulfill our mission of “Health for all, Hunger for none.” Successful careers at Bayer are the result of lifelong learning. We view it as a central task to offer our employees a broad range of continuing education options for their development. As an integral part of our learning culture, the Group Regulation on Learning and Training is of crucial importance in this context.

It guarantees our employees access to high-quality learning and training opportunities that not only promote their career advancement, but also contribute to their personal development. The Group Regulation on Learning and Training also helps strengthen employee retention. We create a strong team by actively involving our employees in the development of their skills and giving them the opportunity to broaden their knowledge and abilities.

Global training process

Bayer has introduced a global, GxP-validated training process that offers all organizational units a framework for standardized training management throughout the company. It comprises five subprocesses and follows a learning life cycle:

Overview: Global Training Process



- // “Determination of training needs” describes the process for analyzing, reviewing and planning strategic and business-critical training needs based on the reports and evaluations available.
- // “Provision of training content” comprises the development and application of learning content depending on business-related and individual training requirements.
- // “Definition and classification of training” establishes which training measures are assigned to which target groups and in what form.
- // “Training management” describes the daily workflows such as the creation of a training offering on the learning platforms, logistical administration through to registration processes and completion, and the assessment of skills.
- // “Evaluation of training” describes all forms of evaluation options. It serves to evaluate existing training offerings with the goal of providing content for identifying training needs so as to initiate a new learning life cycle.

The global training process is supported by two complementary systems – our learning management system and the learning experience platform. The learning management system is used for compulsory and GxP-relevant training courses, formal and internal learning content, tracking course completion, and the provision and assignment of training offerings. The learning experience platform enables access to various content providers and wide-ranging offerings.

Individual learning

Through easily accessible learning opportunities, we enable our employees to learn according to their own needs and schedule. With the help of digital technologies, we offer the option of a personalized learning offering. As part of our learning environment, customized content can specifically be selected from internal and external sources via the learning experience platform. Furthermore, there is also scope to determine on an individual basis how often employees engage in learning and the amount of time they spend learning on mobile devices or at their workplace. We continuously update various learning materials such as videos, books, courses, podcasts and articles. We recently added new content from the areas of digitalization, inclusion, diversity, equity and leadership to our learning offering.

The top three skills our employees choose most often are leadership, project management and data analytics.

Digitalization represents a major opportunity for Bayer. Our focus lies on promoting the digital skills of our employees. We also offer learning offerings in both conventional IT fields and other important areas such as production, sustainability and human resources.

Our leadership programs serve as the foundation for shaping a company culture in which every employee is empowered to contribute to our common success, irrespective of his or her position. These learning programs are aligned toward strengthening employee engagement and workplace satisfaction.

In addition, the Bayer Leadership Academy offers courses for the systematic development of our managerial staff. Functional academies such as the Innovation Academy, IT Academy and R&D Academy offer advanced training in various disciplines.

Based on the company’s training policy, full- and part-time employees and temporary employees from staffing agencies complete the obligatory compliance and ongoing vocational training, both through classroom-based courses and computer-assisted education measures. Participation is regularly verified.

Learning and training time averaged around 26 hours per employee in 2023. The average cost of ongoing training per employee was €536.

Of the total workforce, 91.2% completed at least one training offering.

Learning and Training Hours 2023

	Women	Men	Total
Category			
Management*	20.7	18.7	19.6
Specialists	27.5	33.7	31.0
Overall average	24.7	27.7	26.4

* Incl. top management

Vocational training

To meet the need for skilled employees, Bayer hires apprentices in more than 28 different occupations, primarily in Germany. We employed 1,287 apprentices overall in 2023 (of whom 33% were women). Around the world, Bayer also offers trainee programs in various areas for those embarking on a career and internships for students.

6.7 Employee Development and Integration

Bayer promotes a culture of candid feedback and encourages feedback in all directions – from supervisors to employees, between colleagues and from employees to supervisors.

Our managerial employees serve as role models and play an important part in promoting performance and further developing the feedback culture at Bayer. Supervisors have the opportunity to ask their team for feedback about their leadership behavior. The Leadership Pulse feedback tool helps them to understand how their team perceives them in their role as a manager.

Bayer’s virtual mentoring approach is available to all full-time and part-time employees globally, allowing participants to independently leverage professional development opportunities, either for their own benefit as a mentee or for others as a mentor. The program is supported by an algorithm based on artificial intelligence that brings together mentors and mentees from throughout the Bayer Group. Since the launch, more than 5,200 employees have registered; 49% of participants are women and 51% are men.

Performance goals and development dialogues

Bayer pursues a globally standardized approach for performance evaluation and employee development, as defined in the Group Regulation on Performance and Development. The performance assessment procedure is available to 83% of our employees worldwide. Those excluded from this are primarily employees whose existing works agreements do not allow for individual performance assessments, for example in Germany.

Our employees and supervisors jointly set flexible annual goals. In consultation with their supervisors, employees can select goals of relevance for themselves and their work areas and can also make flexible adjustments to the goals during the evaluation phase. Both individual and team goals can be set. In 2023, flexible annual goals were agreed upon for 94% of eligible employees, 44% of them female and 56% male.

Some 83% of our employees (71% of our specialists and 99% of our managers) can participate in a year-end evaluation concerning the fulfillment of their goals. At the end of 2023, 98% of the eligible employees (44% female and 56% male) received such an evaluation. In addition, employees can regularly and openly discuss their performance, challenges, ideas and well-being with their supervisors during check-ins.

Managers throughout the Group have the option of presenting Top Performance Awards to incentivize outstanding individual and team successes. These involve a variable payment to reward special achievements directly in a timely fashion. Additional recognition programs are in place in some countries. In many countries, employees are recognized with years-of-service awards.

In regular development dialogues, employees discuss perspectives for their further career development together with their supervisors. Such a development dialogue can identify a training need that can be thematically covered by the My Learning learning management system and the GoLearn learning experience platform (please see Chapter 6.6 Learning and Training).

More than 58,300 development dialogues were held and documented in 2023. In total, 59% of our employees participated in these dialogues (of whom 45% were women and 55% men; 50% of our specialists and 71% of our employees in management in all).

Thanks to our wide-ranging business activities, employees throughout the Bayer Group can access various opportunities for development. Vacancies throughout the Bayer Group, from nonmanagerial right up to upper management level, are advertised via a globally accessible platform.

Supporting scientists

To maintain an enthusiasm for Bayer among top researchers and scientists, we offer them special development opportunities that are tailored to their requirements. These include new scientific challenges, special advanced training offerings and a career path either as experts or as managers in various Bayer regions, functions or divisions. Through our Science Fellows Community, we talk to our scientific specialists about their own career development. Special mentoring programs are established to support employees' early development and their regular networking with experienced scientists and managers.

Promoting dialogue and exchange

Bayer offers employees numerous means of actively discussing company-specific topics and scope for optimization via various internal communication channels. We actively involve our employees in business processes by offering the opportunity for dialogue. Informing staff comprehensively and in good time about upcoming internal company changes, in compliance with the applicable national and international regulations, is very important to us.

We measure employee engagement at Bayer by means of institutionalized feedback discussions and regular employee surveys. This enables us to monitor the effectiveness of our initiatives and implement any necessary improvements. In addition, we conduct biannual employee surveys throughout the Group; the participation rate in the second half of 2023 was approximately 78%. Based on the employee surveys, the approval rate for employee engagement in the second half of the year was 76%. The topics addressed in the survey, which has been conducted exclusively online (paperless) since 2022, are Employee Engagement, Company, Work Environment, Future of Work, Sustainability, Inclusion and Workload.

We engage in open and trustful dialogue with employee representatives worldwide. The main dialogue formats are regular employee assemblies and information events for

managers, as well as the European Forum, at which employee representatives from European sites engage in discussion with the Board of Management and other company managers on topics of overarching relevance to the company.

Our employees can submit Bayer-related questions through the internal crowdsourcing platform WeSolve to obtain innovative ideas on an interdisciplinary basis. These questions are then answered with the help of other employees with whom the person asking the question does not normally have any contact.

Rewarding ideas

To promote a culture of innovation in the workplace, additional platforms for making work-related suggestions are available to employees in Germany, such as the Bayer Ideas Pool and the Ideas Forum. The suggestions made here by employees on improving processes, occupational safety and health protection are rewarded and utilized. Some 2,700 ideas were submitted in 2023, and 44% of the suggestions for improvement evaluated in 2023 were implemented. In the first year of implementation alone, those improvements that led to quantifiable benefits generated savings of some €6.5 million. In 2023, Bayer distributed bonuses of around €1.6 million for the implemented proposals.

Volunteer work to support social projects and initiatives

Inspired by our purpose of "Science for a better life," our mission of "Health for all, Hunger for none" and our commitment to conserve and protect the environment, Bayer employees have long volunteered their own time on behalf of their communities. For example, our employees founded PROSI (Pro Social Initiatives) in 2018,

which networks employees worldwide for social volunteering initiatives. The Group Regulation on Corporate Volunteering was also introduced in 2023, enabling employees to take at least one day off per year with pay for volunteer services with social organizations. Germany has already implemented the concept, with other countries scheduled to follow. Employees can use an online platform for volunteer services to search for organizations and events to actively support. The platform also enables participants to create volunteer offerings and share them with other Bayer employees. Existing volunteering programs (such as those in the United States) will be maintained and are summarized under the Group Regulation on Corporate Volunteering.

Another example of employee engagement is the charitable donation program “Helping Cents.” Through this, our employees in Germany can donate the “spare cents” after the decimal point on their monthly payslip for charitable projects. Bayer then doubles these donations. In 2023, 7,813 employees took part in this and donated almost €42,000.

6.8 Health Provision

“Health for all” is a core element of our corporate mission, which is why the health of our employees is of the utmost importance for us. We have established health provision programs and support access to reliable and high-quality healthcare. For information on our occupational health and safety measures, please see Chapter 9. Health and Safety.

In 2023, we maintained our global framework concept BeWell@Bayer to promote our employees’ health and quality of life. This expands the core aspect of health into a comprehensive approach, targets further health improvements in the daily work environment and is specifically designed to help employees balance their professional and private lives better.

In 2023, we continued to focus particularly on mental health as one of the most important pillars of our BeWell@Bayer framework. Through the global House of Health platform, we offer programs and materials to help promote a comprehensive approach to health and well-being at Bayer. For more information, please see Chapter 9.3 Occupational Health.

Our occupational health management activities include numerous additional preventive programs, ranging from ergonomic workplace and stress management initiatives to incentive systems to promote healthy behavior. Employees can access these programs through Bayer’s intranet and through internal and external company benefits platforms. Our employee representatives are included in occupational health management and are actively involved in its further development. The Bayer European Forum – which brings together management and employee representatives – has signed the Luxembourg Declaration on Workplace Health Promotion in the EU and is committed to the principles contained therein regarding the implementation of workplace health promotion. Health check-ups are an integral part of our global health promotion initiatives.

We want to provide employees in all countries with access to reliable and high-quality healthcare. Almost 97% of our employees worldwide have either statutory or private health insurance or can obtain health insurance through the company.

Health Insurance Coverage¹

%	2021	2022	2023
Europe/Middle East/Africa	98	99	99
North America	90	92	92
Asia/Pacific	96	96	97
Latin America	100	100	100
Total	97	97	97

¹ Financially supported by the employer

For information on our occupational health and safety measures during the ongoing pandemic, please see Chapter 9.3 Occupational Health.

6.9 Employee Rights

Employees at all Bayer sites around the world have the right to elect their own representatives. In 2023, the working conditions for around 52% of our employees worldwide were governed by collective or company agreements. At various country companies, the interests of the workforce are represented by elected employee representatives who have a right to be consulted on certain personnel-related decisions.

Proportion of Collective Agreements by Region¹

%	2021	2022	2023
Europe/Middle East/Africa	80	80	79
North America	2	1	1
Asia/Pacific	49	47	46
Latin America	52	51	51
Total	54	53	52

¹ Percentage of employees covered by collective bargaining agreements or company agreements, especially with respect to wages and working conditions

The contractually agreed working hours of our employees do not exceed 48 hours a week at any of our significant locations of operation.

6.10 Work-Life Integration

We help our employees to balance their work and private lives. Taking their individual situation into account, we give them flexibility in shaping their working hours and work locations and offer them parental leave and support with child-care and caring for close relatives. In many countries, our commitment in this area goes beyond the statutory requirements. An overview of the [selected benefits for employees in each country](#) can be found at the end of this chapter.

Hybrid working

Within the scope of our Next Normal Office and New Ways of Working concepts, we fundamentally give our employees the freedom to decide together with their supervisor how and where hybrid working makes sense with a flexible mix of mobile work and presence at the workplace.

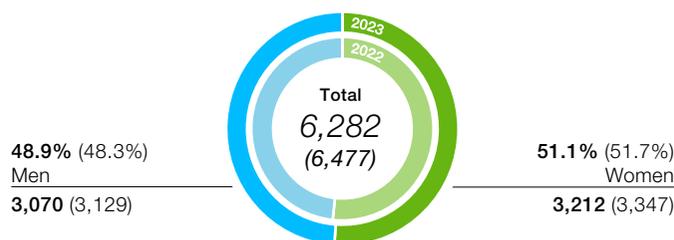
The increased use of flexible working models is part of our Next Normal Office Concept, in which our employees at all hierarchy levels (empowerment) are given more flexibility and responsibility. In line with the requirements of (labor) law and taking into account cultural differences, we want to meet the needs of our employees and customers and thus strengthen our business operations.

Bayer in Germany has agreed to uniform conditions for mobile working in a General Works Agreement with the Works Council. Through this, employees have the freedom to work remotely on certain days after consulting with their supervisor.

In 2023, part-time employees accounted for around 6.3% of the Bayer Group workforce (approximately 51% female and 49% male), primarily in Europe (98%). Some 1% of part-time employees were located in Asia and 1% in North America, with very few part-time employees in Latin America.

Bayer enables both men and women to take parental leave, although national parental leave regulations vary widely from country to country. Some 1,327 women and 1,418 men took parental leave in 2023. Over the course of the year, 2,595 employees returned to work from parental leave.

Part-Time Employees by Gender 2023 (2022)



The next table uses Germany as an example and shows the number of employees who have returned to work after opting for the standard statutory parental leave program of up to three years per child. By the end of 2023, 79% had returned to work. Some 66% of women and 91% of men who have taken parental leave since 2021 have returned to work.

Employees Returning from Parental Leave in Germany 2023

	Women		Men		Total	
	%	absolute	%	absolute	%	absolute
Employees on parental leave since 2021	49	1,097	51	1,143	100	2,240
of which still on parental leave/dormant contract	30	327	4	43	17	370
of which returned by 2023	66	719	91	1,040	79	1,759
of which with terminated contract ¹	5	51	5	60	5	111

¹ This includes employer- and employee-driven terminations, severance agreements and departures following the expiration of employment contracts.

In addition, using the BayZeit long-term account, employees in Germany can convert part of their salary into free time, which they can later take off to care for children or close family members, or to take part in an advanced training course, for example. We also enable and support job sharing at Bayer (including in leadership positions).

The General Works Agreement on caring for close relatives helps Bayer employees in Germany to combine their work with their role as carers by utilizing adapted worktime models and taking temporary paid leaves.

Selected Benefits for Employees (by Country)

As part of our Total Rewards Package, we offer our employees various benefits in respect to local market needs and conditions. The following overview highlights the most relevant

plans concerning leaves, health and insurances in countries with more than 617 employees; it is not a complete list of all benefit programs in place. Many local benefits reflect the cultural background in a country or the country's legal

requirements. Not every benefit is available in every location within a country or to every employee (e.g. working remotely is not available for employees working in production).

Countries/ Benefits	FTE (2023)	Maternity leave ¹	Paternity leave ¹	Childcare ²	Lactation options ³	Elderly care ⁴	Sabbatical (unpaid leave)	Education/ exam leave	Leave for social/ other volunteering	Other leaves ⁵	Flexible working hours ⁶	Working remotely ⁶	Worktime reduction (full-/part-time) possible ⁷	Health and well- being programs ⁸	Sports and recreation ⁹	Employee assis- tance programs ¹⁰	Health insurance ¹¹	Life/accident insurance	Disability insurance
Germany	21,800	X	X	X	-	X	X	X	X	X ¹²	X	X	X	X	X	X	X	X	-
USA	18,753	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
China	7,637	X	X	-	X	-	X	-	X	X	X	X	-	X	X	X	X	X	X
Brazil	5,074	X	X	X	-	-	-	-	-	X	X	X	-	X	X	X	X	X	X
India	4,886	X	-	X	-	-	-	-	-	X	X	X	-	X	X	X	X	X	-
Mexico	4,110	X	X	X	X	-	-	-	-	X	X	X	-	X	X	X	X	X	-
France	2,532	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X	X	X
Spain	2,308	X	X	-	X	-	X	X	-	X	X	X	X	X	X	X	X	X	X
Argentina	1,948	X	X	X	-	-	-	X	-	X	X	X	X	X	X	X	X	X	X
Japan	1,939	X	X	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X	X
Philippines	1,863	X	X	-	X	-	X	X	-	X	X	X	-	X	X	X	X	X	X
Russia	1,620	X	X	-	X	-	-	X	-	X	X	X	X	X	X	X	X	X	X
Poland	1,551	X	X	-	X	-	X	X	X	X	X	X	X	X	X	X	X	X	X
Switzerland	1,458	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X	X	X
Italy	1,264	X	X	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Canada	1,158	X	X	X	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Finland	1,036	X	X	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X
Turkey	1,000	X	X	-	X	-	-	X	X	X	X	-	X	X	X	X	X	X	X
Indonesia	997	X	X	-	X	-	X	-	-	X	X	X	-	X	X	X	X	X	X
Netherlands	993	X	X	-	X	-	X	X	-	X	X	X	X	X	X	X	X	X	X
Costa Rica	923	X	X	-	-	-	-	-	-	X	X	X	-	X	-	X	X	X	X
Belgium	916	X	X	-	X	-	X	X	X	X	X	X	X	X	X	X	X	X	X
UK	833	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Thailand	700	X	X	-	-	-	-	-	-	X	X	X	-	X	-	X	X	X	X
Australia	617	X	X	-	X	-	X	-	X	X	X	X	X	X	X	X	X	X	X

¹ Length of parental leave (maternity/primary or paternity/secondary) and financial support vary by country; fully paid, partly paid (company and/or government funded), unpaid leave (parental leave) or combination possible; at least in compliance with statutory requirements; in some countries adoption leaves or additional unpaid leave for childcare possible

² Details vary by country, may include company-owned childcare facilities (kindergarten), contracts with childcare facilities, discounted childcare, financial support for childcare, childcare during holidays/back-up childcare

³ Details vary by country, may include lactation rooms on-site, lactation/breastfeeding time

⁴ Details vary by country, may include leave for taking care of close relatives, back-up care

⁵ Details vary by country, may include paid or unpaid leave for family duties, marriage, military or civic duties, pilgrimages, emergency situations, compassionate leave

⁶ Details vary by country, may not be offered to employees in production facilities or field staff

⁷ Details vary by country, may include worktime reduction due to childcare or due to age

⁸ Details vary by country, may include health examinations, checkups, personal health assessment, health coaching, free or subsidized vaccinations

⁹ Details vary by country, may include on-site sport facilities or classes, subsidized gym or gym classes, newsletter on health, fitness and mental health

¹⁰ Details vary by country, may include counseling service (personal or telephone) for employees who need assistance (e.g. personal issues, family, job-related, financial), in some countries also available for family members

¹¹ Details vary by country, includes basic health insurance where no public health insurance system is in place, additional topics may be covered, e.g. dental, vision, hospitalization, pharmacy; in some countries dependents are also covered

¹² Germany: various programs including: "Family and work": option to terminate contract for seven years with guarantee of re-employment; BayZeit: exemption from work for at least one month (care of children or close relatives or qualification measures); FreiZeit: option to use company bonus to buy up to a week of free time in addition to vacation (managerial employees)

7. Climate Protection

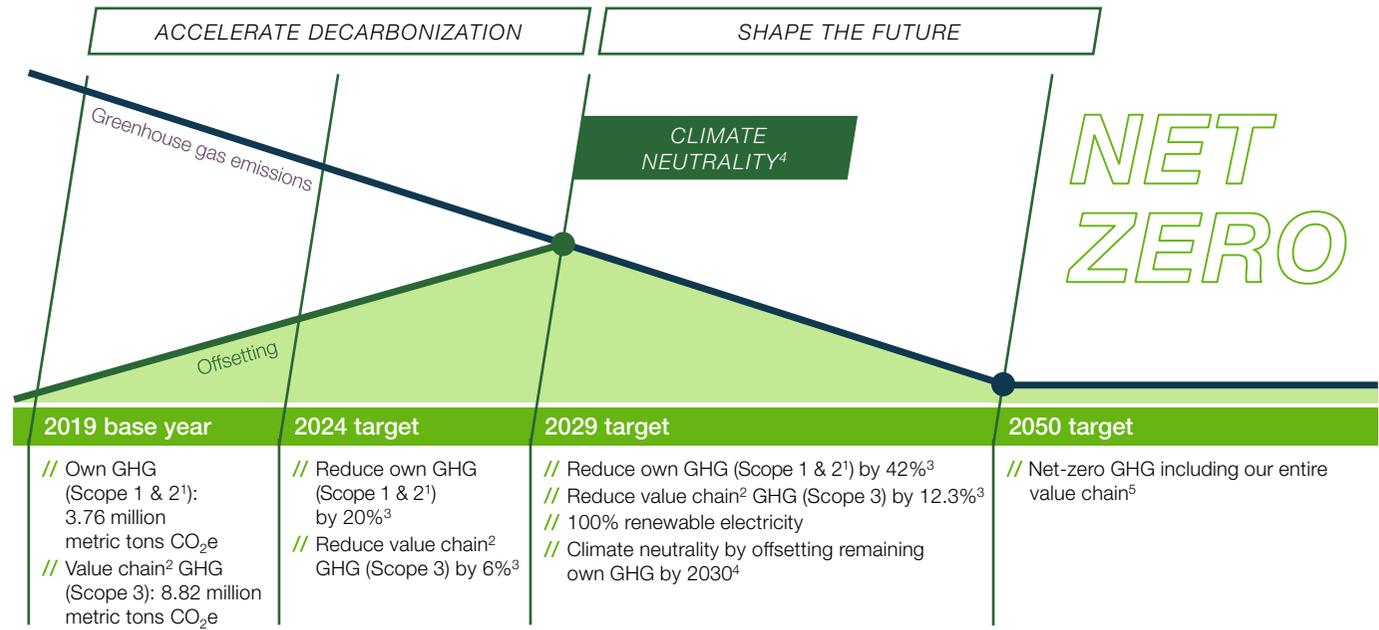
Climate change affects us all and is one of the greatest challenges that humankind will face in the future. Bayer considers climate protection and the related reduction of greenhouse gas emissions to be a top priority. We support the Paris Agreement and the objective of limiting global warming to 1.5 °C relative to the preindustrial level. The Science Based Targets initiative (SBTi) has validated our target and confirms our contribution to fulfilling the Paris Agreement. We anticipate that our business areas of healthcare and agriculture will on the one hand be impacted by climate change, but on the other will also be part of the solution.

7.1 Management Approach

The Chairman of the Board of Management (CEO) holds direct responsibility for climate protection in his role as Chief Sustainability Officer. In keeping with their level of importance, climate-change-related topics and Bayer's climate strategy were discussed at a total of two meetings with the Board of Management, one meeting of the Supervisory Board and both meetings of the ESG Committee of the Supervisory Board in 2023. In 2023, the Chairman of the Board of Management (CEO) also participated in the UN Climate Change Conference COP28 in Dubai for the first time. The attainment of our Group targets for reducing greenhouse gases by 2029 is factored into the long-term compensation of the Board of Management and Bayer's LTI-entitled managerial employees. The compensation-relevant target is based on Bayer's necessary contribution to an SBTi-validated 1.5 °C scenario. Climate protection is also an integral element of annual variable compensation.

In addition, the Sustainability Council that was established in 2020 advises the Board of Management in all matters relating to sustainability – including climate protection. In 2023,

Roadmap to Net Zero



GHG = greenhouse gas

¹ Comprises direct emissions (Scope 1) and indirect emissions (Scope 2, market-based) from Bayer sites whose annual energy consumption exceeds 1.5 terajoules

² In accordance with the criteria set out by the Science-Based Targets initiative (SBTi), the following Scope 3 categories of the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting & Reporting Standard are relevant for Bayer: (3.1) purchased goods and services, (3.2) capital goods, (3.3) fuel- and energy-related activities, (3.4) (upstream) transportation and distribution, (3.6) business travel.

³ Absolute, compared to the 2019 base year

⁴ Bayer aims to achieve climate neutrality at all its own sites (Scope 1 & 2) by 2030. By 2030, the remaining greenhouse gas emissions of our own operations will be fully offset by purchasing certificates from verified climate protection projects, especially in the areas of forest conservation and agriculture.

⁵ Defined as a 90% reduction in our entire Scope 1, 2 & 3 emissions compared with the base year 2019. Scope 3 includes all categories defined in the GHG Protocol.

climate change and the related impacts on and opportunities for Bayer were discussed at four meetings of the Sustainability Council.

The Chairman of the Board of Management (CEO) is supported in this by the Public Affairs, Science, Sustainability & HSE Enabling Function and the sustainability departments within the divisions. The divisions handle the operational implementation of the climate protection measures at their sites with the support of the enabling functions. We have

formed Group-wide working groups for the strategic and operational implementation of climate-change-related measures and a special working group to analyze various climate scenarios and their impacts on our business.

7.2 Decarbonization

Net-zero target

We have undertaken to reach net-zero greenhouse gas emissions including our entire value chain by 2050 or earlier

(entire Scope 1, 2 and 3 emissions; Scope 3 includes all categories defined in the [GHG Protocol](#)). This target was formulated in accordance with the criteria of the SBTi and is thus aligned with the goals of the Paris Agreement of 2015. The target has been submitted to the SBTi and is currently being evaluated. As an external expression of commitment to net-zero greenhouse gas emissions, the company also signed the [Business Ambition for 1.5 °C](#), a campaign of the SBTi in partnership with the UN Global Compact and the [We Mean Business Coalition](#).

We define net-zero greenhouse gas emissions as a 90% reduction in our overall greenhouse gas emissions (Scope 1 and 2) and those in our value chain (Scope 3) compared with the base year 2019. The achievement of a net-zero target is a very ambitious endeavor, yet essential for all companies – including Bayer in particular. We plan to report in detail in the coming years on our planned actions to achieve a net-zero target.

Scientific studies indicate that the world community is currently not on a path to achieve the goals of the Paris Agreement. As part of society, we want to lead by example. Currently, we still see numerous hurdles on the path to net-zero emissions at Bayer, particularly from a political and technological perspective.

Medium-term climate targets by 2029

We intend to reduce our own greenhouse gas emissions by an absolute 42% compared to the base year 2019 by the end of 2029 (comprises direct emissions [Scope 1] and indirect emissions [Scope 2, market-based] from Bayer sites whose annual energy consumption exceeds 1.5 terajoules). This target on the pathway to a 1.5°C scenario was reviewed and acknowledged by the SBTi.

We aim to reduce greenhouse gas emissions from relevant Scope 3 categories in our supply chain by an absolute 12.3% (compared to the 2019 base year) by 2029. In accordance with the criteria set out by the Science Based Targets initiative (SBTi), the following Scope 3 categories of the GHG Protocol Corporate Value Chain (Scope 3) Accounting & Reporting Standard are relevant for Bayer: (3.1) purchased goods and services, (3.2) capital goods, (3.3) fuel- and energy-related activities, (3.4) (upstream) transportation and distribution and (3.6) business travel. This target was also reviewed and acknowledged by the SBTi. An increased reduction target is currently being reviewed by the SBTi.

This planned increase will mean that we will need to intensify our collaboration with our partners along the entire value chain to find common solutions. We are certain in our own mind of the importance of pursuing this goal and of convincing other partners of this.

Interim targets by 2024

By 2024, we aim to reduce our own greenhouse gas emissions by an absolute 20% compared to the base year 2019 (comprises direct emissions [Scope 1] and indirect emissions [Scope 2, market-based] from Bayer sites whose annual energy consumption exceeds 1.5 terajoules) and greenhouse gas emissions from relevant Scope 3 categories in our supply chain by an absolute 6% (compared to the 2019 base year). In accordance with the criteria set out by the Science-Based Targets initiative (SBTi), the following Scope 3 categories of the GHG Protocol Corporate Value Chain (Scope 3) Accounting & Reporting Standard are relevant for Bayer:

(3.1) purchased goods and services, (3.2) capital goods, (3.3) fuel- and energy-related activities, (3.4) (upstream) transportation and distribution and (3.6) business travel – in line with the reduction pathway of our Science Based Target (SBT). Depending on the validation of our renewed targets by the SBTi, we plan to update our interim targets.

Measures

We have developed a net-zero roadmap to achieve our ambitious climate targets. This roadmap comprises various measures in the areas of energy and efficiency, governance and certificates. To implement our long-term climate strategy, we focus on reducing the greenhouse gas emissions associated with our operations and on strengthening the resilience of our business areas.

Electricity from renewable energies

- // By 2029, we intend 100% of the electricity we purchase to be derived from renewable sources.
- // We have defined specific criteria for the procurement of renewable electricity and this information is published on our [website](#). These criteria include the geographical proximity between power generation locations and Bayer's sites, the use of new production sources and a focus on wind and solar energy. The criteria are based on the [next-generation green power guidelines](#) of the WWF (World Wide Fund for Nature).
- // In 2023, we pressed ahead with the conversion of our Group-wide electricity procurement, and renewable energies now account for 35.4% of our total purchased electricity volume (2022: 32.6%).
- // For example, in 2023, we invested in photovoltaic systems or concluded long-term supply agreements with producers of electricity generated from renewable energies for sites in Australia, China, India, Mexico, Thailand and the United States.

Collaboration with Cat Creek Energy

As part of our measures to transition to the purchase of energy from renewable sources, we entered into a long-term, structured renewable energy credit (REC) purchase agreement with Cat Creek Energy in 2023. Under the agreement, Cat Creek Energy will build several plants to produce power from renewable energies, as well as energy storage facilities, in the US state of Idaho. Bayer will procure the energy produced through these means with long-term agreements.

We have thus concluded one of the most significant renewable energy agreements in the United States, at a planned supply volume of 1.4 terawatt hours annually. From 2028 onward, we want to procure some 60% of the electricity required by our US sites from renewable energy sources – corresponding to about 40% of our power currently procured worldwide.

Investment in energy efficiency and renewable energies

- // To achieve an absolute reduction in our remaining emissions, we intend to invest €500 million in renewable energies and in increasing the energy efficiency of our facilities and buildings by 2030.
- // We are investing in process innovations, more efficient facilities and building technology, and in the implementation and optimization of energy management systems, particularly at our production sites.
- // Capital expenditure projects are underway at various sites to advance the use of climate-neutral technologies such as geothermal energy or emissions-free steam production.
- // At our site in Beijing, China, the first part (3,000 m²) of a 1MW photovoltaic system was built and connected to the grid. In 2024, we plan to build an additional 9,000 m².

- // In Berkeley, United States, energy supply using heat pumps for our cell culture technology center were put into operation.
- // At our site in Luling, United States, using enhanced analysis and synchronization of usages, we optimized steam production in a needs-based manner and reduced temporary overproduction.
- // At our sites in Knapsack and Dormagen, both Germany, as well as in Muttenz, Switzerland, we reduced energy consumption significantly by changing the operation of distillation columns and optimizing chemical and physical process steps.
- // At our site in Oxnard, United States, a new, energy efficient dryer for our vegetable seeds was put into operation.
- // At one site in Guatemala, we improved our ventilation and air conditioning to avoid unnecessary humidification in the dry season (overcooling and reheating). The site was able to reduce energy consumption permanently.
- // At our site in Kunming, China, we modified ventilation and air conditioning to only run in full operation mode during production times. This resulted in relevant reductions of energy usage.

Fleet

- // By 2030, we aim for our fleet of currently around 25,000 vehicles to consist entirely of electric vehicles wherever this is technically and economically feasible.
- // Bayer joined the [EV100](#) initiative of the [Climate Group](#) and has validated its activities according to the criteria of that initiative. In 2023, implementation began in 48 countries (including Germany) that account for around 81% of our vehicle fleet. Including vehicles that have already been ordered, the proportion of hybrid and electric vehicles in our fleet is approximately 18%.

Governance

- // Capital expenditures and an internal CO₂ price: We are aligning our capital expenditures to our goal of achieving net-zero greenhouse gas emissions by 2050. This is in line with the international goal of limiting global warming to 1.5°C. To drive this transition, we have launched a pilot project and established an internal CO₂ price of €100 per metric ton of CO₂ for the calculation of our capital expenditure projects.
- // We are also currently developing an internal CO₂ price to manage our Scope 3 emissions.
- // Capital expenditure decisions: We perform a voluntary ecological assessment for capital expenditure projects exceeding €10 million. Emissions reduction and efficiency measures are integral to these evaluations. For more information, please see Chapter 8. Environmental Protection.
- // Certifications according to the international ISO 14001 (environmental management) and ISO 50001 (energy management) standards help to identify energy savings potential both in existing production processes and in the development of new production processes and the conversion of existing processes. These standards support us in managing and reducing energy consumption at our production sites. For more information, please see Chapter 8. Environmental Protection.
- // Through transparency, we want to motivate our employees in a variety of different areas to consume energy and electricity efficiently. For example, in one office building in Germany, electricity consumption is displayed visually for employees to see. In various areas, best practices are shared – for example, as “sustainability moments,” through the company suggestion system or through networking between Bayer’s country units on the topic of sustainability.

Climate neutrality

- // We will offset those of our emissions (Scope 1 and 2) that still remain following reduction through technological measures and cannot be avoided (such as greenhouse gas emissions generated by chemical processes or through business travel) by purchasing certificates from climate protection projects that meet recognized quality standards. By doing so, Bayer aims to achieve climate neutrality at all its own sites (comprises direct emissions [Scope 1] and indirect emissions [Scope 2, market-based] from Bayer sites whose annual energy consumption exceeds 1.5 terajoules) by 2030. By 2030, the remaining greenhouse gas emissions of our own operations will be fully offset by purchasing carbon certificates from verified climate protection projects, especially in the areas of forest conservation and agriculture. However, our focus is on further reducing our emissions.
- // The climate protection projects with which we aim to generate additional value toward global climate targets need to have a connection to our business. In this respect, too, we have established specific criteria for procuring carbon certificates from climate protection projects. In this process, we focus on nature-based climate solutions, preferably concerning forestry and agriculture projects. We will also invest in innovative projects to promote the development of voluntary emissions trading. On our [website](#), we report on our strategy and the projects we support.
- // Our engagement in voluntary carbon markets is supplementary to our reduction targets and projects for our own greenhouse gas emissions. We recognize that climate protection projects are being criticized in the media. But there is no doubt that forest conservation and reforestation are necessary to limit global warming. Applying clear criteria and transparency on these projects, we want to support voluntary carbon markets.

- // In 2023, we additionally supported projects that enabled more than 600,000 metric tons of greenhouse gas emissions in CO₂ equivalents to be avoided or reduced. For example, we financed reforestation and forest conservation projects in Brazil, Cambodia, Indonesia, Laos, Nicaragua and Uruguay.
- // In 2023, we supported the topic of biochar, which is produced using pyrolysis and has the potential to capture CO₂ for more than 1,000 years. Biochar is therefore seen as a future technology. It also has the potential to be used in agriculture as a soil conditioner and to reduce the amount of fertilizers used.
- // In 2022, we joined the [Brazilian Initiative for the Voluntary Carbon Market](#). This initiative brings together companies and institutions from several industries in Brazil with the goal of structuring key measures to develop voluntary carbon emissions trading in that country and to contribute to global carbon emissions trading with accredited certificates.
- // In 2023, we used certificates from the Bayer Carbon Program (as part of ForGround by Bayer) for the first time. These support farmers financially who apply sustainable agricultural practices. The volume of CO₂ sequestered in the soil is certified. The resulting emissions certificates can then be sold on the market. Bayer has acquired the equivalent of 100,000 metric tons of CO₂ from this program.

LEAF Coalition

The destruction of forests is a pressing global challenge, especially considering that forest conservation is one of the most important measures for protecting biodiversity and the climate.

Within the framework of its activities to protect forests, Bayer is a participant in the [LEAF Coalition](#) (LEAF = Lowering Emissions by Accelerating Forest finance). LEAF has mobilized more than US\$1.5 billion since 2021 to initiate the biggest public-private effort to protect the rainforests.

We clearly advocate enforcement of the corresponding laws to protect the Amazon rainforest. That also includes driving forward the sustainable intensification of agriculture in Brazil to prevent further deforestation. During the UN Climate Conference COP 28 in Dubai, the first contracts on carbon certificates were signed with Costa Rica and Ghana.

Certificates from activities undertaken in connection with LEAF are expected to be part of our certificate portfolio beginning in 2024.

Value chain (Scope 3)

We aim to reduce greenhouse gas emissions from relevant Scope 3 categories in our supply chain by an absolute 12.3% (compared to the 2019 base year) by 2029 (in accordance with the criteria set out by the [Science Based Targets initiative \[SBTi\]](#), the following Scope 3 categories of the [GHG Protocol](#) Corporate Value Chain [Scope 3] Accounting & Reporting Standard are relevant for Bayer: [3.1] purchased goods and services, [3.2] capital goods, [3.3] fuel- and energy-related activities, [3.4] [upstream] transportation and distribution and [3.6] business travel) through cooperation with suppliers and customers. This target was first published in 2019 and validated and acknowledged at the time by the Science Based Targets initiative (SBTi). In line with the now updated requirements of the SBTi, we submitted an update of this target to the SBTi validation in January 2024.

Our target to reduce greenhouse gas emissions in the value chain is factored into the compensation of the Board of Management and Bayer's LTI-entitled managerial employees.

Reducing these emissions is a particular challenge because we cannot ourselves directly impact the reduction in greenhouse gas emissions that actually needs to occur, and the framework conditions are equally challenging. Decarbonization at the companies in our value chain is still at an early stage: most still use electricity from renewable energies to an insufficient degree, due in part to inadequate infrastructure and thus availability, and binding political plans and requirements are not in place. In 2023, therefore, we launched a new, internal program to reduce our Scope 3 emissions (Scope 3 Decarbonization Accelerator) through which we coordinate and constantly evolve our various activities. Our Scope 3 Decarbonization Accelerator focuses on the following activities:

- // We further strengthened the demands and expectations we place on our suppliers as regards greenhouse gas emissions. In this connection, we defined specific development paths to cooperate more closely with suppliers that account for a major share of our Scope 3 emissions – either because they supply products with a particularly high greenhouse gas footprint or because we procure large volumes of products from them.
- // By 2030, we expect the identified suppliers to manufacture the products we procure from them using electricity from renewable energy sources exclusively.

// The objective is for the identified suppliers to establish ambitious climate targets by 2025 that include a net-zero target for no later than 2050. Currently 17 of the 100 suppliers accounting for the biggest share of Bayer's Scope 3 emissions have specified climate targets in accordance with the Paris Agreement as defined by the SBTi. The implementation of climate targets by suppliers remains an industry-wide challenge. Without further action, the resulting reductions for us are therefore insufficient to achieve our targets in the future.

// At the same time, we are further developing our internal systems and collect climate-related data from our suppliers, particularly the product carbon footprints (PCFs) of the products we procure. Through the Supply Chain Initiative of CDP (formerly the Carbon Disclosure Project), we ask our strategically important suppliers and those who account for a significantly high proportion of our emissions in the value chain to provide us with more exact greenhouse gas emissions data. The goal is to be able to better integrate the data into the calculation of our Scope 3 emissions. Based on this data, we also want to identify emissions reduction potential, for example by basing purchasing decisions on emissions or being able to initialize and evaluate joint reduction projects. For more information, please see Chapter 4.3 Sustainability in the Supply Chain.

As the ability of one company on its own to reduce greenhouse gas emissions along the value chain is only limited, Bayer has joined together with other companies within various initiatives. Together, we aim to ascertain the level of greenhouse gas emissions and climate risks and develop reduction targets and strategies within the scope of programs such as the Together for Sustainability (TfS) initiative of the chemical industry.

The goal is to standardize the calculation of a product carbon footprint (PCF) for the chemical industry. At the same time, an allocation approach is being developed for the product carbon footprint within the value chain. The plan is to share results from the TfS working group with the Partnership for Carbon Transparency (PACT) of the World Business Council for Sustainable Development (WBCSD). PACT develops climate approaches across industries. As a member of the WBCSD, we are working on suitable measures there as well.

Furthermore, we take advantage of the Pharmaceutical Supply Chain Initiative (PSCI) working group to engage in dialogue as part of the pharmaceutical industry about measures to reduce Scope 3 emissions.

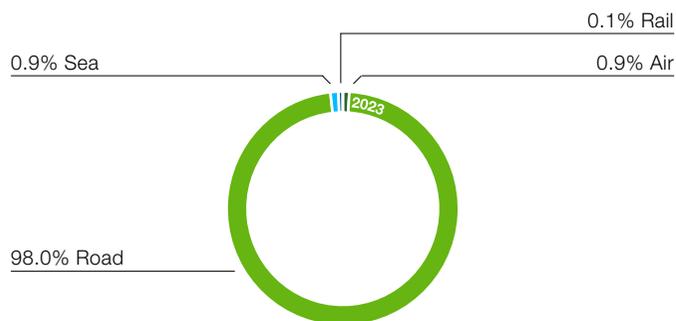
For more information on our target of reducing greenhouse gas emissions in agriculture by 30%, please see also the Focus on: Agriculture chapter.

Transportation

Utilizing digital technologies, we work continually to develop logistics strategies that reduce the associated greenhouse gas emissions by employing less air transport and adopting more logistics strategies that include railways and waterways.

Bayer is a member of the EcoTransIT World Initiative. In 2023, we began introducing the EcoTransIT system to calculate transport-related greenhouse gas emissions. This system aims to continuously evolve and harmonize the methods for determining greenhouse gas emissions in the transportation sector worldwide, and thus create a globally recognized methodology.

Means of Transport



Climate policy engagement

Externally, we advocate for a climate position in line with our ambitious targets and demand that our partners also undertake action to reduce greenhouse gas emissions in accordance with the Paris Agreement. We have therefore published a detailed list of our [climate policy lobbying](#) activities.

In line with our goals, we critically scrutinize our memberships in relevant industry associations and their positions as regards climate policy measures on a regular basis. The analysis forms the basis for Bayer’s further efforts to advocate for scientifically founded policies to combat climate change through its member associations. In developing this approach, we have worked together with [Climate Action 100+](#), an investor initiative that cooperates with the world’s biggest industrial companies on the issue of climate change.

To ensure maximum transparency in this process, Bayer has published the results in the [Industry Association Climate Review](#) since 2021. This report compares the climate policy positions of our industry associations with our own climate goals. As our industry associations represent us in the public debate, we disclose where we agree with these positions

and where they diverge from ours. It is of paramount importance to us that we maintain a dialogue with our associations to achieve a mutually acceptable solution. Where differences exist, dialogue enables us to take measures to close these gaps. We disclosed both our achievements and the challenges that still lie ahead of us in our [Industry Association Climate Review](#) published in 2023.

Climate reporting

We have committed to transparently communicating our climate targets and progress, as well as the impact that climate change has on Bayer.

Through our longstanding and continuous participation in [CDP](#), we disclose our climate-related activities and progress with a high degree of detail.

Bayer supports the recommendations of the [Task Force on Climate-Related Financial Disclosures](#) (TCFD) with respect to reporting on this topic. In our report, we implement the 11 recommendations of the TCFD in the four categories of Governance, Strategy, Risk Management and Metrics & Targets. For more information, please see our separate [TCFD Report](#).

On our [website](#), we report on our strategy to offset greenhouse gas emissions and the projects we support.

7.3 Risk and Opportunity Analysis

In 2023, we looked at the risks and opportunities stemming from the effects of climate change from various perspectives to evaluate them even better in relation to our company and integrate them into our strategy and measures. Climate-related risks are already accounted for in our Group-wide enterprise risk management (ERM) system.

Climate scenarios

We analyze the possible effects of climate change across two different scenarios. We use these scenarios to understand the impact of climate change on our business and to identify measures for mitigating risks and leveraging opportunities. With a cross-functional, cross-divisional team, we have identified relevant opportunities and risks for our business in both scenarios.

We have based our scenario descriptions on [Assessment Report 6](#) of the Intergovernmental Panel on Climate Change (IPCC) and supplementing this with further sources relevant to our business areas. The basis comprises the optimistic climate change scenario envisaging warming of below 2 °C – the “Green Road” SSP1-1.9, which equates to the fulfillment of the climate goals of the Paris Agreement (temperature increase of 1.4 °C by 2100 compared with the pre-industrial age) – and a scenario that reflects current global behavior – the “Rocky Road” SSP3-7.0 (temperature increase of 3.6 °C).

The [Emissions Gap Report 2023](#) of the UN Environment Programme ([UNEP](#)) clearly shows that climate change is advancing. 2023 was the hottest year on record, featuring the first day on which the average warming was above 2 °C. The current political reduction targets are far too low to reach the goal of the Paris Agreement. UNEP assumes that the current national reduction targets will result in an average global warming of 2.9 °C in 2100. Our optimistic scenario (Green Road) seems unrealistic in view of current global developments and crises. Both scenarios (Green Road and Rocky Road) are important for assessing Bayer’s climate-related risks, and we will therefore continue to analyze both scenarios in detail. We once again adjusted our Green Road scenario in 2023 based on external requirements.



Green Road (SSP1-1.9)

- // The Green Road scenario assumes a rise in average global temperature compared with the preindustrial age of 1.6 °C by between 2041 and 2060. Between 2081 and 2100, the temperature is likely to have risen by 1.4 °C compared with the preindustrial age.
- // This scenario is marked by the rapid implementation of ambitious and globally coordinated climate-related laws and rules that can also include transformational requirements and new regulations for companies in the short term. The rapid reduction in greenhouse gas emissions leads to less severe weather- and climate-related effects.
- // In 2023, we changed our Green Road scenario from SSP1-2.6 to SSP1-1.9, to be in line with requirements from TCFD. This did not result in any relevant changes to our risks and opportunities analysis.



Rocky Road (SSP3-7.0)

- // The Rocky Road scenario assumes the rise in average global temperature compared with the preindustrial age to be around 2.1 °C by between 2041 and 2060, and probably 3.6 °C by between 2081 and 2100.

- // In this scenario, we expect less ambitious laws and provisions that vary widely from one region to another. That leads to a slower pace of emissions reduction and thus more intensive weather- and climate-related changes in all regions of the world. The varying levels of ambition also lead to additional trade barriers that can be manifested in measures such as a Carbon Border Adjustment Mechanism (CBAM).

In our analysis of the effects of climate change, we go beyond the customary enterprise risk management time horizons and instead apply the following time horizons:

- // Short-term (2023–2025)
- // Medium-term (2026–2035)
- // Long-term (2036–2050)

In 2023, we further developed our own agricultural climate model to analyze impacts on agricultural productivity in relation to the different scenarios. At the same time, we can use this climate model for various other analyses; for example, it is a useful extension of specific analyses on the impact and opportunities of climate change as regards our business activities in agriculture.

Analyzing the value chain

We analyze the impact of climate change on Bayer's various business areas including the upstream and downstream value chain. We expect the major effects, opportunities and risks to apply particularly to our agricultural customers and consumers. Among the questions that arise in this context is how to shape regenerative farming in the future in order to successfully master the various climate-related challenges and guarantee food security. We also expect climate change to impact patients, for example through the intensified emergence of certain diseases.

In addition, we have begun analyzing our upstream value chains and one production facility as part of the EU taxonomy assessment. By contrast with the changes in the downstream value chain, the impact of climate change on our production sites is regarded as immaterial. Nonetheless, we want to maintain continuous, safe production and to respond here as well to changing environmental conditions such as water scarcity, storms or heat.

Climate impact drivers

Based on the overarching description, we have identified 10 climate impact drivers of materiality for Bayer to enable us to analyze the effects regulatory and physical changes will have on our business in more detail. The goal of the analysis is to identify the relevance and change potential in relation to Bayer and our fields of business and to derive suitable measures.

Climate Impact Drivers		Short term (2021–2025)		Medium term (2026–2035)		Long term (2036–2050)	
		Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Transition impact drivers							
Laws, regulations, policies		●	●	●	●	●	●
		●	●	●	●	●	●
Carbon taxation/pricing, carbon border adjustment and offsetting		●	●	●	●	●	●
		●	●	●	●	●	●
Agricultural innovation and practices		●	●	●	●	●	●
		●	●	●	●	●	●
Commodity prices		●	●	●	●	●	●
		●	●	●	●	●	●
End customer/customer/market		●	●	●	●	●	●
		●	●	●	●	●	●
Food security		●	●	●	●	●	●
		●	●	●	●	●	●
Acute physical impact drivers							
Extreme weather events		●	●	●	●	●	●
		●	●	●	●	●	●
Chronic physical impact drivers							
Permanent water cycle		●	●	●	●	●	●
		●	●	●	●	●	●
Diseases		●	●	●	●	●	●
		●	●	●	●	●	●
Temperature		●	●	●	●	●	●
		●	●	●	●	●	●

The Green Road (SSP1-1.9) = The Rocky Road (SSP3-7.0) = Relevance = low high

Separately, we assess the opportunities and risks associated with the 10 climate impact drivers shown in the graphic – in each case based on the various time horizons and on the Green Road and Rocky Road scenarios.

Below, we provide insight into the assessments of the individual climate impact drivers.

Transition impact drivers

Based on the Paris Agreement, the most important countries and regions in which Bayer operates have committed to limiting global warming by reducing their greenhouse gas emissions.

- // One example is the European Union’s Green Deal, the goal of which is to accelerate the transition to an emissions-free future and achieve climate neutrality by 2050. Consequently, the EU is expected to further increase costs for the emission of greenhouse gases (e.g. through CO₂ regulations such as the EU emissions trading system (EU-ETS) or a carbon tax), adjust financing incentives (e.g. through the EU taxonomy) and drive forward technological changes (e.g. through the promotion of renewable energies and hydrogen technologies).
- // China has committed to attaining net-zero emissions by 2060 and is therefore expected to introduce further regulations in this connection.

Through our strategy for decarbonization, with a focus on reducing greenhouse gas emissions on the pathway to a 1.5 °C scenario, we are reducing the risk of additional costs being caused by the expected regulations.

We continuously analyze the further effects of regulatory changes on our business. National and international CO₂ reduction targets could lead to the abandonment of fossil fuels and impact the demand for fuels from biomass (biofuels), for example. Depending on the regulators’ decision, this could lead to either increased or reduced demand for biofuels.

This decision could impact our sales markets, as some of our customers grow corn for the production of biofuels.

As one of the world's biggest CO₂ emitters, the agriculture industry can also play a key part in protecting the climate and thus mitigating climate risks – for example through the capture of CO₂ in farmland. For more information on our target of reducing greenhouse gas emissions in agriculture by 30%, please see the Focus on: Agriculture chapter.

Physical impact drivers

Taking account of weather and climate effects is particularly important in the Crop Science Division and is included in both strategic planning and the assessment of the seasonal business risk. These effects are intensifying as a result of climate change, and both short-term (extreme) weather events and long-term climate changes will increase further.

Bayer pursues a strategic concept of regenerative agriculture to help farmers adapt to climate change. By transforming agricultural practices, we want to help maintain long-term food security. For us, regenerative agriculture is a results-oriented production model that is geared toward improving soil health and strengthening plants' resilience. Complementary objectives include reducing greenhouse gas emissions from agricultural production and increasing carbon capture in the soil. Regenerative agriculture is also designed to protect and promote biodiversity, conserve water resources and increase agricultural yields so as to improve the economic and social well-being of farmers and their communities. In the coming years, we want to develop specific models for different regions and help farmers implement them by passing on knowledge and offering suitable products and services.

Acute physical impact drivers

All climate models anticipate an increase in extreme weather conditions (such as drought, heavy rains and storms) that present an elevated risk of crop losses and therefore also pose risks for the agricultural value chain as a whole. Despite all precautions, operations at our sites or those of our customers may be disrupted and crop failures may occur as a result of extreme weather events and natural disasters. In the IPCC forecasts, the intensity of such events varies widely from one region to the next. In the IPCC's regional fact sheets for the Central North America (CNA) region, for example, extreme precipitation is predicted to increase, while the South American Monsoon (SAM) region is expected to experience both a delay in the monsoon season and intensified droughts.

In addition to risks, however, climate change can also create opportunities for our business. Bayer's product range and innovative capability – particularly in the agricultural value chain – will create a foundation for leveraging new options and sales opportunities in the future against the background of climate change. As a seed producer, we already offer plants with increased resistance to extreme weather conditions. That includes short-stature corn that is less susceptible to storms (for more information, please see the Focus on: Agriculture chapter).

We also enable farmers to react better and more quickly to extreme weather conditions with our FieldView™ digital farming platform. For more information, please see Chapter 3.6 Crop Science.

Chronic physical impact drivers

The long-term natural and physical effects of climate change will have a particular impact on the permanent water cycle (for example through a transition to a wetter or drier climate or a delay in the monsoon season), the spread of diseases and insect pests, and further coupling effects of temperature changes. These effects will be particularly relevant for our agricultural business.

We develop strategies to help farmers increase their resilience against the effects of climate change. At the same time, we want to help farmers reduce their own greenhouse gas emissions and cultivate healthy crops. As there are no uniform solutions in agriculture, farmers need numerous options from which they can select the most suitable for their fields and the prevailing local conditions.

In addition, health risks such as cardiovascular disease can also intensify due to hotter summer months or more frequent heatwaves. This could create increased demand for products for cardiovascular disease or nutritional supplements.

Integration into the business strategy

We use the results of our climate change analysis to assess from this perspective the effects on our company and thus the Group's financial position or results of operations. Weather and climate effects are of particular significance for the Crop Science Division and are accounted for in both strategic planning and the seasonal business risk. These effects are intensifying as a result of climate change, and both short-term (extreme) weather events and long-term climate

changes will increase further. We continue to develop innovative and sustainable methods to minimize risks and therefore currently do not see any fundamentally changed expectations with regard to the Group's financial position or results of operations.

For the present, we have identified and evaluated several climate risks in our company-wide enterprise risk management process. Within this framework, all risks are regularly reviewed and mitigation measures established. Various, in some cases local, effects of climate change are already evident but these must be observed over the long term. Their precise impact on Bayer can currently only be roughly estimated.

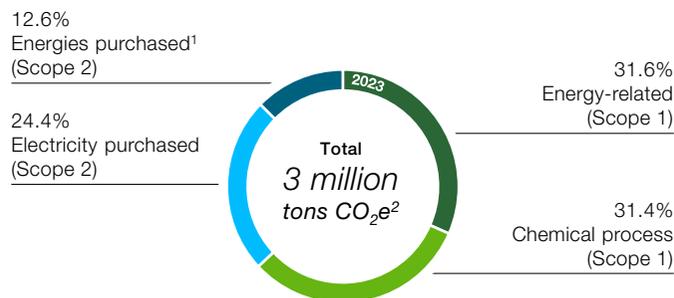
Next steps

As data models and insights into climate change are constantly evolving, we will continue to expand and refine our scenario description and analysis in 2024 and beyond. At the same time, we are enhancing our analytical capabilities and expanding our climate models e.g. in order to better understand how various climate zones are changing. By doing this, we aim to be in a position to describe future challenges and opportunities as accurately as possible to derive short-, medium- and long-term mitigation measures. Findings from these analyses will play a bigger role in our strategic, portfolio and operational processes.

7.4 Greenhouse Gas Emissions

At Bayer, direct greenhouse gas emissions (Scope 1) are primarily caused by the combustion of primary energy sources such as gas and oil. These are used to generate electricity, steam and auxiliary energy (such as for heating and cooling) for the manufacture of our products. Further emissions derive from chemical processes in which coal and other energy sources are required to produce chemical reactions.

Sources of Greenhouse Gas Emissions at Bayer



¹ Steam, cooling, other than electricity
² Million metric tons of CO₂ equivalents

Emissions are also generated by our vehicle fleet and in the extraction and processing of raw materials.

Approximately 14% of our Scope 1 emissions are generated in countries with a regulated emissions trading system in which we participate. The purchase of electrical energy largely falls under Scope 2 emissions. Transitioning the electricity consumed by Bayer to 100% renewable energy is therefore a central element of our decarbonization strategy (see Chapter 7.2 Decarbonization).

In reporting greenhouse gas emissions, we take account of the recommendations of the Greenhouse Gas Protocol (GHG Protocol). Direct emissions from our own power plants, vehicles, waste incineration plants and production facilities (Scope 1) and indirect emissions from the procurement of electricity, steam and cooling energy (Scope 2) are determined at all environmentally relevant sites whose annual energy consumption exceeds 1.5 terajoules. In this connection, we have drafted Group regulations for the Group-wide recording of greenhouse gas emissions. In line with the GHG Protocol, we report indirect emissions (Scope 2) according to both the location-based and the market-based methods.

Bayer's greenhouse gas emissions fell further in 2023 compared to 2022. We succeeded in reducing our own Scope 1 and Scope 2 emissions by 0.9%, or around 28,000 metric tons of CO₂ equivalents, particularly by increasing the share of our electricity derived from renewable energies (Scope 2). Overall, we have already reduced our own emissions (Scope 1 and Scope 2) by 20.2% compared with the base year 2019.

We address our climate protection activities in our latest [Report to CDP](#) (formerly the Carbon Disclosure Project).

Greenhouse Gas Emissions (Scope 1 and 2)

Million metric tons of CO ₂ equivalents	2019	2020	2021	2022	2023
Scope 1: Direct emissions ¹	2.08	2.01	1.93	1.91	1.89
of which carbon dioxide (CO ₂)	1.97	1.96	1.90	1.85	1.84
of which ozone-depleting substances	0.019	0.011	0.011	0.011	0.003
of which partially fluorinated hydrocarbons (HFCs)	0.022	0.022	0.014	0.039	0.040
of which nitrous oxide (N ₂ O)	0.006	0.008	0.007	0.007	0.008
of which methane (CH ₄)	0.002	0.003	0.003	0.003	0.003
Scope 2: Indirect emissions ² according to the location-based method	1.77	1.75	1.56	1.56	1.65
Scope 2: Indirect emissions ² according to the market-based method ³	1.68	1.57	1.24	1.12	1.11
Total greenhouse gas emissions (Scope 1 and 2) according to the market-based method³	3.76	3.58	3.17	3.03	3.00
Offset greenhouse gas emissions ⁴			0.3	0.45	0.60
Specific greenhouse gas emissions (kg CO ₂ e/€ thousand external sales) according to the market-based method ^{3, 5}	86.38	86.55	71.95	59.72	63.03

¹ In line with the GHG Protocol, we also report the direct emissions resulting from the generation of energy for other companies that is sold as a site service. In 2023, these emissions corresponded to 0.11 million metric tons of CO₂ equivalents.

² Typically, CO₂ accounts for 97.2% of all energy-related greenhouse gas emissions. When determining indirect emissions, our calculations are therefore limited to these greenhouse gases and we indicate all emissions in CO₂ equivalents.

³ For Bayer, the market-based method of the GHG Protocol most reliably reflects the values for Scope 2 emissions and the success of emissions reduction measures, so we apply emissions volumes calculated using this method when calculating the total and specific greenhouse gas emissions.

⁴ Corresponds to a share of 20.0% of Scope 1 and 2 emissions in 2023

⁵ Specific Bayer Group emissions are calculated by adding together direct emissions and indirect emissions calculated using the market-based method of the GHG Protocol (Scope 2), then dividing the total volume by the external sales volume.

In 2023, Bayer participated in European emissions trading with a total of five plants. These facilities account for more than 265,000 metric tons of CO₂ emissions. Due to the varying depth of value creation, direct and indirect greenhouse gas emissions (Scope 1 and Scope 2) are unequally distributed among our divisions. Our raw material extraction activities, including treatment and downstream processing, for the manufacture of the crop protection intermediates of Crop Science are especially energy-intensive – this division therefore accounts for the greatest share of our greenhouse gas emissions.

Greenhouse Gas Emissions by Division (Scope 1 and 2)

Million metric tons of CO ₂ equivalents	2019	2021	2022	2023
Scope 1: Direct emissions ¹	2.08	1.93	1.91	1.89
of which Crop Science	1.70	1.61	1.58	1.55
of which Pharmaceuticals	0.20	0.18	0.18	0.17
of which Consumer Health	0.02	0.02	0.02	0.02
of which other ²	0.15	0.13	0.14	0.16
Scope 2: Indirect emissions ³ according to the market-based method ⁴	1.68	1.24	1.12	1.11
of which Crop Science	1.40	1.06	0.93	0.94
of which Pharmaceuticals	0.19	0.12	0.11	0.10
of which Consumer Health	0.09	0.05	0.05	0.05
of which other ²	0.002	0.003	0.03	0.02

¹ In line with the GHG Protocol, we also report the direct emissions resulting from the generation of energy for other companies that is sold as a site service.

² These include greenhouse gas emissions from the vehicle fleet and emissions caused by the enabling functions.

³ Typically, CO₂ accounts for 97.2% of all energy-related greenhouse gas emissions. When determining indirect emissions, our calculations are therefore limited to these greenhouse gases and we indicate all emissions in CO₂ equivalents.

⁴ For Bayer, the market-based method of the GHG Protocol most reliably reflects the values for Scope 2 emissions and the success of emissions reduction measures, so we apply emissions volumes calculated using this method when calculating the total and specific greenhouse gas emissions.

Value chain (Scope 3)

The GHG Protocol Corporate Value Chain (Scope 3) Accounting & Reporting Standard bindingly regulates the reporting of all indirect greenhouse gas emissions from the value chain and separates these emissions into 15 categories. Emissions from eight Scope 3 categories are of material importance to Bayer and together account for our total Scope 3 emissions.

We use the spend-based/average spend-based method to calculate the relevant greenhouse gas emissions in the categories “Scope 3.1 purchased goods and services” and “Scope 3.2 capital goods,” which we implement with the “estell” calculation model of the Systain consulting firm. This model is based on a detailed, multi-regional environmentally extended input output (EEIO) database in line with the [GHG Protocol](#). We use data from our purchasing system for the calculation, broken down according to cost types and the country in which we make the purchase. The emission factors used by “estell” are based on the input/output tables of the OECD, supplemented with additional data from the [Bureau of Economic Analysis](#) (BEA) and indicators of the [World Bank](#) and the [EXIOBASE](#).

Primary data on emissions from the products and services purchased by us, capital goods, energy sources and the associated logistics can currently only be provided by a small number of players. Once this data is more readily available, we intend to include it to a greater degree in the calculation of our Scope 3 emissions. Another objective is to be able to measure our suppliers’ efforts in achieving decarbonization in the supply chain (e.g. by transitioning to electricity from renewable energy sources). In this context, we want to intensify the dialogue with our suppliers and help them to achieve the global goal of net-zero greenhouse gas emissions.

A detailed description of the procedures and data applied by Bayer in the individual categories is contained in the [Report to CDP](#).

Greenhouse Gas Emissions in the Value Chain (Scope 3)

Million metric tons of CO ₂ equivalents	2019	2021	2022	2023
Scope 3: Indirect emissions from our upstream and downstream value chain (by materiality) ¹	9.99	8.91	9.72	9.18
of which indirect emissions from our upstream and downstream value chain to attain the SBT ^{2,3}	8.82	7.97	8.98	8.44
of which (3.1) purchased goods and services	6.62	6.14	6.94	6.52
of which (3.2) capital goods	0.51	0.46	0.51	0.49
of which (3.3) fuel- and energy-related activities	0.73	0.63	0.55	0.54
of which (3.4) (upstream) transportation and distribution	0.66	0.71	0.82	0.70
of which (3.6) business travel	0.30	0.03	0.15	0.19
Progress in the reduction of Scope 3 emissions compared to the base year 2019 ^{3, 4, 5}		-9.6%	+1.8%	-4.2%

Previous years' figures restated

¹ Emissions from eight Scope 3 categories are of material importance to Bayer and together represent our total Scope 3 emissions: (3.1) purchased goods and services, (3.2) capital goods, (3.3) fuel- and energy-related activities, (3.4) (upstream) transportation and distribution, (3.5) waste generated in operations, (3.6) business travel, (3.7) employee commuting and (3.12) end-of-life treatment of sold products.

² Science Based Target

³ For the calculation of our reduction target for Scope 3 emissions in line with SBTi, 88% of total materially important Scope 3 emissions in the base year 2019 are considered (target inventory). The following Scope 3 categories are covered: (3.1) purchased goods and services, (3.2) capital goods, (3.3) fuel- and energy-related activities, (3.4) (upstream) transportation and distribution and (3.6) business travel.

⁴ 2029 target: 12.3% reduction

⁵ All greenhouse gas emissions from air travel in 2021, 2022 and 2023 were offset.

In accordance with the guidelines of the Science Based Targets initiative (SBTi), the calculation of our reduction target for Scope 3 emissions utilizes only the five major categories that made up the biggest portion of our Scope 3 emissions (88%) in the base year 2019. These are shown in the table on the left. For more information on initiatives to reduce Scope 3 emissions, please see Chapter 7.2 Decarbonization.

In the Scope 3 Science Based Target (SBT) categories that are relevant for us, our emissions fell by 0.53 million metric tons of CO₂ equivalents, representing a decrease of 6.0% compared with 2022. The reduction in Scope 3 emissions in the SBT-relevant Scope 3 categories can essentially be attributed to reduced purchase volumes (Scope 3.1) and associated logistics operations (Scope 3.4). In the non-SBT-relevant categories (Scope 3.5, 3.7 and 3.12), emissions fell slightly by 4,500 metric tons (0.6%) compared with 2022.

Category 3.1 (purchased goods and services) accounts for the most significant share of our Scope 3 emissions, at 77%.

Total greenhouse gas emissions

In 2023, we reduced our total greenhouse gas emissions (Scope 1, 2 and 3) compared to the base year 2019 by around 1.1 million metric tons, while our business has grown over the same period. Regarding the reduction in our own emissions (Scope 1 and 2) we have already exceeded our targets, achieving a decline of 20.2% since 2019. Reducing emissions in our value chain (Scope 3) is an increasing challenge in the face of a growing business. To achieve significant reductions in the supply chain in the coming years, we are intensifying our collaboration with suppliers, in particular in terms of a shift to renewable energies. We have also specified this in our updated Supplier Code of Conduct.

In 2023, we began developing an internal CO₂ price to manage our Scope 3 emissions. This should create an incentive internally to purchase products with a lower carbon footprint.

Total Greenhouse Gas Emissions (Scope 1, 2 and 3)

Million metric tons of CO ₂ equivalents	2019	2022	2023
Total emissions according to the location-based method ¹	12.67	12.46	11.98
Total emissions according to the market-based method ²	12.58	12.01	11.45
Specific total emissions (kg CO ₂ e/€ thousand external sales) according to the location-based method ³	290.93	245.52	251.58
Specific total emissions (kg CO ₂ e/€ thousand external sales) according to the market-based method ⁴	288.87	236.68	240.28

Previous years' figures restated

¹ Total emissions according to the location-based method are calculated by adding together direct emissions (Scope 1) and indirect emissions calculated using the location-based method of the GHG Protocol (Scope 2), plus indirect emissions from our value chain. For the Scope 3 categories, we use the five categories of material importance to Bayer that represent our target inventory for Scope 3 emissions: (3.1) purchased goods and services, (3.2) capital goods, (3.3) fuel- and energy-related activities, (3.4) (upstream) transportation and distribution and (3.6) business travel.

² Total emissions according to the market-based method are calculated by adding together direct emissions (Scope 1) and indirect emissions calculated using the market-based method of the GHG Protocol (Scope 2), plus indirect emissions from our value chain. For the Scope 3 categories, we use the five categories of material importance to Bayer that represent our target inventory for Scope 3 emissions (see above).

³ Specific total emissions according to the location-based method are calculated by adding together direct emissions (Scope 1) and indirect emissions calculated using the location-based method of the GHG Protocol (Scope 2), plus indirect emissions from our value chain, then dividing this total by the external sales volume. For the Scope 3 categories, we use the five categories of material importance to Bayer that represent our target inventory for Scope 3 emissions (see above).

⁴ Specific total emissions according to the market-based method are calculated by adding together direct emissions (Scope 1) and indirect emissions calculated using the market-based method of the GHG Protocol (Scope 2), plus indirect emissions from our value chain, then dividing this total by the external sales volume. For the Scope 3 categories, we use the five categories of material importance to Bayer that represent our target inventory for Scope 3 emissions (see above).

7.5 Energy

Our energy needs have the greatest direct impact on our greenhouse gas emissions. Production accounts for the most significant share of our energy requirement, which depends on the production operations at the sites and the depth of our value chain (please see also Chapter 7.4 Greenhouse Gas Emissions).

Energy consumption

When calculating total energy consumption, we differentiate between primary and secondary energy consumption. The main source of primary energy consumed comprises fossil fuels that we use to generate electricity, steam and cooling energy for our own use and to a small extent for sale to other companies. Secondary energy consumption reflects the purchase of electricity, steam and cooling energy at our sites worldwide.

One of the targets we have set within the context of our climate strategy is to cover 100% of purchased electricity needs with renewable energies by 2030. To achieve this objective, we have produced a catalogue of criteria such as physical proximity to the production plant and additionality. For more information, please see Chapter 7.2 Decarbonization.

In 2023, around 35.4% of our purchased electricity was sourced from renewable energies. We concluded additional supply agreements for electricity generated from renewable energies in the United States and Germany in 2023. We are thus on track to achieve our target of 100% by 2029.

Compared with 2022 (35.5 petajoules), Bayer's total energy consumption decreased by around 1.3% to 35.0 petajoules in 2023. This includes both primary energy consumption, mainly of fossil fuels, and secondary energy consumption. This reduction is primarily due to decreased production at the site in Soda Springs, United States.

Energy Consumption			
TJ	2021	2022	2023
Primary energy consumption	18,071	17,525	17,283
Natural gas	10,682	10,287	10,268
Coal	608	571	543
Liquid fuels	2,653	2,688	2,880
of which for vehicle fleet/transport	2,194	2,121	2,360
Waste	499	481	437
of which other ¹	1,068	1,162	1,196
Primary energy consumption for third-party companies	2,561	2,335	1,959
Secondary energy consumption	16,764	17,947	17,727
Electricity ²	11,059	12,359	12,031
of which electricity from power grid	8,325	8,335	7,771
of which electricity from renewable energies	2,734	4,024	4,259
Steam	4,381	4,259	4,340
of which steam from renewable energies	82	92	95
Steam from waste heat (process heat)	574	558	520
Cooling energy	632	631	643
Secondary energy consumption for third-party companies	118	140	194
Total energy consumption	34,835	35,472	35,010

¹ For example biomass

² The proportion of primary energy sources used in generating the electricity consumed depends on the respective electricity mix of our energy suppliers.

The primary and secondary energy consumption is usually dependent on the production volume: the more that is produced, the greater the energy consumption and also the associated greenhouse gas emissions. Energy management systems (such as in line with ISO 50001) help to identify potential energy savings both in production processes and when developing new production processes or converting existing ones. This not only conserves valuable energy resources but is also an economic factor because it enables long-term savings.

At various sites, we have implemented projects designed to produce electricity from renewable energies. For example, additional photovoltaic facilities are currently being installed at locations in Indonesia and the United States with a view to meeting part of the electricity requirement at those sites. Together with our energy provider, we have developed a concept at our Leverkusen site for generating both thermal and cooling energy by geothermal means. This facility is scheduled to come on stream in 2024.

In our Report to CDP we also describe projects to save energy that were implemented at various sites.

Energy efficiency

Bayer reports energy efficiency as the ratio of energy used to external sales.

Energy Efficiency				
kWh/€ thousand external sales	2020	2021	2022	2023
Energy efficiency	241	220	194	204

For more information on our energy efficiency measures, please see Chapter 7.2 Decarbonization.

8. Environmental Protection

Protecting the environment is one of our highest priorities. We work continuously to reduce the environmental impact of our business activities and develop product solutions that benefit the environment.

8.1 Management Approach

Responsibility for steering and monitoring environmental protection aspects, as well as health and safety, across the Group lies with the Public Affairs, Science, Sustainability & HSE Enabling Function (PASS&HSE). This function is assigned to the Chairman of the Board of Management (CEO), who also serves as Bayer's Chief Sustainability Officer. The Public Affairs, Science, Sustainability & HSE Enabling Function establishes responsibilities, targets, key performance indicators and framework conditions for the entire Group. These conditions include the provisions of the Group Regulation on HSE Management and HSE Key Requirements, which forms an integral part of the global HSE management system and was approved at the Board of Management level in 2018. This Group regulation describes the basic approach for monitoring environmental protection processes at Bayer and defines core requirements that need to be implemented worldwide. Detailed requirements for individual environmental protection aspects are established in farther-reaching Group regulations that are also binding.

The continuous review and revision of Group regulations by the Public Affairs, Science, Sustainability & HSE Enabling Function, risk-based, mandatory internal audits, and external certification processes ensure that the management systems at all sites meet the relevant requirements.

Management systems for environmental protection issues are in place, and these are integrated into the business

processes throughout the Group. Operational responsibility for environmental protection lies with the individual divisions, which steer HSE via management systems, committees and working groups at our sites.

Environmental management at the sites also involves the development and implementation of site-specific environmental protection targets and programs to reduce our environmental impact. Environmental protection measures are identified, planned and implemented through cross-functional cooperation between the divisions and enabling functions. The following priorities apply:

- // Avoiding waste/emissions
- // Recycling in all cases where it is practicable to do so by reasonable means
- // Minimizing waste/emissions that cannot be avoided or recycled

We report all relevant environmental data of the Group, including of all fully consolidated companies in which we have a share of more than 50%, collect data on environmental incidents at all sites worldwide, and record environmental indicators at 213 environmentally relevant production, research and administration sites, compiling this in the Group-wide system. We consider all sites where annual energy consumption is greater than 1.5 terajoules to be environmentally relevant.

Ecological assessment for capital expenditures

Our environmental commitment extends beyond the scope of legal requirements. We perform a voluntary ecological assessment for capital expenditure projects exceeding €10 million. This includes an evaluation of direct and indirect greenhouse gas emissions. The goal is to adequately assess

Binding Group Regulations – Environmental Protection¹



¹ Selection of relevant regulations

environmental impact and other sustainability dimensions and involve stakeholders at an early stage.

This ecological assessment ensures uniform environmental and sustainability standards worldwide, taking account of Bayer’s internal standards and the best available technologies. We safeguard our capital expenditures over the long term by anticipating and addressing future legislative changes at an early stage. Examples of the implementation of capital expenditure projects can be found in this chapter and in Chapter 7. Climate Protection.

In the case of acquisitions, we examine compliance with the applicable environmental regulations as well as fundamental employee rights at the production sites in question. Through our HSE management systems, we also avoid damage and disruptions to work and production.

Environmental management systems

In accordance with the Group Regulation on HSE Management and HSE Key Requirements, our sites must have in place an HSE management system that complies with recognized international standards such as ISO 14001. We aim to cover 80% of our business activities (based on energy consumption at environmentally relevant sites) with certification to ISO 14001 or ISO 45001 by the end of 2025.

Standards and Certifications

% of business activities based on energy consumption of environmentally relevant sites	2020	2021	2022	2023
ISO 14001 certification/EMAS validation	56	61	81	79
ISO 50001 certification	22	31	29	28
Degree of coverage with certification ¹	60	65	86	84

¹ ISO 14001/EMAS validation, ISO 50001 or ISO 45001/OHSAS 18001

Internal HSE audits

Audits are an integral component of our global HSE management system and also include environmental aspects. They assist in ensuring compliance with applicable environmentally relevant regulations and improve our environmental performance worldwide. HSE audits help to safeguard our license to operate through the identification and mitigation of possible environmental risks. Bayer’s global HSE audit program is based on the international standard ISO 19011 and comprises both general HSE audits and process and plant safety audits. The Group Regulation on Health, Safety and Environmental (HSE) Audits defines the basic principles and methodology for selecting, planning, implementing and post-processing audits according to a risk-based approach.

Through the overarching HSE audit approach, we include all environmentally relevant units and apply uniform standards worldwide. When selecting sites for audit, the focus is particularly on production sites, major Bayer warehouses, sites with research and development units, and major seed treatment and processing units.

The frequency of audits is determined by considering the risk category (based partly on the size of the site or the type of production activity), the performance evaluation (based partly on past audit results, for example) and risk-mitigating measures (e.g. existing environmentally relevant certifications such as to ISO 14001), and ranges from every two to every seven years. Incident-based audits can be carried out in addition to this. The audit criteria comprise all applicable environmental protection regulations and standards for the area being audited, including Bayer regulations, local HSE management system regulations, locally applicable legal requirements, permit requirements and international standards (e.g. ISO 14001). If deficiencies in compliance with legal

regulations are identified, additional compliance audits can be planned. Within the scope of these audits, action plans and responsibilities are established to fix the issues identified.

The respective site management, the divisional management and the Public Affairs, Science, Sustainability & HSE Enabling Function are notified of the audit findings. Supplementary to the global HSE audits, sites and country organizations carry out their own internal HSE audits or self-inspections according to a site-specific, risk-based approach.

A total of 64 global internal HSE and process and plant safety audits were conducted in 2023 (2022: 61).

HSE audits of suppliers

Within the scope of our responsibility, our audit activities also extend to our supply chain. HSE and sustainability audits combine to form an efficient evaluation approach, taking account of the various risks (see Chapter 4.3 Sustainability in the Supply Chain). Internal and external auditors evaluate selected new and existing suppliers. These audits include environmental aspects. Audits are performed, for example, on toll or contract manufacturers, active ingredient suppliers and warehouses with significant HSE risk potential, taking into account the type of materials, manufacturing processes and environmental impact.

Local, regional and global audits are designed to establish short and effective paths to the respective suppliers based on the respective risk. The results of these HSE audits are taken into consideration in the supplier selection and management processes. In 2023, 363 (2022: 233) suppliers were evaluated by means of HSE audits or audits covering HSE topics.

8.2 Air Emissions

Environmental management at our sites includes the monitoring and reduction of air emissions. Our approach to the issue of air emissions is described in the Group Regulation on HSE Management and HSE Key Requirements.

We use specialized off-gas treatment equipment at our production sites to reduce or eliminate pollutants in off-gas. Such equipment is generally tailored to the specific use and specific off-gas. This usually includes:

- // Thermal off-gas treatment systems to eliminate volatile organic compounds (VOCs)
- // Gas scrubbers to reduce VOCs and acid gases
- // Particulate collectors such as cyclones to reduce particulate emissions

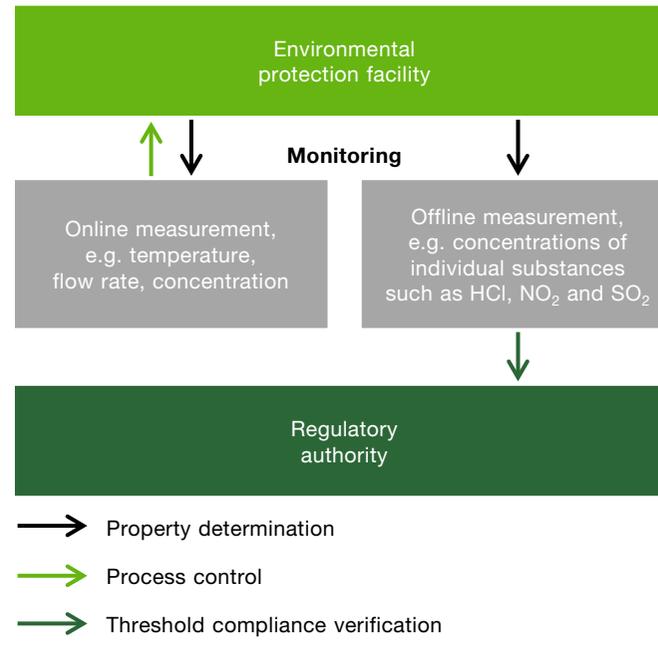
The facilities are equipped with sensors for process control and continuous monitoring of the functions. In accordance with regulatory requirements, off-gas samples are also analyzed by certified laboratories to verify compliance with legal thresholds (see graphic). Redundant off-gas treatment facilities are available at sites with critical off-gas components. One example is an activated carbon facility at a site in Germany that serves as a redundancy measure for thermal off-gas treatment.

Bayer continued to implement or completed a number of capital expenditure projects in 2023 focusing on the construction of new exhaust air treatment facilities or the modernization of existing facilities. These included:

- // Planning and installation of a new off-gas treatment facility at a production site in Germany to further reduce emissions of the site

// Development of a new off-gas treatment concept at a site in Germany to increase the robustness of the treatment of off-gases generated during production

Typical Monitoring Concept for Air Emissions



Emissions of ozone-depleting substances (ODS) in 2023 fell by 92.6%, mainly due to process optimizations at the Vapi site in India. These also led to a slight decrease in volatile organic compounds (VOCs). Particulate emissions (fugitive total suspended particles, TSP) increased by 4.4%, owing to increased seed production at our US sites in Othello and Waterman.

Climate-impacting emissions such as of ozone-depleting substances or volatile organic compounds (VOCs) are also included in the calculation of greenhouse gas emissions; please see Chapter 7. Climate Protection.

Direct Air Emissions

1,000 metric tons	2020	2021	2022	2023
ODS ¹	0.0043	0.0039	0.0042	0.0003
VOC ²	0.69	0.43	0.46	0.44
CO (carbon monoxide)	1.16	2.66	2.62	2.43
NO _x (nitrogen oxides)	4.16	3.57	3.52	3.32
SO _x (sulfur oxides)	1.32	1.28	1.29	1.20
Particulates ³	2.29	2.05	2.26	2.36

¹ Ozone-depleting substances (ODS) according to the Montreal Protocol, in CFC-11 equivalents

² Volatile organic compounds (VOCs) excluding methane

³ Fugitive total suspended particles (TSPs)

8.3 Water

Responsible water usage is a cornerstone of our commitment to sustainable development and is described in the Group Regulation on HSE Management and HSE Key Requirements. Clean water in sufficient quantities is essential for the health of people, animals and plants. That is why it is crucial that industrial water usage does not lead to local problems such as water shortages for the people living in the catchment areas of our production sites in the future. To maximize impact, our activities go beyond our own sites and comprise measures throughout the value chain – from our suppliers through internal operational procedures to the farmers we supply.

Water strategy

Our comprehensive water strategy covers potential water-related risks along our value chain. We want to deploy Bayer's innovation capability to generate value added for society while also creating new business opportunities.

Cornerstones of our water strategy are:

- // Resilient agriculture: Bayer is committed to increasing water productivity in farming. Our top priority is rice-growing, for which irrigation accounts for up to 43% of global water extraction. We are committed to improving water use per kilogram of crop by 25% by 2030 by transforming rice-cropping systems for our smallholder customers in the relevant regions where Bayer operates, starting in India (base year calculated with data from 2021, validation process still ongoing). Bayer plans to achieve this by transforming rice-cropping systems for smallholder farmers in the regions in which the company operates. Our aim to reduce the treated-area-weighted environmental impact per hectare of Bayer's global crop protection portfolio by 30% by 2030 against a 2014–2018 average baseline also helps to improve water quality.
- // Our business and investments: We want to integrate water quality and quantity into business decisions and processes that will be rolled out from 2024 onwards. We will develop a methodology to place value on water and incorporate it into investment processes.
- // Suppliers: Bayer included specific aspects relating to water and wastewater in the Supplier Code of Conduct updated in 2022, and in our evaluation of the suppliers' sustainability risk.

- // Our sites and facilities: Bayer is committed to providing clean drinking water and sanitary facilities for all employees at our sites (WASH). We also want to continue reducing emissions into wastewater at our sites worldwide. Furthermore, we have voluntarily established very strict limits for the discharge of active ingredients into wastewater for the sites at which these products are produced. To improve water use at relevant sites in water-scarce regions, we want to build on our existing water management systems and expand them to sites located in regions that will be subjected to water stress by 2030. We want to establish context-related water targets for our own operations by 2025 that we plan to achieve by 2030.
- // Bayer as an ambassador and partner: It will take broad action by many supporters to deal with the water crisis. Bayer has a strong network through its participation in various initiatives. These include the World Meteorological Organization for Water and Climate Leaders and the Water Resilience Coalition, as well as our partnerships with the activist Mina Guli and the International Drought Resilience Alliance (IDRA), an initiative forged during COP27 at the ministers' meeting of the United Nations Convention to Combat Desertification (UNCCD). We want to support these strong partnerships to ensure the engagement of the private sector in the upcoming water debate. Bayer continues to support the [CEO Water Mandate](#) of the UN Global Compact with the goal of working with key stakeholders to develop sustainable strategies for water usage. We are also a member of the [Water Resilience Coalition](#) (WRC), which concretizes and complements the ambitions of the CEO Water Mandate at a private-sector level.

In our [Water Position](#), we commit to complying with international, national and local legislation, and thus to protecting water resources, using them as sparingly as possible and to further reduce emissions into water.

In our annual response to the [CDP Water Disclosure](#), we report in detail on our handling of water. This equates to a progress report for the CEO Water Mandate. We received an A– rating from CDP in 2023.

RUN BLUE

At the [UN2023 Water Conference](#) – the first United Nations conference focusing on water in nearly 50 years – Bayer together with the WWF and the water activist Mina Guli drew attention to the global water problems caused by climate change with the RUN BLUE campaign.

Mina Guli ran 200 marathons in 32 countries within one year to raise awareness and sent out a call to action regarding the challenges connected with the issue of water. During this time, Bayer organized joint activities with Mina Guli in 15 countries to increase awareness of the need for action to address the water crisis. These activities included conferences and joint runs in countries such as India, Brazil, Germany, the United States and South Africa. Overall, more than 4,300 Bayer employees actively participated in the campaign and ran with or for Mina Guli.

Water use

Most water used at Bayer is either extracted from ground- and surface water, purchased as drinking water and/or is rainwater that has been collected.

Water Use by Source

Million m ³	2020	2021	2022	2023
Total water use	57	55	53	53
of which from groundwater	21.1	20.6	21.3	21.3
of which from surface water	15.3	10.1	8.5	8.9
of which rainwater	4.0	6.0	2.8	2.3
of which drinking water	13.2	15.2	16.7	18.4
of which recycled wastewater from third parties	0.8	0.7	0.6	0.5
of which other ¹	2.1	1.6	2.2	1.1
of which water content of raw materials ²	0.7	0.7	0.7	0.7

¹ Treated water such as distilled water, ultrapure water, mineral water

² Partly released by chemical reaction

Sites in water-scarce regions

We aim to identify potential for improvement, particularly in water-scarce areas or in areas threatened by water scarcity, and to use as little water there as possible. These regions in which water consumption exceeds the available renewable surface and groundwater resources were identified using the Aqueduct Water Risk Atlas of the [World Resources Institute](#) (WRI). We used three million cubic meters of water overall in these regions in 2023 (2022: three million cubic meters), accounting for about 5% of our total water use.

Climate change will further exacerbate the problem of water scarcity in various regions of the Earth in the future. To avert future and current risks for our sites and the local communities, we met our goal in 2023 of establishing suitable water management systems at all relevant sites that will be threatened by water scarcity by 2030. We identify such sites using the base scenario of the World Resources Institute (WRI).

The relevant Bayer sites here are all locations with annual energy consumption of at least 1.5 terajoules that also account for at least 0.1% of our global water consumption.

The key characteristics of a sustainable water management policy are a balance between water consumption and availability, and the optimal conservation of water resources. Due to widely varying local situations, each water management system is designed individually on the basis of a detailed risk analysis that takes into account local circumstances and the main parameters of our water supply and disposal. We address the identified risks with locally adapted countermeasures such as the establishment of alternative supply sources, the improvement of wastewater quality or wastewater recirculation. These activities are accompanied by management measures such as regular employee training in water management and participation in roundtables with regulatory authorities and residents.

For example, we have continuously reduced water consumption at our seed site in Ica, Peru, over the past few years – from 70 cubic meters per kilogram of seed in 2010 to 28 cubic meters in 2021. Key measures included:

- // Managing irrigation through moisture sensors in the soil, adapted to weather forecasts and the type and age of the crops
- // Increasing employee awareness, e.g. through the daily updated display of water consumption

Water Use in Water-Scarce Areas or Areas Threatened by Water Scarcity¹

Million m ³	2020	2021	2022	2023
Total water use	57	55	53	53
of which in water-scarce areas or areas threatened by water scarcity ¹	3	3	3	3

¹ As defined by the World Resources Institute, Aqueduct Water Risk Atlas

Water requirement and use

As we recycle water several times at many of our sites, our total water requirement of 53 million cubic meters (2022: 53 million cubic meters) is much lower than the actual water use volume of 381 million cubic meters (2022: 399 million cubic meters). This yields a mathematical recycling rate of more than 710% (2022: more than 750%). Water is currently recycled by various means at 48 sites, these being responsible for 45% of the water used by Bayer. Recycling measures include reuse of treated wastewater, closure of cooling cycles and recirculation of steam condensates as process water or to irrigate fields.

Water Use by Division

Million m ³	Utilization			Recycling		
	2021	2022	2023	2021	2022	2023
Total	55	53	53	376	399	381
Crop Science	45	43	44	376	399	381
Pharmaceuticals	8	6	6	<1	<1	<1
Consumer Health	2	2	2	<1	<1	<1
Other ¹	<1	<1	2	<1	<1	<1

¹ Including water use that is assigned to the enabling functions

Our production sites for crop protection products (Crop Science Division) account for the greatest share of water recycling. Water recycling is almost impossible in seed production as water is mainly used to irrigate farmland. In pharmaceutical production, the water recycling rate is low due to stringent legal requirements (Pharmaceuticals and Consumer Health divisions).

Around 32% of all water used by Bayer is cooling water that is only heated in the course of the cooling process and does not come into contact with products. It is returned to the water cycle without further treatment, in line with the relevant official permits.

Wastewater

We aim to minimize emissions at our sites worldwide, including emissions into wastewater. Environmental management at our sites therefore includes the monitoring and reduction of emissions into wastewater. Our approach to this issue is described in the Group Regulation on [HSE Management and HSE Key Requirements](#). Our Group Regulation on Management of Active Ingredients in Wastewater applies to production sites at which active ingredients are produced or processed. Based on risk assessments, we therefore specify internal thresholds for active ingredient traces that often go beyond legal requirements.

Wastewater at our sites is subject to strict monitoring before it is discharged into the various disposal channels. Compliance with internal and external thresholds is regularly monitored, overseen by supervisory authorities and regulatory authorities, and also reviewed at regular intervals during on-site audits by internal experts. For example, a number of sites in India have installed online analyzers to monitor critical parameters at the outlets of their wastewater treatment plants. The analysis results are transmitted directly to the government's Central Pollution Control Board, and the outlet valve of the treatment plant closes automatically if the thresholds are exceeded.

Emissions into Water

1,000 metric tons	2020	2021	2022	2023
Phosphorus	0.38	0.51	0.61	0.30
Nitrogen	0.48	0.36	0.24	0.32
TOC ¹	1.54	1.28	1.11	1.5
Heavy metals	0.0026	0.0032	0.0035	0.0026
Inorganic salts	151	172	176	165
COD ²	4.61	3.83	3.33	4.49

¹ Total organic carbon (TOC)

² Chemical oxygen demand; calculated value based on TOC figures (TOC x 3 = COD)

The total volume of industrial and mixed wastewater was 25 million cubic meters in 2023, which is comparable to the previous year. Following careful analysis according to official provisions, 4.7 million cubic meters (19%) were categorized as being not environmentally hazardous and returned to the natural water cycle. The remaining 20.2 million cubic meters of wastewater (81%) were purified in wastewater treatment plants (Bayer or third-party facilities), usually through biological wastewater treatment in combination with upstream and/or downstream treatment steps. Suitable treatment processes such as adsorption, precipitation or Fenton oxidation are used, depending on the contents, required separation efficiency and flow rate.

Water Discharge by Destination

Million m ³	2021	2022	2023
Total water discharge ¹	55	53	53
of which through evaporation losses	7.4	8	8
of which into surface water	16.5	14.5	15.4
of which clean cooling water	12	10	9
of which into seawater	0.3	0.2	0.2
of which into groundwater	0.01	0.019	0.004
of which into external wastewater treatment plants	5.5	7.0	6.9
of which other ²	2.3	2.4	2.4
of which for irrigation ³	11	10	11

¹ Of which in water-scarce areas or areas threatened by water scarcity (as defined by the World Resources Institute, Aqueduct Water Risk Atlas) 2023: 0.7; 2022: 0.8; 2021: 0.8

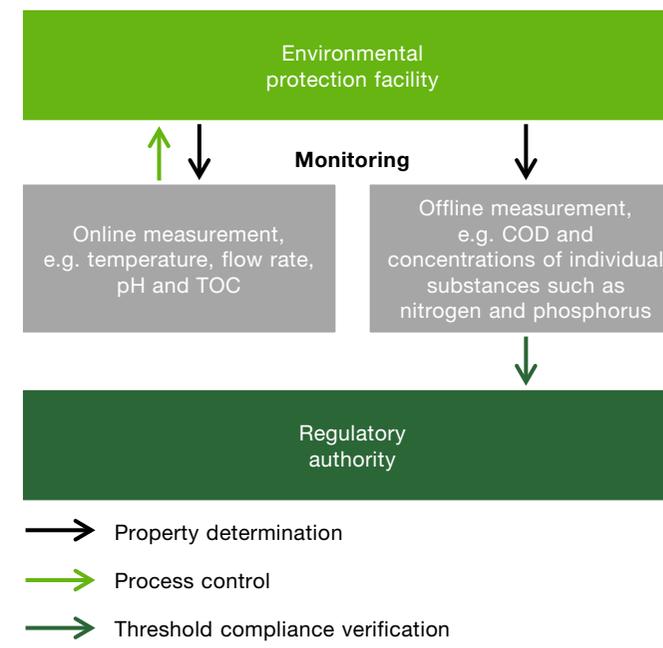
² Including evaporation, seepage

³ Particularly agricultural irrigation

Our wastewater treatment facilities are equipped with sensors for continuous monitoring and process control. In accordance with regulatory requirements, samples are also analyzed by certified laboratories to verify compliance with legal thresholds; see the graphic on the right.

Bayer continued to implement or completed a number of capital expenditure projects in 2023 focusing on the construction of wastewater treatment facilities for new production plants or the modernization of existing facilities. These included:

Typical Monitoring Concept for Wastewater



- // Planning of a new wastewater treatment facility at a production site in Indonesia
- // Installation and commissioning of new measuring stations for process wastewater and cooling water at a site in Germany
- // Modernization of a wastewater treatment facility at a site in Germany
- // Planning of a facility for the post-treatment of process wastewater at a site in Argentina to further reduce emissions

// Capital expenditure project to reduce nutrient emissions (phosphorus and nitrogen) at a site in the United States

Remediation and safeguarding of soil and groundwater contamination

In line with the Group Regulation on HSE Management and HSE Key Requirements, Bayer ensures the implementation of measures to prevent the contamination of soil and groundwater. These include inspecting facilities for leaks, implementing effective secondary retention measures for storage tanks, and maintenance and inspection programs. The measures also encompass applying suitable leak identification devices for tanks, containers and pipes containing hazardous materials as well as the installation of sealed surfaces with a sufficient retention volume, for example in tank loading and unloading areas.

Bayer also actively performs remediation activities to mitigate environmental damage resulting from previously different environmental standards, noncompliant waste management or environmental incidents in the past that was only determined at a later date. Dedicated processes have been established for this purpose that stipulate comprehensive investigation of sites and, where necessary, one or more of the following measures:

- // Remediation activities to clean up the impacted environment
- // Safeguarding contaminated sites so that they no longer constitute a danger
- // Monitoring the remediation and safeguarding activities conducted

These are implemented based on statutory requirements and the latest technological standards. Such activities are also designed to avert possible financial damage or reputational risks to the company.

To manage contamination, we have established uniform standards worldwide in our Group regulation for the investigation and remediation of such sites. Our specialized teams work systematically with external experts to support all affected sites in the planning, implementation and monitoring of remediation processes and measures, assess their progress, and execute and conclude these cases with a positive effect for people and nature.

To enable the implementation of environmental protection measures and the mitigation of contamination, provisions are established for the expected costs of the remediation of contaminated sites, the recultivation of landfills, the clean-up of environmental pollution at existing production or storage sites and similar measures. For more information on provisions, please see the [2023 Annual Report](#).

8.4 Waste and Recycling

We aim to minimize material consumption and disposal volumes as much as possible through systematic waste management. Waste separation, safe disposal channels and economically reasonable recycling processes contribute to this. In accordance with our Group regulations, all production sites are obliged to prevent, reduce and recycle waste and to dispose of it safely and in line with good environmental practices.

Each of our sites must have an up-to-date waste register that includes the following details for each waste stream: the name and description of the waste, its source and volume and sufficient information on its composition, hazard classification and final treatment and disposal. Bayer ensures that waste is properly disposed of at its sites. Audits of external disposal facilities are also carried out for this purpose.

Volume of waste generated

Waste volumes and recycling paths are impacted not just by production fluctuations but also by building refurbishment and land remediation work. The total volume of waste generated increased by around 12% in 2023 compared to 2022. This was mainly attributable to increased production at our site in Dormagen, Germany, as well as construction work at our site in Leverkusen, Germany.

The total volume of hazardous waste increased by 14% to 316,000 metric tons (2022: 276,000 metric tons) owing to increased production at the site in Dormagen, Germany.

Waste Generated			
1,000 metric tons	2021	2022	2023
Total volume of waste generated	1,001	1,038	1,164
of which hazardous waste ¹	316	276	316
of which from production	303	273	312
of which from construction	13	3	4
of which nonhazardous waste	685	762	848
of which from production	604	709	772
of which from construction	81	53	76

¹ Definition of hazardous waste in accordance with the local laws in each instance

Volume of waste disposed of

Waste can be stored at sites as an intermediate step. For this reason, the volume of waste disposed of can differ slightly from the volume of waste generated by Bayer. The volume of waste disposed of increased by around 12% in 2023.

Waste by Means of Disposal

1,000 metric tons	2021	2022	2023
Total volume of waste disposed of¹	998	1,037	1,163
Nonhazardous waste disposed of	685	762	847
of which volume removed to landfill	78	79	84
of which volume incinerated	53	48	66
of which volume recycled ²	434	515	576
of which other ³	120	119	121
Hazardous waste disposed of	313	275	316
of which volume removed to landfill	12	14	11
of which volume incinerated	224	194	230
of which volume recycled ²	49	42	46
of which other ³	28	25	29

¹ Waste can also be stored at sites as an intermediate step. For this reason, the volume of waste disposed of can differ slightly from the volume of waste generated by Bayer.
² Recycling refers to processes through which waste is reused or treated for reutilization.
³ For example passed on to third parties (e.g. providers/waste disposal companies) for disposal or utilization for energy generation or composting

The volume of hazardous waste sent to landfill fell by 18% compared to 2022 due to reduced production at the Vapi site in India.

Due to the varying depth of value creation, waste volumes are unequally distributed among our divisions. Crop Science accounts for a greater proportion due in part to its more significant product volume.

Waste by Division

1,000 metric tons	2021	2022	2023
Total volume of waste disposed of¹	998	1,037	1,163
of which Crop Science	811	895	1,007
of which Pharmaceuticals	170	126	136
of which Consumer Health	16	14	15
of which other ²	1	1	5

¹ Waste can also be stored at sites as an intermediate step. For this reason, the volume of waste disposed of can differ slightly from the volume of waste generated by Bayer.
² This includes waste attributable to the enabling functions and administration sites of the regions.

Disposal, recycling and processing

Some 54% (2022: 54%) of this waste was successfully reused or recycled. The proportion of hazardous waste recycled was around 15%.

Bayer's finished products, such as pharmaceuticals, crop protection products and seeds, are used almost exclusively as consumable materials for which reuse through recycling or recovery processes, as outlined in approaches to a circular economy, is not possible. The recovery of products from pharmaceutical and chemical production waste occurs only in individual cases due to significant regulatory and technical hurdles.

The disposal of pharmaceutical products is subject to strict safety criteria. Packaging materials for crop protection products are recycled in line with national regulations as part of the country-specific infrastructure for waste disposal. In many countries with no legal regulation, the industry has set up a returns system in collaboration with other providers (for more information, please see Chapter 3.6 Crop Science, Disposal of containers and old inventories, discontinuation policy).

Whenever possible within the framework of legal regulations, we make use of the opportunities in our divisions to recycle solvents, catalysts and intermediates and return them to the production process following treatment. Recycling plays an especially important role in our production of crop protection products and is therefore a key criterion at the process development stage of active ingredient production.

In all divisions, production- and material-based recycling is aligned to the individual requirements of the production processes at the sites. Here are some examples:

- // Material-based recycling of solvents from production is implemented at various active ingredient production sites.
- // Volumes of incineration waste are being reduced at a site in the United States using distillation. At the same time, occupational safety has improved because less manual intervention is required in the process.
- // At a site in Germany, a patented recycling process is employed to recover iodine and return it to the industrial supply chain. The iodine is recovered from leftover contrast agent collected at medical facilities through the re:contrast returns program or from our own production waste. Unused products are currently recovered through re:contrast from hospitals in seven countries, and it is planned to introduce this program in three additional countries. We also plan to recycle contrast agent waste from an additional production site in Spain. In addition to iodine recycling, the re:contrast returns program also collects leftovers of gadolinium-based contrast agents and recycles them through an external partner (please see also Chapter 3.8 Pharmaceuticals and Consumer Health – Trace substances of active pharmaceutical ingredients in the environment).

- // Mirroring the re:contrast program, old injectors are taken back, refurbished or repaired and reused as spare parts through the re:device program.
- // Plant residues (such as corncoobs or rice husks) from seed production are recycled into animal feed and various corn products or are used as natural fertilizers and fuels at our seed production sites.
- // Employees and contractors at three sites in Argentina are being given extensive training that enables them to avoid disposal of waste products in landfills. The waste streams are either reused, recycled, composted or incinerated.
- // At a production site in Spain, the plan is to use gelatin waste for biogas production, which will enable a reduction in the volume of incinerated waste and associated CO₂ emissions.

Recycling of business equipment

The purchase of new business equipment is associated not just with monetary costs, but also the products' ecological footprint. The internal reutilization or sale of unused and/or unneeded business equipment is therefore cost-effective and supports more resource-friendly business practices.

Together with a service provider, Bayer has therefore established a transparent global platform to internally list unused production and laboratory equipment through which employees at various sites can view available items. The platform also supports the administration and possible sale of these items. The goal is to reuse equipment or individual parts that are no longer needed at one site elsewhere internally – or, if there is no need for it, to sell it externally, donate it or recycle it as a final step.

8.5 Environmental Incidents

We recorded five reportable environmental incidents that resulted in the release of substances into the environment in 2023 (2022: three). These incidents were also classified as transportation incidents, as reported in Chapter 9.2 Occupational Safety – Transportation and storage safety.

Factors that determine whether there is a reporting obligation for a specific environmental incident include the nature and quantity of the substance, the amount of damage caused and any consequences for the local community. In line with our internal voluntary commitment, we report any leakage greater than 100 kilograms of a substance with high hazard potential.

Significant¹ Environmental Incidents 2023

- Crop Science, São Paulo, Brazil, October
A truck belonging to a transport company transporting Crop Protection products tipped over. The load was spilled to the roadside and then properly disposed of.
- Crop Science, São Paulo, Brazil, November
A truck belonging to a transport company transporting Crop Protection products tipped over. The load was spilled to the roadside and then properly disposed of.
- Crop Science, São Paulo, Brazil, November
A truck belonging to a transport company transporting Crop Protection products tipped over. The load was spilled to the roadside and then properly disposed of.
- Crop Science, São Paulo, Brazil, December
A truck belonging to a transport company transporting Crop Protection products tipped over. The load was spilled next to the roadside and then properly disposed of.
- Crop Science, Creve Coeur, USA, December
A truck belonging to a transport company transporting Crop Protection products tipped over. The load was spilled.

¹ With leakage greater than 100 kilograms of a substance with high hazard potential

9. Health and Safety

Ensuring the safety of people working at and for Bayer and of those who live near our sites is our highest priority. We extend these ambitions to our supply chain, too. Bayer focuses on taking consistent precautions – to ensure healthy working conditions and safety in day-to-day work, in the operation of production facilities, and on work-related travel and transportation routes.

Safeguarding the occupational health and safety of our employees, and that of the employees of contractors (commissioned outside companies) who are under the direct supervision of Bayer, involves preventing occupational accidents and occupational illnesses, assessing potential hazards, ensuring comprehensive risk management and creating a healthy working environment.

9.1 Management Approach

Responsibility for steering and monitoring health and safety aspects across the Group lies with the Public Affairs, Science, Sustainability & HSE (PASS&HSE) Enabling Function, which is assigned to the Chairman of the Board of Management (CEO), who also serves as Bayer's Chief Sustainability Officer. The Public Affairs, Science, Sustainability & HSE Enabling Function establishes responsibilities, targets, key performance indicators and framework conditions for the entire Group. These conditions include the provisions of the [Group Regulation on HSE Management and HSE Key Requirements](#), which forms an integral part of the global health, safety and environmental protection (HSE) management system and was approved at the Board of Management level in 2018.

This Group regulation describes the basic approach for monitoring health and safety processes at Bayer and defines core health and safety requirements that need to be implemented worldwide.

Detailed requirements for individual health and safety aspects are established in Group regulations that are also binding (see graphic on the next page). The continuous review and revision of Group regulations by the Public Affairs, Science, Sustainability & HSE Enabling Function, regular mandatory internal audits and external certification processes ensure that management systems at our sites meet the relevant requirements.

Operational responsibility for health and safety lies with the individual divisions, which steer HSE via management systems, committees and working groups at our sites. Incident and emergency preparedness is managed at site level, with global notification procedures in place.

We collect and report data on occupational injuries at all sites worldwide.

Management systems for health and safety

In accordance with the Group Regulation on HSE Management and HSE Key Requirements, our sites must have in place management systems for health and safety following recognized international standards (e.g. ISO 45001). We aim to cover 80% of our business activities (based on energy consumption of environmentally relevant sites) with certification to ISO 45001 or ISO 14001 by the end of 2025.

Standards and Certifications

% of business activities based on energy consumption of environmentally relevant sites ¹	2020	2021	2022	2023
ISO 45001/OHSAS 18001 certification ²	45	50	48	46

¹ We consider all sites to be environmentally relevant whose annual energy consumption is greater than 1.5 terajoules.

² Around 43% of our employees are covered by the certifications to ISO 45001/OHSAS 18001.

Internal HSE audits

Audits covering health and safety topics are an integral component of our global HSE management system. They help to ensure compliance with applicable health and safety regulations, and to improve our health and safety performance worldwide. By identifying and mitigating potential health and safety risks, HSE audits contribute to safeguarding our license to operate. Bayer's global HSE audit program is based on the international standard ISO 19011 and comprises both general HSE audits and process and plant safety audits. The Group Regulation on Health, Safety and Environmental (HSE) Audits defines the basic principles and methodology for selection, planning, execution and follow-up activities for these audits following a risk-based approach.

Through the overarching HSE audit approach, we include all units and apply uniform standards worldwide. When selecting sites for audit, the focus is particularly on production sites, major Bayer warehouses, sites with research and development units, and major seed treatment and processing units.

Binding Group Regulations – Health and Safety¹



The audit frequency is determined by the risk category (based on the size of the site and the type of production activity), the performance evaluation (based on past audit results) and risk-mitigating measures (e.g. existing ISO certifications), and ranges from two to seven years. Event-driven audits can be carried out in addition to this. The audit criteria comprise all applicable health and safety regulations and standards for the area being audited, including Bayer regulations, local HSE management system regulations, locally applicable legal requirements, permit requirements and international standards (e.g. ISO 45001). If deficiencies with respect to compliance with legal regulations are identified, additional compliance audits can be planned. Within the scope of these audits, action plans and responsibilities are established to correct the issues identified.

The respective site management, divisional management and the respective management of Public Affairs, Science, Sustainability & HSE are notified of the audit results.

In addition to the global HSE audits, sites and country organizations carry out their own internal HSE audits or self-inspections according to their specific risk-based approach.

In 2023, 64 global HSE and PPS audits were carried out.

Supplier HSE audits

As part of our responsibilities, our HSE audit activities also extend to our supply chain. HSE and sustainability audits complement each other, forming an efficient evaluation approach, oriented to the specific risks (please see also Chapter 4.3 Sustainability in the Supply Chain). Internal and external auditors evaluate selected new and existing suppliers also with a focus on health and safety. Such audits are performed at, for example, toll and contract manufacturers, active ingredient suppliers and warehouses with significant HSE risk potential. They take account of the nature of materials, manufacturing processes used and their potential

¹ Selection of relevant regulations

impacts on health and safety. Local, regional and global audits are in place to build short and effective pathways to the respective suppliers based on their respective HSE risk.

The results of these HSE audits are factored into the supplier selection and management processes. In 2023, 363 (2022: 233) suppliers were evaluated by means of HSE audits or audits covering HSE topics.

Engagement

Effective communication of occupational health and safety responsibilities, targets, priorities, key performance indicators, global offers and framework conditions for the entire Group is supported by Group-wide engagement activities in line with our motto of “Take care of what matters.”

By creating general health and safety awareness, we support health and safety among the people working at and for Bayer.

The Board of Management, our managerial staff and our employees are furthermore regularly informed about occupational health and safety performance, including about safety indicators and incident KPIs and, if necessary, individual incidents.

Group-wide engagement activities include our global Health and Safety Day for all employees, underlining the fact that at Bayer health and safety are indeed a priority and non-negotiable. Under the umbrella of a global concept, online offers

are complemented by on-site activities focusing on what is relevant for a country, division, site or team. Focus topics for the event in 2023 were road safety and how to manage personal energy.

Additionally, to increase general awareness of the importance of road safety, a direct-to-employee road safety campaign was launched in support of the bi-annual United Nations Road Safety Week and Bayer’s own week occurring in 2023. The Road Safety Program was supported with road safety videos, infographics and presentations. Leaders and employees used quote card templates for social media posts to share their personal commitment to employee safety on the roads.

A global newsletter provides information about sustainability, health and safety performance, key initiatives, regulations, HSE audit and training updates, digital enablers and best practices. All key occupational health and safety topics are additionally posted on a central communication platform.

Health and safety training

Within the context of our occupational health and safety management, Bayer employees and employees of contractors receive extensive training in the prevention of accidents and safety incidents and in taking care of their own health.

Due to different health and safety focuses and risks, and specific local laws and conditions, compliance-relevant mandatory training activities take place at country or site level.

A global training catalogue is in place to support countries and sites in fulfilling health and safety training requirements. This training catalogue includes over 1,000 web-based training units on a broad range of HSE-relevant topics in several languages, supporting the organization in maintaining a healthy and safe place to work.

9.2 Occupational Safety

Bayer’s occupational safety systems are the central pillar for consistently driving forward improvements in the protection of personnel working in all the areas of the world in which the company operates. The company’s safety program sets the expectations, and the foundations, for growing an organizational culture that strengthens activities and site operations to maintain compliance with the applicable internal and external safety regulations at a global, country and local level.

The Group Regulation on HSE Management and HSE Key Requirements is the binding and valid regulation that provides the foundation for the global occupational safety program. It covers the effective management of health and safety objectives, enabling the organization to extend safety beyond mere legal compliance. Health and safety management systems give leaders, and employees, in-depth tools to use and grow their expertise to build good safety communication processes, identify and mitigate workplace safety risks, and share the knowledge of organizational safety issues broadly throughout the company. Bayer also has a Contractor Safety Program to ensure that companies that provide services, and specialized skilled workers, maintain similarly strong safety systems while working at Bayer sites.

Bayer requires safety briefings and special training courses consistent with the relevant work activities in which employees are engaged to promote a healthy and safe place to work.

The central incident data collection platform for integrated accident management enables our sites to share accident analysis information with one another digitally and thus determine corrective measures quickly, making it easier for our occupational health and safety experts to exchange information about occupational illnesses and injuries experienced by our employees and contractors. Personnel, whether employees or personnel of contractors, are expected to immediately report work-related hazards, dangerous situations or injuries/illnesses to their supervisors. When workplace incidents involving injury/illness are reported, a review is performed. Where required for more complex incidents, a root cause incident analysis is conducted based on these reports to determine suitable measures for reducing the chances of future recurrence.

S.A.F.E. score

Bayer's internal S.A.F.E. score indicator was established to measure safety program maturity, beyond the traditional indicators of the Recordable Incident Rate (RIR) and Severity of Injuries. S.A.F.E. is a combination of different factors and is primarily used to improve overall employee engagement in occupational safety. It is designed to help sites and teams detect conditions and behaviors that can lead to workplace injuries and illnesses and to prompt actions to eliminate these conditions. S.A.F.E. is designed to measure, when potentially serious events are reported, how effective teams are at understanding the root causes, correcting them and sharing the learnings throughout Bayer to prevent recurrences of similar incidents. The S.A.F.E. score comprises four specific measures that are supported by an underlying algorithmic model; S stands for "Strive for severity

reduction," A for "Accountability to avoid incident recurrence," F for "Focus on incident prevention" and E for "Effectiveness of corrective and preventive actions using a hierarchy of controls approach."

Hazard identification and assessment

The workplaces of our employees and those of contractors, under the direct supervision of Bayer, are regularly subjected to a comprehensive occupational health and safety (OHS) risk assessment and hazard analysis by Bayer experts. The OHS Risk Assessment is a systematic process of hazard identification, evaluation of the risks (i.e. probability and consequence) that the identified hazards create, risk treatment to reduce or eliminate risks, and risk monitoring through documentation and reviews to ensure controls are in place to maximize personnel safety. Details of this process are specified in the Group Regulation on [HSE Management and HSE Key Requirements](#).

Bayer uses a proactive risk assessment approach to prevent workplace injury and illness that relies on the involvement of managers, supervisors, health & safety experts and employees to identify relevant work hazards, gauge the risks and develop solutions to collaboratively improve workplace safety.

This approach also supports regulatory and internal policy compliance, personnel protection and the company expectation of a culture that emphasizes a healthy and safe workplace.

Measures derived from risk assessments to protect the health and safety of our employees use the hierarchy of controls approach: 1) eliminate the hazard, 2) substitute with less hazardous processes, operations, materials or equipment, 3) use engineering controls and reorganization of work, 4) use administrative controls, including training, and 5) use adequate personal protective equipment.

Permit for hazardous work

The Group Regulation on Work Permit for Hazardous Work requires a common approach for managing risks associated with hazardous work at our sites and for ensuring necessary safety measures before, during and after performance of work tasks. This is to ensure that all potentially high-risk activities requiring a permit, in a unit or site, are carried out, reviewed and assessed in a controlled manner and are conducted safely and with the flexibility necessary to meet specific business needs for sites and units. This includes work that may involve risks that can have a higher-than-normal potential to cause severe injury, death or damage to property or the environment and that must be appropriately managed using a hazardous work permit process. The work permit process has been universally used for several years throughout Bayer and has been shown to be effective at maintaining the health and safety of employees in routine and nonroutine tasks.

Road safety

The Group Regulation on HSE Management and HSE Key Requirements has 10 requirements for managing the road safety of workers driving on company business. The implementation of the requirements can vary slightly depending on the specific needs for meeting country or local regulations, social infrastructure (i.e. the ability to track licensing infractions, good driving records and traffic controls), availability of expert driver safety training resources and other relevant business factors. A guiding document was developed in 2023 to provide more detailed information about how implementation of the required road safety elements can be considered in the current country-specific or regional occupational safety procedures. In 2023, Bayer started collecting road safety data on collisions involving injuries and collisions without injuries, wherever it is possible to collect such data.

Behavioral safety

Bayer continues to promote safety-conscious behavior as an important element in the overall occupational health and safety program for preventing workplace injuries and illnesses. Our global behavioral safety program consists of six basic elements for developing and maintaining a strong safety culture through a program that supports safe work behaviors as part of the incident management and hierarchy of controls approach to incident prevention. Key aspects of behavioral safety are positive safe behavior reinforcement, a communication system that increases hazard awareness, training for building safe habits to reinforce and strengthen safe work practices, and a method for addressing at-risk (unsafe) behaviors, with periodic evaluations of the program for people working at Bayer. Sites should complete a culture assessment to analyze the current safety culture and define a baseline for further program development. Many sites have implemented a behavior safety program.

Machinery safety

At Bayer, the objective of machinery safety is to ensure the safety of all machines and packaging units that are specified, designed, purchased, operated and maintained at Bayer over their entire lifecycle and to reduce the risks for our employees and the environment from the operation of this machinery.

This is addressed by a Group regulation applicable to our facilities or locations for new and existing machines that are operated by Bayer, or for which Bayer is legally liable.

Checklists and a web-based training are available to evaluate machines vis-a-vis their safety and to identify deficiencies. In addition to the training, we offer a regular open

experience exchange between our experts on the subject of machinery safety, in which the processes are explained in more detail, as needed.

Biosafety

In accordance with the guidelines of the World Health Organization (WHO) on biorisk management, we consider biosafety to comprise the principles, technologies and processes implemented to prevent unintended exposure to biological materials that could pose a risk to people or the environment. Misuse or theft of biological materials is also prevented by corresponding measures.

Biological material must be handled with suitable care to ensure that employees, the local community and the environment are protected. This material includes organisms (in some cases genetically modified) such as microorganisms, invertebrates, vertebrates, plants, cell cultures or parts thereof, and toxins and allergens. An assessment of the biosafety risk is necessary before biological materials can be used, particularly in R&D and production. These analyses are conducted by the employee responsible for biosafety in each case and verified together with an expert. When needed, we use a digital tool for systematic recording. Employees entrusted with biosafety matters possess the necessary expertise.

Processes for carrying out assessments and other necessary measures are established in a Group Regulation on Biosafety that is based on the specifications of the WHO, among others. Wherever local laws and regulations are more stringent than the standards laid out by the Group regulation, the more stringent variant takes precedence.

A group of biosafety experts from the divisions and regions cooperates within the Bayer Biosafety Panel. This global panel is responsible for developing, reviewing and implementing Bayer's biosafety rules throughout the Group. It also advises and supports the biosafety community, with which it maintains regular communication to ensure a uniform high standard of biosafety throughout the company.

The same rules on biosafety apply in amended form for the new cell and gene therapy technology platform as for the rest of the Bayer Group (please see Chapter 2.4 Bioethics). The platform's partners have adopted the content of the Group Regulation on HSE Management and HSE Key Requirements and thus the issue of biosafety, and have undertaken to compile risk assessments. The biosafety experts maintain a steady dialogue with one another.

The implementation of legal and Bayer Group guidelines on biosafety is also overseen by the HSE audit program.

Contractors on Bayer sites

Bayer is committed to ensuring the safety of its contractors at its own facilities. To integrate contractor safety into the safety management system and to establish a common approach for managing risks associated with contractors, we published a new Group Regulation on Contractor & Guest: HSE Management of Non-Supervised Contractors and Guests on Bayer Premises. This regulation supports the Group Regulation on Management of Contingent Workforce.

The focus is on four elements:

- // Training of contractor management representatives, to ensure competent oversight
- // Selection and classification of contractors according to potential HSE risks
- // Pre-job activities, including site induction and on-site registration, risk assessments, compliance review and coordination/communication
- // Assessments during and after work, to assess and evaluate contractor adherence to Bayer’s HSE processes

Transportation and storage safety

Logistics at Bayer involves not only the transportation and warehousing of goods, but also the steering and monitoring of flows of goods and logistics data for the Bayer Group. As an element of Bayer’s HSE management system, transportation and storage safety is monitored through a risk-based audit system. It is also anchored in our rules for collaboration with service suppliers.

Our logistics processes ensure that materials are handled, transported and stored according to the relevant regulations and the materials’ respective hazard potential. This also involves selecting suitable logistics and warehouse suppliers. The underlying standards include both internal Bayer guidelines such as the Global Transport Requirements and the rules of the international crop protection association CropLife International and the European Guidelines on Good Distribution Practice of Medicinal Products for Human Use. Bayer’s Group Regulation on Storage Safety (Warehousing) applies equally to internal warehouses and external warehouse sites and facilities.

Transportation safety plays a key role both in the transportation of our products on public routes and in their loading, unloading, classification, labeling and packaging, particularly in the case of hazardous goods. We use both internal capacities and external logistics partners for storage and transport services. Our Procurement unit selects logistics partners according to strict safety, environmental and quality criteria, e.g. as described in the Safety and Quality Assessment System (SQAS) of the European Chemical Industry Council (CEFIC).

In addition to the legally required training measures, we assign compulsory training courses to our employees from our extensive training portfolio as befits their respective field of activity.

Around 5.45 million consignments were transported in 2023. Despite our extensive safety precautions and training activities, transport incidents nonetheless occur. These are defined as accidents causing personal injury or significant damage to property, environmental impact resulting from the release of substances, or leakage of hazardous goods. Such accidents are recorded in detail and assessed on the basis of defined criteria.

All of the 18 transport incidents in 2023 constituted road transport accidents. Of these transport incidents, nine involved the transportation of hazardous materials/dangerous goods (see following table) and nine involved the transportation of (treated) seeds. Four of the transport incidents led to severe personal injuries or death. Seven of these transport incidents also led to a loss of product and in six of these incidents the discharged substances were cleaned up and properly disposed of; 10 of these transport incidents also led to reportable material or environmental damage, and 16 of these transport incidents also led to the involvement of authorities.

Significant¹ Transport Incidents 2023

Crop Science, São Jose dos Campos, Brazil, May
A truck belonging to a transport company transporting Bayer products (crop protection products) was forced to swerve off the road and into a dam to avoid collision with another truck.
Crop Science, São Paulo, Brazil, October
A truck belonging to a transport company transporting Bayer products (crop protection products) tipped over. The driver was killed, and the load was spilled to the roadside.
Crop Science, São Paulo, Brazil, November
A truck belonging to a transport company transporting Bayer products (crop protection products) tipped over. The driver was killed, and the load was spilled to the roadside.
Crop Science, São Paulo, Brazil, November
A truck belonging to a transport company transporting Bayer products (crop protection products) tipped over. The driver was killed, and the load was spilled to the roadside.
Crop Science, Camaçari, Brazil, November
A truck belonging to a transport company transporting caustic soda overflowed at the entrance of a site, spilling residue onto the asphalt. Evaporation of the liquid. No spill into rainwater channels
Crop Science, Abidjan, Ivory Coast, November
A truck belonging to a transport company lost a pallet of crop protection product causing a leakage on the road. 140 liters of herbicides were spilled away by rain.
Crop Science, São Paulo, Brazil, December
A truck belonging to a transport company transporting Bayer products (crop protection products) tipped over. The load was spilled next to the roadside.
Crop Science, Creve Coeur, USA, December
A truck belonging to a transport company transporting Bayer products (crop protection products) tipped over, spilling herbicides.

¹ In accordance with the definition and reporting criteria of the ICCA/Responsible Care agreement between the CEFIC and the ECTA, we have reported since 2022 on the significant transport and environmental incidents in connection with the transport of hazardous materials or dangerous goods or of chemicals.

9.3 Occupational Health

In today's rapidly evolving work landscape, the significance of occupational health cannot be overstated. With the average person spending a significant portion of their lives in the workplace, ensuring a safe and healthy environment is crucial not only for individual employees but also for the overall productivity and success of Bayer.

Occupational medicine

Occupational medicine and health is a people-centric science that focuses on the prevention, diagnosis and treatment of occupational illnesses, as well as on the promotion of a healthy work environment. By implementing comprehensive health and well-being programs, Bayer sites can significantly reduce the risk of occupational illnesses, while at the same time building and sustaining a healthy and productive workforce.

The Group Regulation on Occupational Medicine and Health sets minimum standards for employee health protection and promotion. It includes 12 sections that cover, for example, occupational medicine provisions, emergency medical care and health promotion and ensures compliance with legal and regulatory requirements. It helps our sites stay up to date with health and safety laws, ensuring that appropriate measures are in place to protect employees from workplace risks. In addition to meeting local laws, we consider it crucial to have our own requirements based on the necessary internal risk assessments to further mitigate to the lowest level possible the specific and unique risks at work and in Bayer's work settings.

Occupational hygiene

The primary goal of industrial hygiene, or occupational hygiene, is to predict, identify and manage chemical, physical and biological exposure risks.

To ensure the well-being of our employees, we employ appropriate control measures within our facilities. These strategies encompass elimination, substitution, engineering modifications, administrative protocols and the provision of personal protective equipment. By conducting meticulous process design and chemical hazard assessments, sometimes supplemented by chemical monitoring, appropriate controls and protective systems are maintained.

When Bayer develops a new compound, whether a crop science active ingredient or an active pharmaceutical ingredient, a team of toxicologists assembles to evaluate data from a variety of animal and human studies (please see also Chapter 3.6 Crop Science and 3.8 Pharmaceuticals and Consumer Health for details on the R&D processes). This data is then extrapolated to establish an occupational exposure limit, defining the maximum safe exposure for a healthy individual working 40 hours a week without experiencing adverse health effects. Teams across Bayer utilize these limits to ensure the implementation of appropriate control measures, to ensure that our employees are not exposed beyond acceptable levels.

The Global Industrial Hygiene Community at Bayer comprises a panel of industrial hygiene experts. This team is responsible for developing, reviewing and implementing Bayer's industrial hygiene rules. Additionally, they offer guidance and expert support to various teams worldwide.

Health promotion

Systematic health promotion is a prerequisite for creating a health culture and health processes that enable a sustainably matured level of health and well-being in the company. Bayer's health promotion programs aim to effectively engage and empower employees, teams and work organizations to choose healthy behaviors that reduce the risk of developing chronic diseases and other illnesses and improve their health conditions. The focus is on supporting the development of the health literacy of all employees – this requires attractive and targeted health offers that are derived from regular risk assessments. The global and regional health experts are in regular contact with external institutions (e.g. health networks and research institutions), provide the health framework for Bayer (e.g. health strategy, central platform House of Health) and manage health for the company in close collaboration with the HR Enabling Function.

Health leadership

It has long been known that social support from people-leaders has a salutogenic influence on their team members. Health leadership is a fundamental and key component in the development and implementation of sustainable health promotion programs. There are four main reasons why people-leaders are essential in fostering a healthy working culture and promoting good employee health:

- // People-leaders help design healthy working conditions.
- // They can act as facilitators toward an inclusive and encouraging working environment.
- // They can be strong promoters of a healthy work culture.

// They set an example that may inspire health-promoting behaviors within their teams.

To support people-leaders in their leadership role, we made various global offerings available in the reporting year:

// A health and well-being toolbox for people-leaders including, for example, a one-pager for challenging leadership situations, web-based training on mental health and leadership and ergonomics training

// Our monthly health leadership blog written by internal and external people-leaders to help promote health leadership, shape our culture of health at Bayer, share health leadership best practice, encourage engagement of key health topics and share leaders' personal health stories and self-care tips – in posts on House of Health and LinkedIn

// Handbook "Take care of what matters" for people-leaders for this year's Health and Safety Day

Prevent

Work environments should be designed in such a way that psychosocial risks can be minimized and that employees can be prevented from suffering from mental and physical health problems:

// On our central platform House of Health, we provide evidence-based information and disease prevention programs in the areas of mental health, physical health and healthy living. For example, in 2023 we informed and empowered 9,000 employees to learn more about their own health and a healthy life and work, and to set health-promoting goals for themselves and within the work team.

// 78% of our sites regularly identify workplace-related stressors using psycho-social risk assessments to derive appropriate prevention measures.

Support

We support employees with health conditions so that they can access work, continue working and thrive at work. In coordination with the HR Enabling Function, we have a process in place to provide support and assistance for employees and their immediate family (spouse, parents and children) experiencing health and well-being challenges:

// We offer our employees and their families employee assistance programs (EAPs) worldwide that focus particularly on psychosocial support from psychological or medical experts who can be consulted online or in person. We were able to offer EAPs to more than 97% of our employees and their families by the end of 2023.

// We provide more than 1,100 different training courses, lectures and podcasts on maintaining good mental health, aimed at various target groups.

// We have trained more than 500 health champions, health officers and health coordinators. These staff members facilitate regular health dialogues across all levels of Bayer's organization – global, regional, country and site – in both directions. In addition, they can act as health guides on site and, if necessary, direct employees seeking help toward existing internal and external support offers.

Occupational health and safety in the fourth year of the COVID-19 pandemic

Since the beginning of 2023, we have seen a steady decline of reported cases of COVID-19 around the world. At the same time, the Bayer situation across all regions has been closely monitored and assessed as being stable and unremarkable. In addition, the World Health Organization (WHO) declared COVID-19 to no longer be a public health emergency of international concern.

With these considerations in mind, careful and gradual lifting of all restrictions across all sites took place in 2023, taking account of the local health guidance, enabling a safe transition to normalcy for Bayer's business operations.

Owing to the continuous evolution of new subvariants of Omicron that keep the SARS Cov-2 virus in circulation, we continue to monitor the epidemiological situation and follow the recommendations of the experts on possible scenarios with respect to our operational procedures. In the meantime, we have used the guidance documents and learnings on COVID-19 pandemic management to update our Group Regulation on Pandemic Preparedness and Response.

9.4 Process and Plant Safety

We aim to design and operate our processes and production facilities in such a way that they do not pose any inappropriate risks to our employees, the environment or neighboring communities. This is conditional on having an effective system in place to ensure plant safety that enables operational risks to be identified, remedied and reduced and their effects mitigated. We are continuously working to further develop the safety culture, the expertise of employees and the globally applicable Group Regulation on Process and Plant Safety, which also covers topics such as machine and laboratory safety.

Our Group regulations specify uniform procedures and standards for risk assessment and corresponding safety measures, and we implement the requisite training. In this way we ensure that a uniform safety level is in place at the 37 Bayer sites at which volumes of hazardous substances significant for plant safety are stored or processed, while going beyond the legal requirements in most countries.

Based on our Group Regulation on Process and Plant Safety, the comprehensive safety concept for a process or plant comprises the following elements:

- // An operating concept
- // A safety concept (to prevent incidents)
- // Damage mitigation concepts

Processes and plants at Bayer are run with a robust operating concept. This concept comprises instructions for safe operation, including start-up and shutdown, maintenance, retrofitting procedures and response to malfunctions. Site emergency response plans define the measures to be undertaken in cases of emergency. These encompass procedural instructions for internal and external communication and reporting, including notification of responsible authorities and surrounding communities. The sites regularly conduct emergency exercises to assess the effectiveness of the deployments and introduce improvements if necessary. Joint exercises are conducted in cases where external personnel are crucial for emergency preparedness. The frequency of these exercises is determined based on the existing risk.

Responsibilities and verification

To ensure a high safety level at our facilities, we have defined clear responsibilities in our company that are assumed internally by various organizational units. Responsibility for the safe operation of production facilities lies with plant management. Experts from the Engineering & Technology Enabling Function are jointly responsible with the plant operators for conducting risk analyses and drawing up safety concepts. Using systematic analytical methods, the process risks of our facilities are identified in interdisciplinary teams supervised by these experts. Based on this, the team develops robust protective concepts that take account of health, safety and environmental protection aspects. Among the topics covered by these are the installation of safety valves, spill basins and collecting basins, and the development of emergency shutdown concepts. Everyone involved in this

process completes a Group-wide plant safety training program. In addition, the safety experts must undergo a globally valid internal training and certification program that qualifies them to carry out risk analyses in the teams. The certification program ensures globally uniform quality standards in the development of safety concepts at our production facilities.

Ultimately, the PASS&HSE Enabling Function performs the necessary governance for process and plant safety in the Bayer Group. This function further develops the Group's safety management system and establishes the internal safety requirements, verifying their observance through special process and plant safety audits.

To maintain the high safety level of our facilities, the related safety concepts for each facility are examined every five years. Technical modifications are subject to a stringent change management process. In accordance with the Group Regulation on HSE Management and HSE Key Requirements, maintenance and inspection programs are also established for the safety facilities to ensure the necessary availability and functionality in case of need. Furthermore, all facilities and technical apparatus are serviced according to maintenance and inspection plans. Mitigation concepts are designed to mitigate the severity of consequences in case of a loss of containment. Mitigation concepts specific to a chemical process or unit operation comprise a broad spectrum of measures, including standard personal protective equipment, safety showers, removal or reduction of the number of people in the danger area during certain tasks, containment systems and perimeter monitoring with gas detection systems.

Plant safety is an integral component of the planning stages for capital expenditure projects. We carry out risk analyses during the various phases of a capital expenditure project.

In accordance with our Group Regulation on Safe Design and Operation of Processes and Plants, we examine the applicability of the following principles of inherently safer design and the feasibility of a sound safety concept at a very early stage in the development of new production processes:

- // Removing or minimizing potential hazards (e.g. by avoiding particularly hazardous substances, selecting suitable process equipment, construction and design, and optimizing process parameters such as pressure, temperature and concentration)
- // Avoiding or minimizing potential interruptions (e.g. through quality assurance measures during the construction, installation and operation of the plant technology, the use of maintenance-friendly equipment or the definition of detailed and exact operational procedures that cover both start-up and shutdown processes and reactions to foreseeable deviations and malfunctions)
- // Designing error-tolerant processes and plants so that possible process deviations do not have any safety-relevant effects such as loss of primary containment (e.g. through sufficient temperature and pressure stability)

Finally, before a new production facility is brought on stream, our safety experts verify all defined safety measures and confirm their proper implementation by carrying out plant and equipment inspections.

Further development of plant safety

To maintain and strengthen safety awareness, we continuously update and improve the globally binding TOPPS (Top Performance in Process and Plant Safety) training program. Participation is compulsory for all Bayer employees who are able to influence process and plant safety at production and auxiliary facilities and is documented in the training system. TOPPS training documentation is available in 15 languages.

We are further developing plant safety through our active participation in internal global and regional networks of experts and as a member of associations such as the European Process Safety Center (EPSC), the Center for Chemical Process Safety (CCPS), Dechema ProcessNet and the German Chemical Industry Association (VCI). We also drive progress in this regard worldwide within the framework of standards.

Since 2019, we have used the globally standardized key performance indicator (KPI) Process Safety Incident Rate (PSI-R) as an indicator for plant safety. This is integrated into the Group-wide reporting system. Reporting of this indicator is based on the requirements of the International Council of Chemical Associations (ICCA). Process safety incidents (PSIs) refer to incidents during which amounts of chemical substances or energy that exceed defined thresholds leak from their primary containment, such as pipelines, pumps, tanks or drums. The PSI-R indicates the number of process safety incidents per 200,000 hours worked. In 2023, the PSI-R was 0.11 (2022: 0.11). A total of 124 process safety incidents occurred in 2023 (Process Safety Incident Count, PSI-C).

In addition, we also indicate the Process Safety Incident Severity Rate (PSI-SR). We report this according to the grading system of the International Council of Chemical Associations (ICCA).

Process Safety Incidents¹				
	2020	2021	2022	2023
Process Safety Incident Count (PSI-C) ¹	92	96	122	124
Process Safety Incident Rate (PSI-R) ^{1,2}	0.08	0.08	0.11	0.11
Process Safety Incident Severity Rate (PSI-SR) ^{1,3}	0.21	0.14	0.16	0.15

¹ According to ICCA (International Council of Chemical Associations)

² Number of PSI incidents per 200,000 hours worked

³ Degree of severity for all PSI incidents per 200,000 hours worked

To prevent substance and energy releases, the causes of PSIs are analyzed and relevant findings are communicated to potentially affected sites throughout the Bayer Group. The reporting thresholds are intentionally set at such a low level that even material and energy leaks that have no impact on employees, the local community or the environment are systematically recorded and reported. We pursue this preventive approach so that weaknesses can be identified and corrected before a more serious incident can occur.

9.5 Incidents and Performance

Occupational injuries and occupational illnesses

The basis of our reporting on occupational injuries is the Recordable Incident Rate (RIR), which covers all occupational injuries and illnesses leading to medical treatment that goes beyond basic first aid that are suffered by Bayer employees and employees of contractors under the direct supervision of Bayer. As a result, the RIR covers injuries and occupational illnesses both with and without lost workdays. In 2023, it was at 0.42 cases per 200,000 hours worked, which is equivalent to 457 occupational injuries worldwide (2022: 416). The RIR thus came above the defined target

for 2023 of 0.36. In statistical terms, this means that one recordable incident occurred for more than every 480,000 hours worked. Recordable injuries with lost workdays constituted 237 of the total of 457 occupational injuries, meaning that the corresponding parameter, the Lost Time Recordable Incident Rate (LTRIR), increased from 0.18 in 2022 to 0.22 in 2023. The continued low number of occupational injuries was due in part to increased working from home.

Regrettably, seven employees lost their lives in work-related traffic accidents in 2023.

Recordable Occupational Injuries¹				
	2020	2021	2022	2023
Number of occupational injuries	390	443	416	457
of which Bayer employees	335	377	367	417
of which employees of contractors under direct Bayer supervision	55	66	49	40
Overall rate of occupational injuries (RIR ²)	0.32	0.38	0.37	0.42
RIR target ³	0.40	0.40	0.38	0.36
Rate of occupational injuries with lost workdays (LTRIR ⁴)	0.20	0.22	0.18	0.22
Fatal occupational injuries ⁵	2	2	1	7
Fatal occupational injuries of employees of contractors not under Bayer supervision	4	4	-	5

Previous years' figures restated

¹ Recordable occupational injuries of Bayer employees and employees of contractors whose accidents occurred under direct Bayer supervision

² RIR = Recordable Incident Rate

³ RIR target as the three-year average

⁴ LTRIR = Lost Time Recordable Incident Rate

⁵ Fatal occupational injuries of Bayer employees and employees of contractors under direct Bayer supervision

Rate of Occupational Injuries (RIR) by Region¹

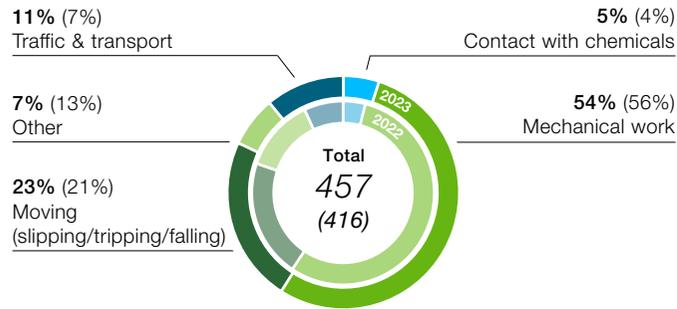
	2020	2021	2022	2023
Europe/Middle East/Africa	0.40	0.43	0.41	0.44
North America	0.47	0.70	0.70	0.76
Asia/Pacific	0.15	0.17	0.11	0.16
Latin America	0.23	0.18	0.21	0.26
Total	0.32	0.38	0.37	0.42

¹ The rate also includes employees of contracted external companies whose injuries occurred on our company premises and under Bayer supervision.

In 2023, as in previous years, the number of injuries involving contact with chemicals was small (5%) in relation to the total number of occupational injuries.

Occupational illnesses are also included in the RIR and LTRIR, regardless of whether they are listed in national registers of occupational diseases. As lists of occupational diseases are not globally standardized – and in many countries do not exist at all – we document all occupational illnesses, provided they have been diagnosed and recognized by a physician. In 2023, eight new cases of occupational illnesses were reported throughout the Bayer Group, one of them with lost workdays. These were related to the musculoskeletal system, allergies and hearing ability. The number of cases corresponds to 0.04 occupational illnesses per one million hours worked.

Notification of Accidents and Injuries 2023 (2022)



2022 figures restated

A significant proportion of the accidents and injuries suffered by our employees have behavior-linked causes. For example, accidents can occur when employees use smartphones while walking.

10. Social Engagement

The commitment to science, society and the common good has a long tradition at Bayer. Like our business activities, our social engagement is guided by our purpose of “Science for a better life” and our mission of “Health for all, Hunger for none.” Together with our network of partner organizations and employees, we support social projects around the world in the areas of health, nutrition and the environment and engage with communities to create long-lasting societal impact, increasingly by supporting social innovation and social enterprises.

10.1 Management Approach

Our social engagement takes the form of monetary contributions, product donations, our foundation activities and corporate volunteering. Close intragroup cooperation between the Public Affairs, Science, Sustainability & HSE Enabling Function and our country organizations, as well as with the Bayer foundations, ensures a common strategic alignment. At the same time, this approach takes account of the different challenges and circumstances in each region where Bayer is active.

The Group Regulation on Corporate Giving establishes clear criteria for the eligibility of recipients and the selection of projects. It also sets out our strategy to create long-term impact in line with our purpose, mission and sustainability targets.

Our contributions are processed through a database that enables approval by responsible managers, compliance checks and full documentation – and thus ensures oversight of the contributions. It also offers a comprehensive and transparent overview of our social investment worldwide.

In 2023, Bayer launched a global corporate volunteering framework as a way of increasing the social impact around the world. This framework is described in a corresponding global Group regulation. Employees can take at least one working day off per year for voluntary work in the areas of nutrition, health, science and the environment (for more on corporate volunteering, please see the section on “Employee volunteering and employee giving” in Chapter 10.2).

Through our social engagement, we support projects in the following focus areas:

Health for all, Hunger for none

- // Food security, reduction of food loss, increase in food quality, particularly for vulnerable groups in low- and middle-income countries
- // Access to self-care and healthcare programs for vulnerable groups in low- and middle-income countries
- // Maternal and child health, family planning
- // Public health

Science for a better life

- // Support for frontier research in life sciences, data science and environmental sciences
- // Development of science talents, supporting education programs in life sciences, data science and environmental sciences
- // Science and society

Environment

- // Climate change, biodiversity, and water and waste management

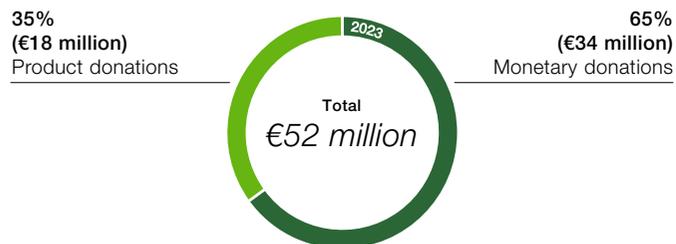
Through our engagement we promote the system-changing power of social innovation, be it through local initiatives or global partnerships. A central aspect of Bayer’s social engagement is therefore supporting innovative solutions and capacity-building projects of social enterprises aimed at establishing knowledge, abilities and structures.

The Bayer Foundation, the [Bayer Fund](#) (United States), the [Bayer Foundation India](#) and the [Hans and Berthold Finkelstein Foundation](#) are the nonprofit arms of Bayer. Their objective is to generate social impact in line with our mission of “Health for all, Hunger for none” and our purpose of “Science for a better life” (for more background on the global foundation, please see Chapter 10.3).

10.2 Our Engagement in 2023

In 2023, Bayer provided €52 million for social impact programs and partnerships worldwide. This includes product donations to the value of €18 million (book value) to various nonprofit organizations in individual countries. Most of the products donated are prescription drugs and OTC (over-the-counter) products from our Pharmaceuticals and Consumer Health divisions.

Monetary and Product Donations 2023



Bayer's monetary social contributions in 2023 were distributed around the different focus areas as follows:

Monetary Donations per Strategic Focus Area 2023



¹ Community engagement includes various social initiatives in the communities where Bayer operates, as well as sports & culture donations for local recreational, disabled and competitive sports, cultural events and support for young artists.

Health

A major focus in the health area is providing access to health for underserved communities and people at risk. Public health, maternal and women's health as well as health capacity building were strengthened in 2023 through some exemplary programs. Bayer and the United Nations Population Fund (UNFPA) Egypt have embarked on a [strategic partnership](#) spanning five years (2021–2025), representing the

collaborative efforts of both organizations to promote voluntary family planning and reproductive health services. The partnership is extending support to the national family planning campaign "Your Right to Plan" aimed at enhancing family planning and reproductive health services for underserved communities in Egypt. Since the partnership's inception in 2021, the outreach campaign has been implemented in 23 governorates across Egypt. This comprehensive endeavor has been further bolstered by the deployment of mobile clinics, which provide a range of essential services, including direct family planning support, gynecological examinations, ultrasound diagnostics, prenatal care and neonatal/pediatric care. The impact of the campaign has been substantial, as it has successfully reached out to more than 200,000 individuals to date. Of these, over 182,000 have gained access to critical family planning information and services.

To support rural public health and the capability of village doctors in China, Bayer joined forces with the China Foundation for Rural Development (formerly the China Foundation for Poverty Alleviation) to launch the Village Doctor Empowerment Program to equip and empower village doctors to improve the capability of rural public health. Since the partnership began in 2021, the program has reached 482 village doctors, who are providing services for approximately 570,000 rural residents in 29 villages and towns in underserved areas of China. The program equipped the village doctors with medical tool kits suitable for village visits and provided them with capacity-building opportunities in cardiovascular and maternal health.

In the Health area, we continue to support patients in underserved communities who are suffering from hemophilia. Bayer is a long-standing donation partner to the World Federation of Hemophilia and its Humanitarian Aid Program. The objective of the program is to make it possible for people with inherited bleeding disorders to reliably access safe and consistent treatment and care, regardless of their type of bleeding disorder, gender or location. Since the

start of the partnership in 2019, more than 10,000 patients have been treated with Bayer products through the program.

Our commitment also helps in the fight against neglected tropical diseases such as African sleeping sickness, Chagas disease, infection with the pork tapeworm and river blindness (please see the Focus on: Access to Healthcare chapter). Bayer partners with the World Health Organization (WHO) and supported the WHO Roadmap 2030 with monetary and product contributions to the amount of €3.5 million in 2023.

Nutrition

Our efforts in the area of food security focus on initiatives relating to smallholder farmers. These include training measures and access to new technologies, agricultural inputs to increase yields, improved access to supply chains for smallholder farmers, and more financial autonomy for producers.

In 2021, we initiated a series of partnerships with social innovators active on behalf of smallholder farmers in Africa and Latin America to support entrepreneurial solutions benefiting smallholder farmers and their families. The progress and impact for some of the projects in 2023 are summarized below:

- // The organization **International Development Enterprise (IDE)** provided smallholder farmers in Zambia with post-harvest loss prevention methods and training with the help of local farmers. In 2023, the program trained more than 44,000 farmers and strengthened the need for post-harvest loss technologies in the farmers' communities.
- // **myAgro** developed a pilot project in which smallholder farmers can sell moringa trees to create additional income, while also reducing carbon emissions. The pilot showed that moringa trees can build a valuable and

sustainable income stream for farmers in Mali and Senegal – countries that are severely hit by drought caused by climate change. In total, more than 70,000 trees have been planted, which has sequestered an estimated 36.8 metric tons of CO₂.

// With the support of Bayer, **Producers Direct** focused on strengthening female farmers' income in Peru and Uganda using digital cooperative models. By empowering farmers with training, access to farm data, finance and better market opportunities, Producers Direct trained more than 4,000 smallholders and enabled them to increase their income average by up to 60% per year on average.

// With support from Bayer, **Mercy Corps** continued its MAS+ programs, which aims to achieve better market access, income, productivity and resilience for local smallholder farmers in Guatemala. In total, 4,000 farmers from 25 producer groups received training and were able to increase farm productivity and income and improve decision-making and farm practices by adapting to climate variability.

Disaster relief

In 2023, we provided assistance to various countries exposed to natural disasters or humanitarian crises. One focus, as in 2022, was on humanitarian support for Ukraine. The destruction of the Kakhovka Dam has had far-reaching consequences for the people in the region around the southern Ukrainian city of Kherson. To alleviate the suffering of those affected, Bayer initiated a relief campaign and mobilized a wide range of resources and infrastructure for the victims.

In addition to medical supplies and tools, large tanks and pumps for the supply of drinking water and water processing were organized for the affected region, where they are now being used to help the civilian population.

After the massive earthquake that hit southern Türkiye and northern Syria, we released immediate emergency funding of €1.5 million to support the population in the affected regions. A total amount of €500,000 was donated to the Turkish humanitarian organization Ahbap and €500,000 to Kizilay (Red Crescent in Türkiye). Additionally, Bayer donated €500,000 to the German Red Cross for disaster response in Syria and Türkiye.

Morocco also experienced a devastating earthquake with high death tolls. Given the humanitarian crisis, Bayer initiated an employee donation campaign and matched donations made by employees, up to a total of €100,000. The money benefitted the aid organization Fondation du Sud, enabling the purchase of emergency supplies of drinking water, food and overnight accommodation for all those who lost their homes and so much more in the earthquake. Fondation du Sud has been a long-standing social partner in Morocco. Together with Bayer North Africa the foundation is sending sanitary caravans to remote villages to provide essential services and health support.

In August, flooding in Slovenia and the devastating fires on the Hawaiian island of Maui cost lives, affected many additional people and severely destroyed people's living environments. Bayer supported relief organizations and launched fundraising campaigns to provide people on the ground with the most urgently needed aid as quickly as possible.

To provide crucial support to those affected by the ongoing conflict in Israel and Gaza, we initiated an employee donation campaign. The company donated €25,000 to each of the two NGOs we are partnering with. This effort underscores the company's support of civilians suffering due to the conflict.

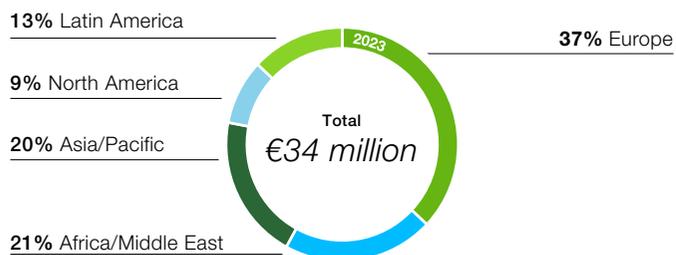
Employee volunteering and employee giving

Bayer employees have long been personally involved in community volunteering. The PROSI (Pro Social Initiatives) initiative, for example, networks employees worldwide for social volunteering. Building on the successes of PROSI, last year also saw the introduction of the Group's Corporate Volunteering procedure, which allows employees to spend at least one day per year volunteering with social organizations. Germany implemented the concept in October – other countries will follow. Employees can use an online platform to search for volunteering opportunities, and also to invite colleagues to volunteer for projects they support personally. Existing volunteer programs (e.g. in the United States) will be continued or combined under the new Corporate Volunteering framework. Alongside employee giving campaigns that we introduce in the case of large-scale disasters, Bayer also offers matching programs in different countries throughout the year. In Germany, for example, the Helping Cents program enables Bayer employees to donate the decimal places of their monthly salary. The total amount of the cents collected is doubled by Bayer and earmarked for charitable organizations and their projects. Since 2022, all Bayer employees in Germany have also had the opportunity to have a say in the allocation of money from Helping Cents and to vote for selected projects. In 2023, 7,813 employees took part and donated almost €42,000.

Summary

Some 66% of our contributions (cash and product) went to low- and middle-income countries to strengthen the capacity of underserved communities and combat social inequality. The geographic split of our monetary contributions is as follows:

Monetary Donations per Region 2023



Impact review

In 2023, we again increased our ability to determine the impact of the social engagement projects we initiated by introducing a standardized impact assessment questionnaire, which is answered by our partner organizations at least six months after receiving our support. For projects running in 2023 (supported by contributions made in the previous year), we received retrospective feedback in more than 60% of the questionnaires. The organizations that completed the impact questionnaires reported reaching 10 million people with their social programs.

For more background information on Bayer's social impact projects, please see our [website](#).

10.3 Bayer Foundation

Bayer Foundation is the company's philanthropic arm. The organization makes an important contribution to society in line with our mission and purpose – especially in the Global South. Bayer Foundation works through two programs: the Science Program and the Social Innovation Program.

Science Program

The Science Program aims to enhance the impact of science as the basis for societal progress in line with Bayer's mission and purpose. The foundation's activities are focused on two areas:

- // Advancing breakthrough science by honoring outstanding scientists as role models, fostering interdisciplinary exchange, and enhancing trust in science by inclusive STEM education
- // Increasing equity in science by building scientific capacity in Africa and fostering gender equality

The foundation's activities encompass various programs, including scientific awards, young talent scholarships, funding for scientific lectures and STEM education grants, along with global gender equality and scientific capacity-building programs.

A science council composed of five external scientists advises the foundation and selects the Foundation Science Award winners. The foundation's Board of Trustees is responsible for organizational measures, strategic decisions and financial issues.

The foundation has a worldwide science network of globally recognized academic institutions, start-ups, biotechs and larger companies, along with other foundations and nonprofit and governmental organizations. The foundation's diverse offering ranges from programs with a focus on schools near Bayer's R&D sites to global awards in sub-Saharan Africa.

As the foundation strives for global equity in science, capacity building in sub-Saharan Africa is a key component of its work. Within the partnership with the Alexander von Humboldt (AvH) Foundation established in 2021, three postdoctoral researchers and five PhD students from sub-Saharan Africa were awarded with fellowships in 2023. In the Humboldt Research Hub Center of Emerging and Re-emerging Infectious Diseases (CERID) in Nigeria, African AvH alumni, who now hold scientific leadership positions at African universities and research institutions, successfully initiated long-term research projects and training courses in 2023. These projects and courses focus on finding scientific solutions and developing scientific methods to cope with pandemics. The research projects will be carried out in close collaboration with selected research partners in Germany and across Africa.

In 2023, the foundation again supported 47 young talents – life science students, teachers and apprentices – with fellowships for projects they applied for within the annual Bayer Foundation Fellowship Program. By focusing on equity, the jury achieved a well-balanced selection of fellows in terms of gender and origin from LMICs.

As part of the Science@School program for STEM education, Bayer Foundation supported 47 school projects in 2023 and, in doing so, opened the door to inclusive and innovative STEM education for children and teenagers in Germany.

Promoting gender equality in the field of science is one major focus of the foundation. As a result, commencing in 2023, the foundation is supporting a new award program in collaboration with the Congolese Foundation for Medical Research. This annual award program is intended for five PhD female scientists and four junior female scientists with children originating from Central Africa (Democratic Republic of Congo, Cameroon, Gabon, Chad, Central African Republic, Equatorial Guinea).

Social Innovation Program

The Social Innovation Program at Bayer Foundation empowers social impact innovators as enablers of long-lasting change. It promotes social innovation in the areas of health, sustainable agriculture and nutrition, and environmental protection. It fosters new business models and a catalytic approach to attract co-funding. The geographic focus has been extended since 2023 from sub-Saharan Africa to the entire Global South (Africa and Middle East, low and middle-income countries in Asia and Latin America). Throughout the programs, the Bayer Foundation has a strong gender focus, putting women's empowerment at the center of the agenda. The strategic direction and financial decisions are determined by the foundation's independent Executive Committee and Board of Trustees.

The foundation's activities comprise three main programs:

- // The Social Impact Start-up Academy
- // The Women Empowerment Award
- // The Social Innovation Ecosystem Fund

To support initiatives at their development stage, the Social Impact Start-Up Academy (SISTAC) offers an innovative learning program in collaboration with the Ingolstadt School

of Management and Purdue University. Supported by innovation methodologies and toolboxes, students analyze selected social entrepreneurs' business models and generate concrete ideas to boost their growth or enhance their product development as an integral part of their master's program. Since its launch in 2018, 80 projects have been successfully supported through this program. Universities in Latin America and Asia will soon be part of the SISTAC scope.

Through its Women Empowerment Award and the associated mentoring and coaching program, the Bayer Foundation highlights the high-impact innovations of female entrepreneurs in Latin America, Africa and Asia. 2023 saw the award presented for the third time, being open also to applicants from Asia and Latin America for the first time. Close to 1,000 female entrepreneurs from more than 30 countries applied for the 2023 awards, with 15 female entrepreneurs chosen to receive prize money of €25,000 each and a place in the associated empowerment program with mentoring and coaching elements.

Through its largest program – the Social Innovation Ecosystem Fund (SIEF) – Bayer Foundation supports mature social innovation solutions and ecosystems in the Global South. This fund targets pioneering technological and entrepreneurial solutions that have the power to create a world with zero hunger and health for all (focusing on UN Sustainable Development Goals 2 and 3). In 2023, long-term programs with partners such as Mercy Corps AgriFin, Medic & PATH, and the World Economic Forum Global Alliance for Social Entrepreneurs started and were continued.

In 2021, with co-funding from the Bill & Melinda Gates Foundation, the Social Innovation Ecosystem Fund entered into a collaboration with Mercy Corps AgriFin to enhance the

digitization of products and services such as micro crop insurance, tropical weather forecasting and mobile banking for smallholder farmers in sub-Saharan Africa. Over the course of four years, the AgriFin Digital Farmer II program is aiming to reach five million smallholder farmers in the region (at least 40% of whom will be female), boosting their income productivity by at least 50%. In 2023, the collaboration had outperformed its impact goals, with roughly three million farmers already being served.

In the area of health, the Bayer Foundation has joined forces with Medic and PATH to accelerate digital health entrepreneurship. With a two-year investment from the Bayer Foundation, PATH and Medic have launched the Digital Health Ecosystem (DHE) project. The project actively supports the sustainability and expansion of digital tools for health by helping local entrepreneurs access financing, technical resources and opportunities for scale more easily. In 2023, the DHE launched its first accelerator program and identified and funded four African digital health organizations. These grantees will continue their missions to fill unmet community health needs while leveraging Medic's existing digital architecture, the Community Health Toolkit (CHT), and strengthening sustainable business models.

A flagship project in the field of women economic empowerment in Kaduna State in Nigeria was presented at the Skoll Foundation Social Innovation Forum in 2023. In a combined approach, Bayer Foundation wants to improve women's health, stabilize smallholder farmers' livelihoods and provide strategies for women's empowerment. In partnership with local enterprises and nonprofitmaking organizations, we are exploring an innovative way to raise the income of Nigerian women by 30% and establish thousands of community health worker jobs.

Hans and Berthold Finkelstein Foundation

The [Hans and Berthold Finkelstein Foundation](#) strengthens the culture of remembrance at Bayer and supports research and remembrance projects on the crimes of the National Socialists – in particular on the subject of Nazi forced labor and I.G. Farben. It also develops programs that promote a corporate and management culture characterized by historical responsibility and work for democratic action, and promotes dialogue-oriented educational projects to strengthen resistance to hatred and totalitarianism.

**Further
Information**

Limited Assurance Report of the Independent Practitioner Regarding the Sustainability Reporting

To Bayer Aktiengesellschaft, Leverkusen, Germany

Engagement

As requested, we have performed a limited assurance engagement on the information in the sustainability report 2023 for the period from January 1 to December 31, 2023 (hereafter referred to as "sustainability report" or "sustainability reporting") of Bayer Aktiengesellschaft, Leverkusen, Germany, (hereafter referred to as "the Company").

We do not express a conclusion on the external sources of documentation, interviews or expert opinions stated in the sustainability reporting.

Responsibilities of the Executive Directors

The executive directors of the Company are responsible for the preparation of the sustainability report in accordance with the principles stated in the Sustainability Reporting Standards of the Global Reporting Initiative (hereafter referred to as "GRI Principles").

These responsibilities of the executive directors include the selection and application of appropriate methods for sustainability reporting and the use of assumptions and estimates for individual disclosures which are reasonable under the given circumstances. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of a sustainability report that is free from material misstatement, whether due to fraud or error.

The preciseness and completeness of environmental data in the sustainability report is subject to inherent restrictions resulting from the way how the data was collected and calculated and from assumptions made.

Responsibilities of the Independent Practitioner

Our responsibility is to express a conclusion on the information in the sustainability report based on our work performed within our limited assurance engagement.

We are independent of Bayer Aktiengesellschaft in accordance with the requirements of German commercial and professional law, and we have fulfilled our other professional responsibilities in accordance with these requirements.

Our audit firm applies the Quality Assurance Standard: Quality Assurance Requirements in Audit Practices (IDW QS 1) promulgated by the Institut der Wirtschaftsprüfer (IDW). We have fulfilled the professional responsibilities in accordance with the German Public Auditor Act (WPO) and the Professional Code of Conduct for German Public Auditors and Sworn Auditors (BS WP/vBP) including the requirements on independence.

We conducted our work in accordance with the International Standard on Assurance Engagements 3000 (Revised): Assurance Engagements Other than Audits or Reviews of Historical Financial Information (ISAE 3000 (Revised)), developed and approved by the IAASB. This standard requires that we plan and perform the assurance engagement

so that we can conclude with limited assurance that no matters have come to our attention to cause us to believe that the information in the sustainability report of Bayer Aktiengesellschaft for the period from January 1 to December 31, 2023 has not been prepared, in all material respects, in accordance with the GRI Principles. The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement; consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. The choice of assurance work is subject to the practitioner's professional judgment.

Within the scope of our limited assurance engagement, which we performed between October 2023 and February 2024, we performed, among others, the following procedures and other work:

- // Gaining an understanding of the structure of the sustainability organization, and of the stakeholders' engagement
- // Remote site audits for Bergkamen, Berlin, Dormagen, Leverkusen and Wuppertal (all Germany), Antwerp (Belgium), Muttentz (Switzerland), Vapi (India) as well as Itaí, São José dos Campos, Campo Verde, Camaçari, Cachoeira Dourada, Paracatu and Uberlândia (Brazil), Zárate (Argentina), Orizaba (Mexico), María Eugenia Rojas (Colombia) and Kansas City, Kunia, Molokai, Luling, Muscatine, Remington, Rock Springs and Soda

Springs (United States) as part of an investigation into the processes for collecting, analyzing and aggregating selected data

- // Inquiries of relevant personnel involved in the preparation of the sustainability report about the preparation process and about the internal control relating to this process
- // Identification of potential risks of material misstatement concerning the information in the sustainability report
- // Analytical evaluation of the information in the sustainability report
- // Comparison of disclosures with corresponding data in the consolidated financial statements, the annual financial statements and the combined management report
- // Assessment of the presentation of the information

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Practitioner's Conclusion

Based on the work performed and the evidence obtained, nothing has come to our attention that causes us to believe that the information in the sustainability report 2023 of Bayer Aktiengesellschaft, Leverkusen/Germany, for the period from January 1 to December 31, 2023 has not been prepared, in all material respects, in accordance with the GRI Principles.

We do not express a conclusion on the external sources of documentation, interviews or expert opinions stated in the sustainability reporting.

Restriction of Use and Reference to Limitation of Liability

We issue this report as stipulated in the engagement letter agreed with Bayer Aktiengesellschaft. We are liable solely to Bayer Aktiengesellschaft, Leverkusen, Germany, and our liability is governed by the engagement letter agreed with the Company as well as the "General Engagement Terms

for Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften (German Public Auditors and Public Audit Firms)" (IDW-AAB) in the version dated January 1, 2024. We draw attention to the fact that the assurance engagement was performed for the purposes of Bayer Aktiengesellschaft and the report is solely designed for informing Bayer Aktiengesellschaft about the findings of the assurance engagement. Therefore, it may not be suitable for another than the aforementioned purpose. Hence, this report should not be used by third parties as a basis for any (asset) decision. We are responsible solely to the Company. However, we do not accept or assume any responsibility to third parties. Our conclusion was not modified in this respect.

Munich, Germany, February 29, 2024

Deloitte GmbH
Wirtschaftsprüfungsgesellschaft

Andreas Wermelt
Wirtschaftsprüfer
(German Public Auditor)

Sebastian Dingel

GRI Index

with the 10 Principles of the UN Global Compact

For fiscal 2023, we are again applying the GRI Standards. This report has been prepared in accordance with the GRI Standards. If there is insufficient information available for a GRI statement, we have explained this. The GRI Content Index also includes the corresponding principles of the UNGC.

Statement of use	Bayer has reported in accordance with the GRI Standards for Fiscal Year 2023 in the period January 1, 2023, to December 31, 2023.
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standard(s)	In 2023, we reviewed the application of the GRI Sector Standard "GRI 13: Agriculture, Aquaculture and Fishing Sectors 2022" and came to the conclusion that this is not applicable to Bayer on account of Bayer's business model.

GRI Content Index

UNGC Principles	GRI Standards	Page and/or link	Comment
	GRI 2: General Disclosures 2021		
	The Organization and its Reporting Standards		
	GRI 2-1: Organizational details	24/25, AR 22, 30	
	GRI 2-2: Entities included in the organization's sustainability reporting	4	
	GRI 2-3: Reporting period, frequency and contact point	4, 174	
	GRI 2-4: Restatements of information	134, 154/155	
	GRI 2-5: External assurance	4, 163	
	Activities and Workers		
	GRI 2-6: Activities, value chain and other business relationships	24/25, 44, 95–97; AR 29, 76	
6	GRI 2-7: Employees	110/111, 121	We do not report on employees with nonguaranteed working hours. We are checking whether appropriate information will be available for the 2024 reporting year.
6	GRI 2-8: Workers who are not employees	112	

GRI Content Index

UNGC Principles	GRI Standards	Page and/or link	Comment
	Governance		
	GRI 2-9: Governance structure and composition	20, 26, 37, 114/115; AR 15–18, 119/120, 280–282	
	GRI 2-10: Nomination and selection of the highest governance body	AR 17, 118–120	
	GRI 2-11: Chair of the highest governance body	26; AR 19, 280	
	GRI 2-12: Role of the highest governance body in overseeing the management of impacts	20, 26, 37/38, 103/104; AR 12–19	
	GRI 2-13: Delegation of responsibility for managing impacts	37	
	GRI 2-14: Role of the highest governance body in sustainability reporting	37; AR 15/16, 25/26	
	GRI 2-15: Conflicts of interest	AR 118–122	
	GRI 2-16: Communication of critical concerns	20, 26, 37; AR 12–14, 17/18	
	GRI 2-17: Collective knowledge of the highest governance body	AR 120, 121	
	GRI 2-18: Evaluation of the performance of the highest governance body	AR 18	
	GRI 2-19: Remuneration policies	6, 20, 23, 28/29, 31, 37, 116/117, 123; AR 250, 255/256, 260, 273–275	
	GRI 2-20: Process to determine remuneration	AR 12–14, 16/17	
	GRI 2-21: Annual total compensation ratio	AR 276/277	
	Strategy, Policies and Practices		
1–10	GRI 2-22: Statement on sustainable development strategy	3	
1–6, 7, 10	GRI 2-23: Policy commitments	26, 28–30, 97, 99, 103/104, 109	
	GRI 2-24: Embedding policy commitments	29–31, 37, 97/98, 103–109	
	GRI 2-25: Processes to remediate negative impacts	31, 97, 99, 104, 106	
	GRI 2-26: Mechanisms for seeking advice and raising concerns	31, 97, 99, 104, 106	
	GRI 2-27: Compliance with laws and regulations	AR 12–14, 106, 113/114, 151/152, 165, 197/198, 216–221	
	GRI 2-28: Membership associations	34, 58, 128, 154	
	Stakeholder Engagement		
	GRI 2-29: Approach to stakeholder engagement	20–22, 26, 28, 37–42, 108, 119	
3	GRI 2-30: Collective bargaining agreements	120	
	Material Topics		
	GRI 3: Material Topics 2021		
	GRI 3-1: Process to determine material topics	38	
	GRI 3-2: List of material topics	38	

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UNGC Principles	GRI Standards	Page and/or link	Comment
	Climate Protection		
7-9	GRI 3-3: Management of material topics	5-8, 17-19, 23, 45, 50-52, 97/98, 123-136	
	GRI 201: Economic Performance 2016		
7, 8, 9	GRI 201-2: Financial implications and other risks and opportunities due to climate change	50-52, 128-132; www.bayer.com/tcfd , www.bayer.com/CDP-Climate	
	GRI 302: Energy 2016		
7, 8	GRI 302-1: Energy consumption within the organization	135	
8	GRI 302-3: Energy intensity	135	
8	GRI 302-4: Reduction of energy consumption	135; www.bayer.com/CDP-Climate	
	GRI 305: Emissions 2016		
7, 8	GRI 305-1: Direct (Scope 1) GHG emissions	132/133	
7, 8	GRI 305-2: Energy indirect (Scope 2) GHG emissions	132/133	
7, 8	GRI 305-3: Other indirect (Scope 3) GHG emissions	133/134	
8	GRI 305-4: GHG emissions intensity	133/134	
8, 9	GRI 305-5: Reduction of GHG emissions	124-127, 132, 134	
	Environmental Protection		
7-9	GRI 3-3: Management of material topics	5-8, 15, 17/18, 45, 52-55, 57, 64-67, 70, 74-81, 126, 136-144	
	GRI 303: Water and Effluents 2018		
7, 8	GRI 303-1: Interactions of water as a shared resource	138-141	
7, 8	GRI 303-2: Management of water discharge-related impacts	141	
8	GRI 303-3: Water withdrawal	140	
8	GRI 303-4: Water discharge	141	
8	GRI 303-5: Water consumption	140	
	GRI 304: Biodiversity 2016		
8	GRI 304-1: Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	77/78	
7-9	GRI 304-2: Significant impacts of activities, products and services on biodiversity	45/46, 48/49, 70, 74-81, 126	
	GRI 305: Emissions 2016		
7, 8	GRI 305-6: Emissions of ozone-depleting substances (ODS)	138	
7, 8	GRI 305-7: Nitrogen oxides (NOX), sulfur oxides (SOX) and other significant air emissions	138	
	GRI 306: Waste 2020		

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UNGC Principles	GRI Standards	Page and/or link	Comment
8	GRI 306-1: Waste generation and significant waste-related impacts	77, 142/143	
8	GRI 306-2: Management of significant waste-related impacts	77, 89, 142–144	
8	GRI 306-3: Waste generated	142	
8	GRI 306-4: Waste diverted from disposal	143	
8	GRI 306-5: Waste directed to disposal	143	
Innovation			
	GRI 3-3: Management of material topics	5, 8, 16/17, 20, 27/28, 39, 41, 43, 45, 47–49, 65, 70, 119, 160; AR 36–52	
Business Ethics			
10	GRI 3-3: Management of material topics	29–33, 35/36	
	GRI 205: Anti-corruption 2016		
10	GRI 205-1: Operations assessed for risks related to corruption	31	Complete coverage is crucial for compliance/anti-corruption in the first instance. Areas at risk are monitored more frequently than others. As major businesses and parts of companies are subject to shorter audit cycles and smaller units to longer cycles, we do not report at the business unit level. Nor do we report on the identified significant corruption risks, as such information would constitute a business secret.
10	GRI 205-2: Communication and training about anti-corruption policies and procedures	31–33	We do not report quantitatively on training for the Board of Management and Supervisory Board because data on this is not available in accordance with the requirements of the GRI. Anti-corruption training for employees is implemented globally.
	GRI 206: Anti-competitive Behavior 2016		
10	GRI 206-1: Legal actions for anti-competitive behavior, anti-trust and monopoly practices	AR 216–219	
	GRI 207: Tax 2019		
	GRI 207-1: Approach to tax	35/36	
	GRI 207-2: Tax governance, control and risk management	35/36	
	GRI 207-3: Stakeholder engagement and management of concerns related to tax	35/36	
	GRI 207-4: Country-by-Country Reporting		We do not report any country-by-country information, since this data is not available for 2023.
	GRI 415: Public Policy 2016		
10	GRI 415-1: Political contributions	33/34	
	GRI 418: Customer Privacy 2016		

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UNGC Principles	GRI Standards	Page and/or link	Comment
	GRI 418-1: Substantiated complaints concerning breaches of customer privacy and losses of customer data		We do not report on the number of breaches of customer privacy and losses of customer data. We report on the total number of notifications registered with the compliance hotline and the percentage of confirmed compliance incidents. We publish the most frequently reported categories of compliance violations (including fairness and respect in the workplace), track the processing of these notifications and take corresponding measures in line with our Group regulation. More detailed information on this would constitute a business secret.
Product Responsibility			
7	GRI 3-3: Management of material topics	56–77, 81–89	
	GRI 416: Customer Health and Safety 2016		
	GRI 416-1: Assessment of the health and safety impacts of product and service categories	56–73, 81–89	
	GRI 416-2: Incidents of noncompliance concerning the health and safety impacts of products and services	71/72; AR 12–14, 216–218	
7	GRI 417: Marketing and Labeling 2016		
7	GRI 417-1: Requirements for product and service information and labeling	56–58, 59–65, 67–73, 75–77, 81, 86/87	
	GRI 417-2: Incidents of noncompliance concerning product and service information and labeling	AR 12–14, 216–218	
	GRI 417-3: Incidents of noncompliance concerning marketing communications	AR 12–14, 216–218	
Sustainable Food Security			
	GRI 3-3: Management of material topics	5–8, 15–17, 19, 44–55	
Access to Health Care			
	GRI 3-3: Management of material topics	5–14, 19, 90–94	
Employees			
1, 3, 6	GRI 3-3: Management of material topics	7/8, 23, 109, 111–122	
	GRI 201: Economic Performance 2016		
	GRI 201-3: Defined benefit plan obligations and other retirement plans	117; AR 187–196	
	GRI 202: Market presence 2016		
6	GRI 202-1: Ratios of standard entry level wage by gender compared to local minimum wage	116	We do not report on the margin between standard entry salary according to gender and local minimum wage because this data is not available to us. Nor do we plan to collect it. We compensate employees on both permanent and temporary employment contracts in excess of the statutory minimum wage in the respective countries, paying a living wage regardless of gender.

GRI Content Index

UNGC Principles	GRI Standards	Page and/or link	Comment
6	GRI 202-2: Proportion of senior management hired from the local community	114	
	GRI 401: Employment 2016		
6	GRI 401-1: New employee hires and employee turnover	112/113	
	GRI 401-2: Benefits provided to full-time employees that are not provided to temporary or part-time employees	116/117, 122	
6	GRI 401-3: Parental leave	121	
	GRI 402: Labor/Management Relations 2016		
3	GRI 402-1: Minimum notice periods regarding operational changes	119/120	
	GRI 404: Training and Education 2016		
6	GRI 404-1: Average hours of training per year per employee	118	
	GRI 404-2: Programs for upgrading employee skills and transition assistance programs	111, 113, 117/118	
6	GRI 404-3: Percentage of employees receiving regular performance and career development reviews	118/119	
	GRI 405: Diversity and Equal Opportunity 2016		
6	GRI 405-1: Diversity in governance bodies and employees	110/111, 114/115; AR 119/120	
6	GRI 405-2: Ratio of basic salary and remuneration of women to men	116	
	GRI 406: Nondiscrimination 2016		
6	GRI 406-1: Incidents of discrimination and corrective actions taken	31	We do not report on the number of incidents of discrimination. We report on the total number of notifications registered with the compliance hotline and the percentage of confirmed compliance incidents. We publish the most frequently reported categories of compliance violations (including fairness and respect in the workplace), track the processing of these notifications and take corresponding measures in line with our Group regulation. More detailed information on this would constitute a business secret.
Supplier Management			
1–8	GRI 3-3: Management of material topics	5–8, 95–102	
	GRI 204: Procurement practices 2016		
	GRI 204-1: Proportion of spending on local suppliers	96	
	GRI 308: Supplier Environmental Assessment 2016		
7, 8	GRI 308-1: New suppliers that were screened using environmental criteria	97–100, 137	As the reported procedure for evaluating our suppliers (including according to environmental criteria) includes the new suppliers, we do not report the percentage of new suppliers separately.
7, 8	GRI 308-2: Negative environmental impacts in the supply chain and actions taken	97, 99–101, 137	
	GRI 414: Supplier Social Assessment 2016		

GRI Content Index

UNGC Principles	GRI Standards	Page and/or link	Comment
1-6	GRI 414-1: New suppliers that were screened using social criteria	97-100, 146/147	As the reported procedure for evaluating our suppliers (including according to social criteria) includes the new suppliers, we do not report the percentage of new suppliers separately.
1-6	GRI 414-2: Negative social impacts in the supply chain and actions taken	97, 99-101, 106-108, 146/147	
Human Rights			
2-5	GRI 3-3: Management of material topics	5/6, 8, 20, 103-108	
	GRI 407: Freedom of Association and Collective Bargaining 2016		
2, 3	GRI 407-1: Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	97-100, 104-108, 120	
	GRI 408: Child Labor 2016		
2, 5	GRI 408-1: Operations and suppliers at significant risk for incidents of child labor	97-100, 104-108	
	GRI 409: Forced or Compulsory Labor 2016		
2, 4	GRI 409-1: Operations and suppliers at significant risk for incidents of forced or compulsory labor	97-100, 104-108	
Safety			
1	GRI 3-3: Management of material topics	120, 145-155	
	GRI 403: Occupational Health and Safety 2018		
	GRI 403-1: Occupational health and safety management system	145	
	GRI 403-2: Hazard identification, risk assessment and incident investigation	120, 147-149	
	GRI 403-3: Occupational health services	151	
	GRI 403-4: Worker participation, consultation and communication on occupational health and safety	120, 147-152	
	GRI 403-5: Worker training on occupational health and safety	147, 147-152	
	GRI 403-6: Promotion of worker health	111, 120, 151/152	
	GRI 403-7: Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	56, 149/150, 152/153	
	GRI 403-8: Workers covered by an occupational health and safety management system	145	The Group Regulation on HSE Management and HSE Key Requirements applies to all Bayer employees and all contractors directly supervised by Bayer. Our global HSE management system is audited internally. We do not report on the number and percentage of workers covered by a management system according to an internationally recognized standard since we use the energy consumption of environmentally relevant sites as a reference parameter.
	GRI 403-9: Work-related injuries	154/155	We do not report separately on work-related injuries with serious consequences. These are included in the data.

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UNGC Principles	GRI Standards	Page and/or link	Comment
	GRI 403-10: Work-related ill health	155	
	GRI 413: Local Communities 2016		
1	GRI 413-2: Operations with significant actual and potential negative impacts on local communities	136, 145, 150, 152/153	
Stakeholder and Community Engagement			
1	GRI 3-3: Management of material topics	25, 90–94, 156–161	
	GRI 201: Economic Performance 2016		
	GRI 201-1: Direct economic value generated and distributed	25	
	GRI 203: Indirect Economic Impacts 2016		
	GRI 203-1: Infrastructure investments and services supported	90–94, 156–161	
	GRI 203-2: Significant indirect economic impacts	25, 35, 48, 96	
	GRI 413: Local Communities 2016		
1	GRI 413-1: Operations with local community engagement, impact assessments and development programs	39/40, 43, 119/120, 156, 158/159	

AR = [Bayer Annual Report 2023](#)

Glossary

A

Additionality

Offsetting projects aimed at reducing greenhouse gases must ensure that their reduction, prevention or storage of emissions occurs additionally. This means that the project's climate protection measure would not have occurred without the expected revenue from the sale of emissions credits/offsets. The technical term for this is the additionality of emissions reductions. Furthermore, the emissions reduction measure must be conducted on an ongoing basis.

B

Biocides are substances and products that control pests such as insects, mice and rats, as well as algae, fungi and bacteria.

Bt (Bacillus thuringiensis) is a bacterium that can be found primarily in soil, as well as on plants and in insect cadavers. The Bt toxins produced by the bacterium are used for biological pest control in agriculture and forestry, as well as to control disease-transmitting mosquitoes.

C

Corruption Perceptions Index (CPI)

is the world's most renowned corruption indicator. It is compiled by the International Secretariat of the NGO Transparency International and has listed countries according to their perceived levels of public sector corruption since 1995. The CPI 2021 comprises 180 countries.

CRISPR-Cas is a new molecular-biological method of specifically modifying genetic material. It enables individual DNA building blocks to be inserted, removed or modified. This process basically works with all organisms. It is used in animal and plant breeding, and in biotechnology.

E

Ecosystem Fund

The term "Ecosystem Fund" refers to a sum of grants or other funding opportunities created for organizations that address key global societal challenges. This includes incentivizing participation in expanding and shaping an ecosystem through cross-sector and multi-stakeholder collaboration, in order to enhance the positive impact of the provided funds, such as the Bayer Foundation's Social Innovation Ecosystem Fund.

Ecosystem services are the benefits people obtain from ecosystems. Ecosystem services upon which crop production depends include, for instance, soil fertility, soil erosion prevention, nutrient cycling, soil organic matter provision, pest control, water regulation and pollination.

G

GHG (Greenhouse Gas) Protocol

The Greenhouse Gas Protocol is an internationally recognized tool for recording, quantifying and reporting greenhouse gas emissions. Its standards cover all emissions along the value chain. Bayer aligns itself to the Corporate Standard for direct (Scope 1) and indirect (Scope 2) greenhouse gas emissions and also to the Corporate Value Chain Accounting and Reporting Standard (Scope 3), which covers further indirect emissions along the value chain. Dual reporting was introduced for indirect (Scope 2) emissions. Indirect emissions have to be reported using both the location-based and the market-based methods. The location-based method uses regional or national average emissions factors, while the market-based method applies provider- or product-specific emissions factors based on contractual instruments.

GxP (Good x Practice) is the umbrella term covering all rules for "good working practice." The "x" in the middle is replaced by the relevant abbreviation for the field of application involved.

H

Herbicide-tolerant plants are resistant to the mechanism of action of a herbicide.

L

LMICs (low- and middle-income countries)

According to the World Bank, these include low- and middle-income economies (low/lower middle/upper middle) with a GNI per capita maximum income ranging from US\$1,036/4,035/to US\$12,535 (based on 2019 figures, calculated according to the World Bank Atlas method).

R

3Rs principle in animal welfare (replace, reduce, refine)

Replace: prior to each project, Bayer checks whether an approved method is available that does not rely on animal studies and then applies it. Reduce: in case no alternative method exists, only as many animals are used as are needed to achieve scientifically meaningful results based on statutory requirements. Refine: Bayer ensures that animal studies are performed in a way that minimizes any suffering to the animals.

S

Significant locations of operation

A selection of countries that accounted for more than 80% of total Bayer Group sales in 2022 (Argentina, Australia, Brazil, Canada, China, France, Germany, India, Italy, Japan, Mexico, Russia, Spain, Switzerland, the United Kingdom and the United States).



Masthead

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Sebastian Leins

Email: sebastian.leins@bayer.com

Katja Schulz

Email: katja.schulz@bayer.com

Gudrun Schumann

Email: gudrun.schumann@bayer.com

Bayer on the internet: www.bayer.com

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