BASF Report 2021

Integrated corporate report on economic, environmental and social performance

BASF
We create chemistry

2021 BASF Group

At a glance

Sales

€78.6 billion
(2020: €59.1 billion)

EBIT before special items

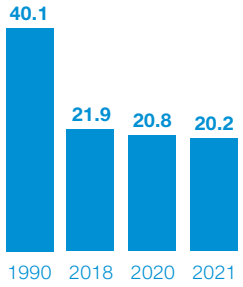
€7.8 billion
(2020: €3.6 billion)

ROCE

13.5%
(2020: 1.7%)

Greenhouse gas emissions

(million metric tons of CO_2 equivalents)



Accelerator sales

€24.1 billion
(2020: €16.7 billion)

Employees at year-end

111,047
(2020: 110,302)

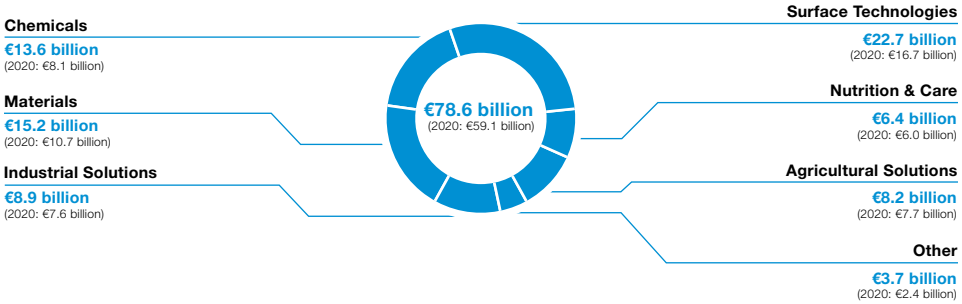
Research and development expenses

€2.2 billion
(2020: €2.1 billion)

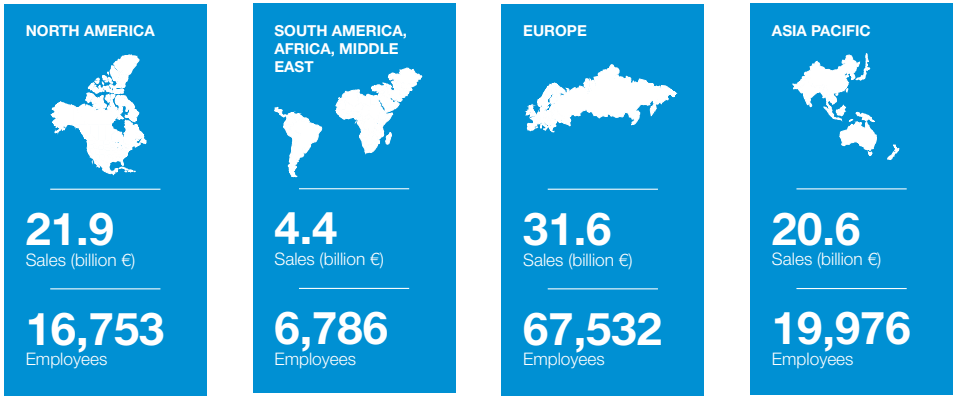
Personnel expenses

€11.1 billion
(2020: €10.6 billion)

Sales by segment and Other



Sales and employees by region (by location of company)



Our journey to climate neutrality

Climate change calls for fast, decisive action. That is why we set ourselves even more ambitious climate protection targets in 2021: By 2030, we want to reduce the greenhouse gas emissions from our production sites and our energy purchases (Scope 1 and Scope 2) by 25% compared with 2018 – while growing production volumes. We aim to achieve net zero emissions by 2050. To achieve these targets, we have set up comprehensive carbon management and created effective structures for its implementation.

For more information, see pages 27 and 126

Welcome to BASF

Our integrated corporate report combines financial and sustainability reporting. It shows how we are developing as a company and how we create value for our shareholders with what we do.

On the cover and this page:
BASF is one of the leading manufacturers of battery materials for electric vehicles and continues to invest in this important growth market. For example, we are building a new production plant for cathode materials in Schwarzheide, Germany, which will start operation in 2022. Both photos show Ina Homann. As an assistant process manager, her responsibilities include monitoring the progress of construction at her future workplace. After working in analytics and process optimization and obtaining further technical qualifications, she is now part of BASF's team to help shape the future of climate-smart mobility.

For more information on battery materials and electromobility, see weloveevs.basf.com

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About This Report

GRI 102, 305

Integrated reporting and online services

This integrated report documents BASF's economic, environmental and social performance in 2021. We show how sustainability contributes to BASF's long-term success as an integral part of our corporate purpose and our strategy, and how we as a company create value for our stakeholders.

Symbols

You can find more information in this report.

You can find more information online. The content of these links are voluntary disclosures that were not audited by the auditor.

The content of this section is not part of the statutory audit but has undergone a separate limited assurance by our auditor.

The content of this section is voluntary, unaudited information, which was critically read by the auditor.

At a glance

- Integrated BASF Report serves as U.N. Global Compact progress report
- Nonfinancial reporting in accordance with HGB and additional sustainability reporting in accordance with GRI
- Financial reporting in accordance with IFRS, HGB and GAS
- Editorial deadline: February 21, 2022
- External audit by KPMG AG Wirtschaftsprüfungsgesellschaft

Content and structure

The BASF Report, which is published each year in English and German, combines the major financial and sustainability-related information necessary to comprehensively evaluate our performance. We select the report's topics based on the following principles: materiality, sustainability context, completeness, balance and stakeholder inclusion. In addition to this report, we publish further information online. The relevant links can be found at the end of each chapter.

Our sustainability reporting has been based on Global Reporting Initiative (GRI) guidelines and standards since 2003. We have applied the "Comprehensive" option since 2017.

We have been active in the International Integrated Reporting Council (IIRC) since 2014 and have supported the work of the Value Reporting Foundation, formed by the merger of the IIRC and the Sustainability Accounting Standards Board (SASB), since 2021. This involvement gives us the opportunity to discuss our experiences of integrated reporting with stakeholders and at the same time, receive inspiration for enhancing our reporting. BASF's report addresses elements of the IIRC framework by illustrating how we create value, for example. The information contained in this report also serves as a progress report on BASF's implementation of the 10 principles of the U.N. Global Compact.

The GRI and Global Compact Index can be found in the online report. It provides an overview of all relevant information to fulfill the GRI indicators and shows how we contribute to the United Nations' Sustainable Development Goals (SDGs) and the principles of the U.N. Global Compact. The results of the limited assurance of this information conducted by KPMG AG Wirtschaftsprüfungsgesellschaft can also be found there. We also publish online additional information on sustainability in accordance with the industry-specific requirements of the SASB.

The information on the financial position and performance of the BASF Group comply with the requirements of International Financial Reporting Standards (IFRS), and, where applicable, the German Commercial Code (HGB), German Accounting Standards (GAS) and the guidelines on alternative performance measures from the European Securities and Markets Authority (ESMA). Internal control mechanisms ensure the reliability of the information presented in this report. BASF's Board of Executive Directors confirmed the effectiveness of the internal control measures and compliance with the regulations for financial reporting.

Material topics along the value chain form the focal points of reporting and define the limits of this report. We take three dimensions into account in identifying and evaluating material topics: the impact on BASF, the impact of BASF and relevance for our stakeholders.

For more information on our sustainability reporting, see from page 45 and 96 onward
Our value creation based on the IIRC framework can be found on page 24 and in the online report
For more information on our control and risk management system, see page 151 onward

The 2021 BASF Online Report can be found at basf.com/report
The GRI and Global Compact Index can be found at basf.com/en/gri-gc
The SASB index can be found at basf.com/sasb

Data

All information and bases for calculation in this report are founded on national and international standards for financial and sustainability reporting. The data and information for the reporting period were sourced from the expert units responsible using representative methods. Due to rounding, individual figures may not add up exactly to the totals shown and percentages may not correspond exactly to the figures shown.

The reporting period is the 2021 business year. Relevant information is included up to the editorial deadline of February 21, 2022.

BASF Group's scope of consolidation for its financial reporting comprises BASF SE, with its headquarters in Ludwigshafen, Germany, and all of its fully consolidated subsidiaries and proportionally consolidated joint operations. Shares in joint ventures and associated companies are accounted for, if material, using the equity method in the BASF Group Consolidated Financial Statements and are thus not included in the scope of consolidation.

The section "Employees" refers to employees active in a company within the BASF Group scope of consolidation as of December 31, 2021.

Our data collection methods for environmental protection and safety are based on the recommendations of the International Council of Chemical Associations (ICCA) and the European Chemical Industry Council (CEFIC). In the section "We Produce Safely and Efficiently," we report all data of the worldwide production sites of BASF SE, its fully consolidated subsidiaries, and proportionally consolidated joint operations. BASF SE subsidiaries that are fully consolidated in the Group financial statements in which BASF holds an interest of less than 100% are included in full in environmental reporting. The emissions of proportionally consolidated joint operations are disclosed pro rata according to our interest. Work-related accidents at all sites of BASF SE and its subsidiaries as well as joint operations and joint ventures in which we have sufficient authority in terms of safety management are compiled worldwide regardless of our interest and reported in full. Unless otherwise indicated, data on social responsibility and transportation safety refers to BASF SE and its consolidated subsidiaries.

The divested pigments business is included in the disclosures and indicators on employees, the environment, and health and safety on a pro rata basis until June 30, 2021. Sales from the divested pigments business are no longer integrated in the portfolio to be evaluated under the Sustainable Solution Steering method for 2021. BASF Shanshan Battery Materials Co., Ltd., which was formed on August 31, 2021, is included in the sustainability disclosures and indicators on a pro rata basis. The company's sales to third parties are already included in the sum of relevant sales according to the Sustainable Solution Steering method. They are listed as "not assessed." We will start classification in 2022.

For more information on companies accounted for in the Consolidated Financial Statements, see the Notes from page 205 onward

The list of shares held can be found at basf.com/en/corporategovernance

External audit

Our reporting is audited by a third party. KPMG AG Wirtschaftsprüfungsgesellschaft has audited the BASF Group Consolidated Financial Statements and the Management's Report and has approved themn free of qualification.

The limited assurance of the sustainability information contained in the Management's Report was conducted in accordance with ISAE 3000 (Assurance Engagements other than Audits or Reviews of Historical Financial Information) and ISAE 3410 (Assurance Engagements on Greenhouse Gas Statements), the relevant international assurance standards for sustainability reporting. KPMG conducted a reasonable assurance of all disclosures on the most important nonfinancial key performance indicators, accelerator sales and CO_2 emissions. The forecast for the key performance indicator CO_2 emissions is also part of the Management's Report and is covered by the annual audit. No forecast has been made for the previous Accelerator target as we plan to update our portfolio steering target in 2022. The links and additional content provided on linked internet sites are not part of the audited information.

KPMG also conducted a limited assurance of the nonfinancial group statement (NFS).

The Independent Auditor's Report can be found on page 188 onward

An assurance statement on the sustainability information in the BASF Report 2021 can be found at basf.com/sustainability_information

An assurance statement of the NFS can be found at basf.com/nfs-audit-2021

Forward-looking statements and forecasts

This report contains forward-looking statements. These statements are based on current estimates and projections of the Board of Executive Directors and currently available information. Forward-looking statements are not guarantees of the future developments and results outlined therein. These are dependent on a number of factors; they involve various risks and uncertainties; and they are based on assumptions that may not prove to be accurate. Such risk factors include those discussed in Opportunities and Risks on pages 151 to 160. We do not assume any obligation to update the forward-looking statements contained in this report above and beyond the legal requirements.

1 To Our Shareholders

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Dear shareholder,

2021 was a very successful business year for BASF. Despite the ongoing coronavirus pandemic, widespread supply bottlenecks, and increasingly higher energy and raw materials prices, we achieved record levels of sales and earnings. We achieved an EBIT before special items of €7.8 billion. Our sales volumes were five percentage points above the 6% growth in the global chemical industry and we raised prices by 25%. This enabled us to once again earn a premium on our cost of capital in 2021. Our economic development confirms that we are on the right path with our strategic direction, our adapted organizational structure and our ongoing cost discipline.

At BASF, we have an ambitious dividend policy. Our free cash flow of €3.7 billion reflects our financial strength. Therefore, we will propose to the Annual Shareholders' Meeting a dividend of €3.40 per share, representing an increase of 10 euro cents compared with the previous year. We want to be an attractive investment and reliably create value for you, our shareholders.

The development of our share price in 2021 remained well below our expectations, despite our very good operating performance and targeted strategic development. Given that we believe that BASF is significantly undervalued on the capital market, we decided on January 4, 2022, to buy back own shares in the amount of up to €3 billion.

» *At BASF, we have an ambitious dividend policy.*

What makes us so confident about the value of BASF? What are our priorities for the transformation to climate neutrality and the further development of our company?

As the largest chemical company in the world, we are leaders in our industry. We are ambitious. This applies especially to the transformation to climate neutrality. We want to show that this transformation and competitiveness are not mutually exclusive. Our global responsibility for sustainable development is anchored in our corporate purpose: We create chemistry for a sustainable future.

Effective climate protection and scarce resources are the central challenges of our time. We want to reduce our CO_2 emissions worldwide by 25% by 2030 compared with 2018. Our 2050 target is net zero emissions. These are very ambitious goals. It is the biggest transformation in the history of the chemical industry and for BASF, considering that our production is energy intensive and that we want to continue to grow at the same time. The energy transformation will make great demands on us. But we are confident that we will succeed!

We can only reach climate neutrality if we completely transform our production by replacing energy sources based on fossil fuels with electricity from renewable resources. That will require entirely new processes and technologies and the

courage to think in new directions. It will involve converting the big steam crackers from heating based on fossil fuels to electrical heating. In these plants, at the beginning of the value chains, steam is used to split naphtha into basic chemicals at about 850 degrees Celsius. Other examples include the CO_2-free production of hydrogen by water electrolysis and methane pyrolysis, and using waste heat recovered with heat pumps instead of conventional steam generation in gas-fired power plants. We will invest roughly €4 billion to reach our 2030 emission reduction targets.

With our innovation power, creativity and entrepreneurial courage, we look to the future with optimism.

We are also redefining raw material cycles through recycling. Good examples of this are the chemical recycling process in which a new raw material, pyrolysis oil, is obtained from plastic waste; the recycling of mattresses, which are broken down into polyurethane precursors; and the use of bio-based raw materials. There is a great feeling of excitement in the BASF team! With our innovation power, creativity and entrepreneurial courage, we look to the future with optimism.

Electricity from renewable sources in great quantities and at favorable prices would enable us to achieve a climate-neutral future. This is made possible by the electrification of entire value chains. To achieve this, we need to massively expand renewable energies worldwide. Currently, this is not happening fast enough. That is why we are leading the way and securing access to green power. We already announced several projects in 2021 as part of the implementation of our Make & Buy strategy: We have secured a half share in a 1.5 gigawatt offshore wind park from Vattenfall in the North Sea off the coast of the Netherlands. It should be connected to the grid in 2023. It will be the world's biggest offshore wind farm – and all this without any public subsidies. We are taking a different approach with Ørsted and Engie: We have concluded attractive electricity supply contracts with both energy companies for a term of 25 years. In other regions as well, for example, in the United States and China, we are securing access to green power. In this way, we are planning proactively and laying the foundation to ensure a long-term supply of electricity from renewable resources.

CO_2-free chemical production is the future. And BASF wants to be among the first there. It all starts with transparency, which is why we provide our customers with Product Carbon Footprints (PCF) – the carbon footprint associated with production per kilogram of sales product – for each of our 45,000 sales products. Furthermore, we help our customers develop strategies to reduce their carbon footprint, to use resources more efficiently, and to manufacture products in a more environmentally friendly way. We expect that demand for such emission-free or emission-reduced products will exceed supply in the medium term, and that their market value will more than compensate for the higher production costs. It therefore also makes good economic sense to take a leading role here. That is why we want to be among the first to provide as many products as possible from our portfolio with a reduced carbon footprint in large volumes by the end of the decade. This differentiates us, increases our competitiveness and enables growth above market.

CO_2-free chemical production is the future. And BASF wants to be among the first there.

Profitable growth lays the foundation for a successful transformation. This is why we continue to focus our portfolio and business activities on organic growth. And the reverse is also true: The transformation is the foundation for a wide range of growth opportunities! Neither future prosperity nor climate neutrality is possible without a competitive chemical industry and innovative chemical products. Extensive regulations driven by policymakers and society do present a tremendous challenge to industry in general and particularly to the chemical industry. At the same time, however, they lead to new business opportunities. The dynamic development from the combustion engine to electromobility is a good example of this. As a leading chemical supplier to the automotive industry and producer of innovative cathode active materials for electric vehicle batteries, we are able to profit from this development. Growth and climate protection go hand in hand: Our materials not only support the dynamic growth of this market, but their low carbon footprint also paves the way for climate-neutral mobility.

China is already the largest chemical market in the world and has high growth potential in the long term. With the construction of our new Verbund site in Zhanjiang in the southern Chinese province of Guangdong, we want to further accelerate our profitable growth in the region. We are setting new standards in energy transformation there as well. By taking advantage of a new regulatory framework and signing a supply agreement for electricity from renewable sources with China Resources Power in June 2021, we will be able to operate the first plants at the new Verbund site in Zhanjiang completely with green power. Sustainable solutions and innovative products across our entire portfolio enable us to remain on our growth path and systematically drive the transformation to greater sustainability.

Climate neutrality and sustainable resource use are not possible without a competitive chemical industry.

We act swiftly and systematically in the implementation of our long-term strategy for profitable growth. I am convinced that climate neutrality and sustainable resource use are not possible without a competitive chemical industry. Our company is very well positioned. We make our contribution to society and at the same time, secure our long-term competitiveness. I am pleased that you support us on our path to a sustainable future. Many thanks for your trust.

Yours,

Martin Brudermüller

The Board of Executive Directors of BASF SE

From left: Dr. Markus Kamieth, Saori Dubourg, Dr. Hans-Ulrich Engel (Vice Chairman of the Board of Executive Directors), Dr. Martin Brudermüller (Chairman of the Board of Executive Directors), Dr. Melanie Maas-Brunner, Michael Heinz

Group photo taken in compliance with the applicable coronavirus prevention measures

BASF on the Capital Market

In 2021, the stock markets were characterized by a significant recovery of the global economy. This was due in particular to the approval and increasing availability of effective coronavirus vaccines. BASF stands by its ambitious dividend policy and will propose a dividend of €3.40 per share to the Annual Shareholders' Meeting – an increase of 10 euro cents compared with the previous year. Based on the year-end share price for 2021, BASF shares offer a high dividend yield of around 5.5%.

At a glance

- BASF share price declines 4.5% in 2021
- Assuming that dividends were reinvested, BASF's share performance rose by 0.2%

BASF share performance

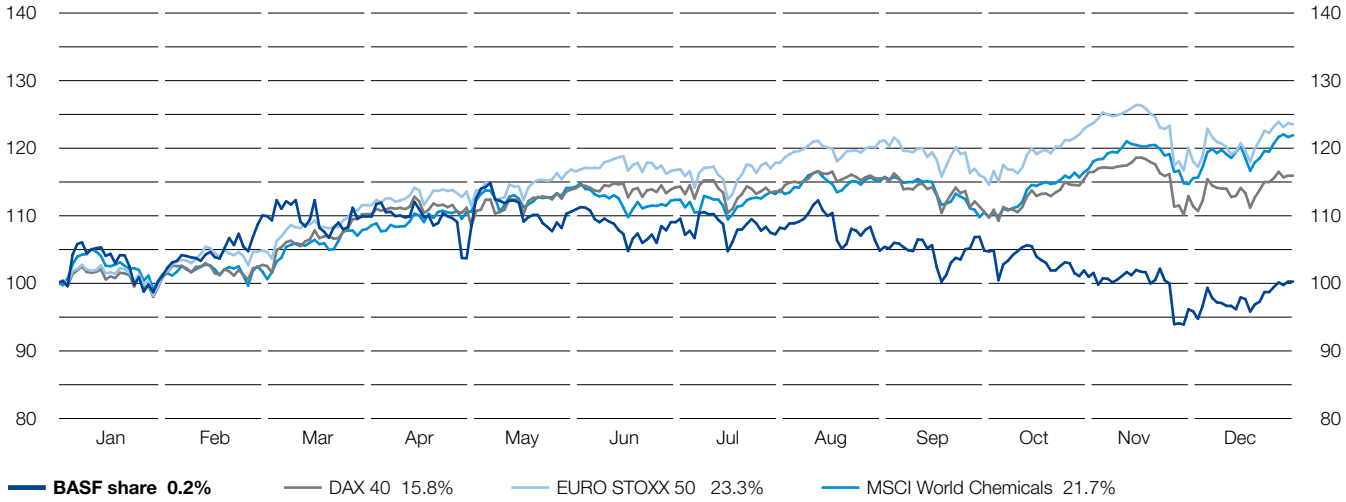
The BASF share closed the 2021 stock market year at €61.78, a decrease of 4.5% compared with the previous year's closing price (€64.72).

BASF's share price reached an annual high of €72.61 in March 2021 before declining over the course of the year despite continued positive business performance. This was due to factors such as the composition of the segments' earnings contributions. Share price development was also negatively impacted by market expectations regarding the future development of margins in the basic chemicals business.

Assuming that dividends were reinvested, BASF's share performance rose by 0.2% in 2021. The benchmark indexes of the

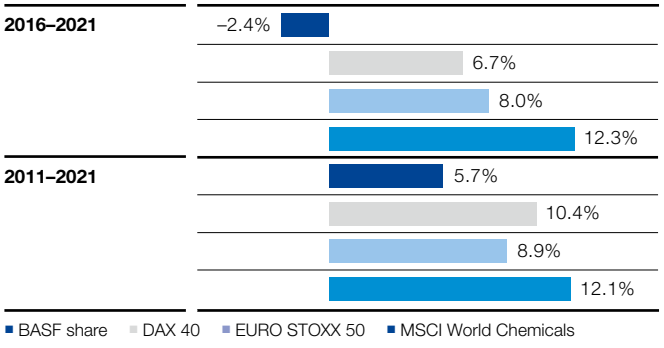
Change in value of an investment in BASF shares in 2021

With dividends reinvested; indexed



Long-term performance of BASF shares compared with indexes

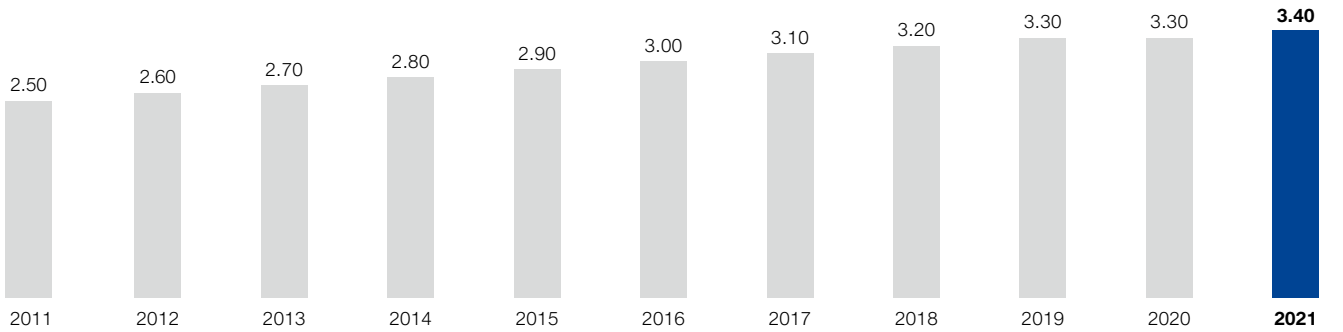
Average annual increase with dividends reinvested



Weighting of BASF shares in important indexes as of December 31, 2021

DAX 40	4.0%
EURO STOXX 50	1.8%
MSCI World Chemicals	4.6%

Dividend per share
€ per share



German and European stock markets – the DAX 40 and the EURO STOXX 50 – rose by 15.8% and 23.3% over the same period, respectively. The global industry index MSCI World Chemicals gained 21.7%.

The assets of an investor who invested €1,000 in BASF shares at the end of 2011 and reinvested the dividends in additional BASF shares would have increased to €1,733 by the end of 2021. This represents an average annual yield of 5.7%.

Proposed dividend of €3.40 per share

The Board of Executive Directors and the Supervisory Board will propose a dividend payment of €3.40 per share to the Annual Shareholders' Meeting. BASF stands by its ambitious dividend policy of increasing the per-share dividend each year and plans to pay out €3.1 billion[1] to the shareholders of BASF SE.

Based on the year-end share price for 2021, BASF shares offer a high dividend yield of around 5.5%. BASF is part of the DivDAX share index, which contains the 15 companies with the highest dividend yield in the DAX 40.

Share buyback program of up to €3 billion

In light of the positive business development and the gains on divestitures in the course of 2021, the Board of Executive Directors of BASF SE resolved on a share buyback program on January 4, 2022. The program amounts to up to €3 billion, started on January 11, 2022, and shall be concluded by December 31, 2023, at the latest, subject to a renewed authorization to repurchase own shares by the Annual Shareholders' Meeting of BASF SE on April 29, 2022. BASF SE will cancel all repurchased shares and reduce the share capital accordingly.

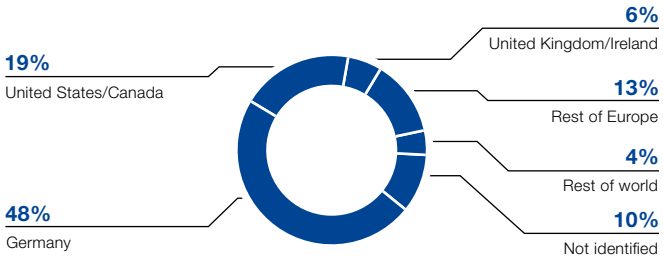
The share buyback program is based on the authorization by the Annual Shareholders' Meeting of BASF SE on May 12, 2017 authorizing the Board of Executive Directors to purchase up to 10% of the issued shares at the time of the resolution until May 11, 2022. BASF plans to propose to the 2022 Annual Shareholders' Meeting a renewed authorization to buy back own shares.

In addition to its progressive dividend policy, share buybacks are another tool that BASF uses to create value for its shareholders.

Broad base of international shareholders

With over 800,000 shareholders, BASF is one of the largest publicly owned companies with a high free float. An analysis of the shareholder structure carried out at the end of 2021 showed that, at around 19% of share capital, the United States and Canada made up the largest regional group of institutional investors. Institutional investors from Germany accounted for around 9%. Institutional investors from the United Kingdom and Ireland hold 6% of BASF shares, while investors from the rest of Europe hold a further 13% of capital. Approximately 39% of the company's share capital is held by private investors, nearly all of whom reside in Germany. BASF is therefore one of the DAX companies with the largest percentage of private shareholders.

Shareholder structure
By region, rounded



Employees becoming shareholders

In many countries, we offer share purchase programs that turn our employees into BASF shareholders. In 2021, for example, around 23,600 employees (2020: around 27,600) purchased BASF shares worth €38.2 million (2020: €61.1 million).

For more information on employee share purchase programs, see page 97

1 Based on the number of outstanding shares as of December 31, 2021 (918,478,694)

BASF – a sustainable investment

At a glance

- CDP again awards BASF Leadership status
- BASF maintains "Prime" status in ISS ESG rating
- BASF recognized as a Global Compact LEAD company

BASF has participated in the program established by the international organization CDP (formerly the Carbon Disclosure Project) for reporting on data relevant to climate protection since 2004. CDP represents over 590 investors with over $110 trillion in assets and more than 200 major organizations with $5.5 trillion in purchasing power. In 2021, BASF again scored an A– on CDP's Climate List, giving it Leadership status. In the scoring framework used by CDP in 2021, BASF was ranked among the top third of participating chemical companies.

BASF was rated A– in the CDP assessment for sustainable water management. The assessment takes into account how transparently companies report on their water management activities and how they reduce risks such as water scarcity. CDP also evaluates the extent to which product developments can contribute to sustainable water management for customers of the companies assessed. BASF continues to implement its sustainable water management target at all relevant production sites (Verbund sites and sites in water stress areas).

BASF participated in the CDP's "Forests" assessment for the second time in 2021 and was ranked A–, as in the previous year. As a participant in various value chains, BASF is committed to ending deforestation in these supply chains. Consequently, BASF is one of the companies with Leadership status, as for climate protection and water management.

BASF maintained its Prime status in the ISS ESG rating developed by Institutional Shareholder Services and is among the top 7% of the companies assessed. BASF received special recognition for addressing key sustainability issues such as environmental management, energy efficiency and business ethics with a comprehensive set of measures and processes.

Further information on BASF stock

Securities code numbers	
Germany	BASF11
United States (CUSIP number)	055262505
ISIN International Securities Identification Number	DE000BASF111

International ticker symbols	
Deutsche Börse	BAS
Pink Sheets / OTCQX	BASFY (ADR)
Bloomberg (Xetra trading)	BAS GY
Reuters (Xetra trading)	BASFn.DE

Key BASF share data

		2017	2018	2019	2020	2021
Year-end price	€	91.74	60.40	67.35	64.72	61.78
Year high	€	97.46	97.67	74.49	68.29	72.61
Year low	€	79.64	58.40	56.20	39.04	57.88
Year average	€	88.16	80.38	64.77	53.31	66.20
Daily trade in shares[a]						
	million €	185.7	229.6	187.6	219.2	170.8
	million shares	2.1	2.9	2.9	4.1	2.6
Number of shares December 31	million shares	918.5	918.5	918.5	918.5	918.5
Market capitalization December 31	billion €	84.3	55.5	61.9	59.4	56.7
Earnings per share	€	6.62	5.12	9.17	–1.15	6.01
Adjusted earnings per share	€	6.44	5.87	4.00	3.21	6.76
Dividend per share	€	3.10	3.20	3.30	3.30	3.40
Dividend yield[b]	%	3.38	5.30	4.90	5.10	5.50
Payout ratio	%	47	63	36	.	57
Price-earnings ratio (P/E ratio)[b]		13.9	11.8	7.3	.	10.3

a Average, Xetra trading
b Based on year-end share price

In Sustainalytics'[1] ESG Risk Ratings, BASF is ranked among the top 10% of companies in diversified chemicals. It was commended for the fact that its sustainability targets are reflected in the compensation for the Board of Executive Directors, underlining strong overall management of environmental, social and governance matters.

BASF was again recognized as a Global Compact LEAD company by the U.N. Global Compact in 2021. BASF consistently supports the U.N. Global Compact and its 10 principles of responsible business conduct and the Sustainable Development Goals.

BASF was among the top 10% in the World Benchmarking Alliance's (WBA) Food and Agriculture Benchmark, which assessed 350 companies from the food and agricultural sector on sustainable business practices.

For more information on the key sustainability indexes, see basf.com/sustainabilityindexes
For more information on energy and climate protection, see page 126 onward
For more information on air and soil, see page 133
For more information on the procurement of certified palm oil and palm kernel oil, see page 112 onward

Analysts' recommendations

Around 30 financial analysts regularly publish studies on BASF. The latest analyst recommendations for our shares as well as the average target share price ascribed to BASF by analysts can be found online at basf.com/analystestimates.

Close dialog with the capital market

At a glance

- Virtual formats facilitate dialog during coronavirus pandemic
- Capital Markets Day in March 2021, Investor Update in September 2021 and R&D Webcast in December 2021

Our corporate strategy aims to create long-term value. We support this strategy through regular and transparent communication with the capital market. In light of the coronavirus pandemic, we almost exclusively used virtual formats such as video or conference calls for dialog in 2021. We engage with institutional investors and rating agencies in numerous one-on-one meetings, as well as at roadshows and conferences worldwide, and give private investors an insight into BASF at informational events.

In March 2021, Dr. Martin Brudermüller presented our path and our ambitious climate neutrality targets at a virtual Capital Markets Day. BASF aims to achieve net zero CO_2 emissions[2] by 2050. Based on its progress in developing low-emission and carbon-free technologies, BASF is also setting an ambitious medium-term 2030 target for reductions in greenhouse gas emissions: BASF now wants to reduce its greenhouse gas emissions worldwide by 25% compared with 2018 – and to achieve this despite targeted growth and the construction of a large Verbund site in Zhanjiang, China. Dr. Markus Kamieth and Saori Dubourg also presented the Industrial Solutions and Nutrition & Care segments in more detail during the virtual Capital Markets Day.

At a virtual Investor Update in September 2021, Dr. Martin Brudermüller and Dr. Markus Kamieth informed investors about the BASF Group's two major growth projects: our future Verbund site in Zhanjiang, China, and our battery materials activities.

Finally, Dr. Melanie Maas-Brunner offered analysts and investors an insight into the BASF Group's research and development in December 2021. In a webcast, she presented, among other topics, contributions of research to sustainability in the field of electromobility.

Analysts and investors have confirmed the quality of our financial market communications. For instance, we were again named "Best IR" in the materials sector in the annual survey conducted by Britain's IR Magazine.

For more information about BASF stock, see basf.com/share
For more information on the 2022–2023 share buyback program, see basf.com/sharebuyback
For more information on the Capital Markets Day 2021, see basf.com/CMD21
For more information on the Investor Update 2021, see basf.com/investor-update
For more information on the R&D Webcast 2021, see basf.com/rd-webcast-2021
Register for the newsletter with current topics and dates at basf.com/share/newsletter
Contact the Investor Relations team by phone at +49 621 60-48230 or email ir@basf.com

1 Sustainalytics provides institutional investors and companies with ESG and corporate governance research, ratings and analytics.
2 Based on the BASF Group's Scope 1 and Scope 2 emissions; other greenhouse gases are converted into CO_2 equivalents in accordance with the Greenhouse Gas Protocol

2 Management's Report

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Overview

The Management's Report comprises the chapter of the same name on pages 16 to 160, as well as the disclosures required by takeover law and the Declaration of Corporate Governance, which are presented in the Corporate Governance chapter. The Nonfinancial Statement (NFS) is integrated into the Management's Report.

Nonfinancial Statement (NFS) in accordance with sections 315b and 315c of the German Commercial Code (HGB)

The NFS disclosures can be found in the relevant sections of the Management's Report and have been prepared in accordance with the appropriate frameworks: the Global Reporting Initiative Standards ("Comprehensive" application option) and the reporting requirements of the U.N. Global Compact.

The table on the following page shows the sections and subsections in which the individual disclosures can be found. In addition to a description of the business model, the NFS includes disclosures on the following matters, to the extent that they are required to understand the development and performance of the business, the Group's position and the impact of business development on the following matters:

- Environmental matters
- Employee-related matters
- Social matters
- Respect for human rights
- Anti-corruption and bribery matters

In accordance with the E.U. Taxonomy Regulation and the supplementary delegated acts, the NFS includes, for the first time, the share of the Group's taxonomy-eligible sales, investments (including acquisitions) and operating expenses for the 2021 business year relating to the environmental objectives of "climate change mitigation" and "adaptation to climate change."

Within the scope of the annual audit, KPMG checked pursuant to section 317(2) sentence 4 HGB that the NFS was presented in accordance with the statutory requirements. KPMG also conducted a limited assurance of the NFS. An assurance statement of the limited assurance can be found online at basf.com/nfs-audit-2021. The assurance was conducted in accordance with ISAE 3000 (Assurance Engagements other than Audits or Reviews of Historical Financial Information) and ISAE 3410 (Assurance Engagements on Greenhouse Gas Statements), the relevant international assurance standards for sustainability reporting.

Disclosures required by takeover law in accordance with section 315a HGB

The disclosures required by takeover law in accordance with section 315a of the German Commercial Code (HGB) can be found in the Corporate Governance chapter starting on page 161. They form part of the Management's Report, which is audited as part of the annual audit.

Consolidated Declaration of Corporate Governance in accordance with section 315d HGB in connection with section 289f HGB

The Consolidated Declaration of Corporate Governance in accordance with section 315d HGB in connection with section 289f HGB can be found in the Corporate Governance chapter from page 185 onward and is a component of the Management's Report. It comprises the Corporate Governance Report including the description of the diversity concept for the composition of the Board of Executive Directors and the Supervisory Board (excluding the disclosures required by takeover law in accordance with section 315a HGB), compliance reporting and the Declaration of Conformity pursuant to section 161 of the German Stock Corporation Act. Pursuant to section 317(2) sentence 6 HGB, the auditor checked that the disclosures according to section 315d HGB were made.

Compensation Report

The Compensation Report is no longer a component of the Management's Report. The Compensation Report in accordance with section 162 of the German Stock Corporation Act (AktG) and the assurance statement of the substantive and formal audit issued by the auditor have been made publicly available on the BASF website at basf.com/compensationreport.

Content and structure of the Management's Report

An overview of the segments' business models is provided in a separate chapter. Material investments and portfolio measures by our segments have also been integrated into the chapter of the same name. This improves the clarity of the information on our segments.

Recommendations of the Task Force on Climate-related Financial Disclosures

BASF supports the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Disclosures recommended by the TCFD are presented in a number of places throughout this report. The table on page 19 shows the sections and subsections in which the relevant information can be found. The table is divided into four key areas in line with the TCFD recommendations: governance, strategy, risk management, and metrics and targets.

Nonfinancial Statement (NFS) disclosures in the relevant chapters of the integrated report

NFS disclosure	Topics	Concepts and results
Business model	BASF Group	Pages 20–25
E.U. taxonomy	E.U. taxonomy	Page 95
Environmental matters	Process safety	Page 37 (targets) / pages 117 and 119–120 (targets, measures, results)
	Biodiversity	Pages 138–140 (targets, measures, results)
	Energy and climate protection	Page 36 (targets) / pages 117 and 126–132 (targets, measures, results)
	Emergency response and corporate security	Pages 117 and 121 (targets, measures, results)
	Supplier management	Page 37 (targets) / pages 109–111 (targets, measures, results)
	Emissions to air	Pages 117 and 133 (targets, measures, results)
	Product stewardship	Pages 117 and 123–124 (targets, measures, results)
	Resource efficiency	Pages 44, 133 and 142 (targets, measures, results)
	Steering of product portfolio	Page 36 (targets) / pages 45 and 141 (targets, measures, results)
	Transportation and storage	Pages 117 and 125 (targets, measures, results)
	Management of waste and contaminated sites	Pages 44 and 133–134 (targets, measures, results)
	Water	Page 37 (targets) / pages 117 and 135–137 (targets, measures, results)
Employee-related matters	Occupational safety	Page 37 (targets) / pages 117 and 119 (targets, measures, results)
	Dialog with employee representatives	Page 103 (targets, measures, results)
	Inclusion of diversity	Page 37 (targets) / page 99 (targets, measures, results)
	What we expect from our leaders	Page 98 (targets, measures, results)
	Health protection	Pages 117 and 120 (targets, measures, results)
	International labor and social standards	Page 103 (targets, measures, results)
	Learning and development	Page 101 (targets, measures, results)
	Supplier management	Page 37 (targets) / pages 109–111 (targets, measures, results)
	Employee engagement	Page 37 (targets) / page 98 (targets, measures, results)
	Competition for talent	Page 100 (targets, measures, results)
	Compensation and benefits	Page 102 (targets, measures, results)
Social matters	Societal engagement	Pages 48 and 106–107 (targets, measures, results)
Respect for human rights	International labor and social standards	Page 103 (targets, measures, results)
	Supplier management	Page 37 (targets) / pages 109–111 (targets, measures, results)
	Responsibility for human rights	Pages 104–105 (targets, measures, results)
Anti-corruption and bribery matters	Compliance	Pages 171–173 (targets, measures, results)
	Supplier management	Page 37 (targets) / pages 109–111 (targets, measures, results)

Recommendations of the Task Force on Climate-related Financial Disclosures in the relevant chapters of the integrated report

Topic	Recommended disclosures	Section/explanation	Page
Governance Disclose the organization's governance around climate-related risks and opportunities.	Describe the board's[a] oversight of climate-related risks and opportunities.	Corporate Governance Report – Direction and management by the Board of Executive Directors Report of the Supervisory Board	Pages 162–163 Pages 177–183
	Describe management's[b] role in assessing and managing climate-related risks and opportunities.	Our Sustainability Concept – Our organizational and management structures	Page 46
Strategy Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	Energy and Climate Protection – Strategy Opportunities and Risks – Operational opportunities and risks Opportunities and Risks – Strategic opportunities and risks	Pages 126–127 Pages 154–158 Pages 158–160
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	We Drive Sustainable Solutions – Steering Our Product Portfolio Opportunities and Risks – Operational opportunities and risks Opportunities and Risks – Strategic opportunities and risks	Pages 141–142 Pages 154–158 Pages 158–160
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Opportunities and Risks – Risk management process Opportunities and Risks – Strategic opportunities and risks	Pages 152–154 Pages 158–160
Risk management Disclose how the organization identifies, assesses, and manages climate-related risks.	Describe the organization's processes for identifying and assessing climate-related risks.[c]	Opportunities and Risks – Risk management process	Pages 152–154
	Describe the organization's processes for managing climate-related risks.	Opportunities and Risks – Risk management process Opportunities and Risks – Strategic opportunities and risks	Pages 152–154 Pages 158–160
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	Opportunities and Risks – Risk management process	Pages 152–154
Metrics and targets Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Energy and Climate Protection – Global targets and measures Water – Global target and measures We Drive Sustainable Solutions – Steering Our Product Portfolio	Pages 128–129 Page 136 Pages 141–142
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Energy and Climate Protection – Strategy Energy and Climate Protection – Global targets and measures	Pages 126–127 Pages 128–129
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Energy and Climate Protection – Strategy Water – Strategy We Drive Sustainable Solutions – Steering Our Product Portfolio	Pages 126–127 Page 135 Pages 141–142

a Refers to the Supervisory Board
b Refers to the Board of Executive Directors and senior executives
c Climate-related risks are identified, assessed and managed as part of the general risk management process.

BASF Group

GRI 102, 201, 202, 203, 301

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. Around 111,000 employees contribute to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is divided into the Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions segments.

Sites and Verbund

BASF has companies in 90 countries. We operate six Verbund sites and 232 additional production sites worldwide. Our Verbund site in Ludwigshafen, Germany, is the world's largest integrated chemical complex owned by a single company. The Verbund concept was developed and optimized here and later applied to other sites around the world. Construction of the first plants continued at our planned new smart Verbund site in Zhanjiang, China.

The Verbund system is one of BASF's great strengths. We add value by using our resources efficiently. The Production Verbund intelligently links production units and their energy supply so that, for example, the waste heat of one plant provides energy to others. Furthermore, one facility's by-products can serve as feedstocks elsewhere. This not only saves us raw materials and energy – it also avoids emissions, lowers logistics costs and leverages synergies.

We also make use of the Verbund principle for more than production, applying it for technologies, the market and digitalization as well. Expert knowledge is pooled in our global research.

For more information on the Verbund concept, see basf.com/en/verbund

The BASF Group's segments in 2021

Chemicals

The Chemicals segment consists of the Petrochemicals and Intermediates divisions. The segment supplies BASF's other segments and third-party customers with basic chemicals and intermediates.

- Share of sales: 17%
- R&D expenses: €97 million
- Investments including acquisitions[1]: €1,157 million

Materials

The Materials segment is composed of the Performance Materials and Monomers divisions. The segment offers advanced materials and their precursors for the plastics and plastics processing industries.

- Share of sales: 19%
- R&D expenses: €193 million
- Investments including acquisitions[1]: €709 million

Industrial Solutions

The Industrial Solutions segment consists of the Dispersions & Resins and the Performance Chemicals divisions. The segment develops and markets ingredients and additives for industrial applications.

- Share of sales: 11%
- R&D expenses: €175 million
- Investments including acquisitions[1]: €361 million

Surface Technologies

The Surface Technologies segment comprises the Catalysts and Coatings divisions. The segment offers chemical solutions for surfaces such as battery materials and automotive coatings.

- Share of sales: 29%
- R&D expenses: €296 million
- Investments including acquisitions[1]: €1,469 million

Nutrition & Care

The Nutrition & Care segment comprises the Care Chemicals division and the Nutrition & Health division. The segment produces ingredients and solutions for consumer applications such as nutrition and personal care.

- Share of sales: 8%
- R&D expenses: €172 million
- Investments including acquisitions[1]: €654 million

Agricultural Solutions

The Agricultural Solutions segment is an integrated provider of seeds, crop protection and digital technologies and solutions.

- Share of sales: 11%
- R&D expenses: €904 million
- Investments including acquisitions[1]: €347 million

1 Additions to property, plant and equipment and intangible assets

Organization of the BASF Group

We take a differentiated approach to steering our businesses according to market-specific requirements and the competitive environment. We provide a high level of transparency around the results of our segments and show the importance of the Verbund and value chains to our business success. BASF aims to differentiate its businesses from their competitors and establish a high-performance organization to enable BASF to be successful in an increasingly competitive market environment.

The operating divisions, the service units, the regions and the corporate center form the cornerstones of the BASF organization, in line with the corporate strategy. As part of the implementation of our strategy, we streamlined our administration, sharpened the roles of services and regions, and simplified procedures and processes. The organizational realignment created the conditions for greater customer proximity, increased competitiveness and profitable growth.

The divisions bear strategic and operational responsibility here and are organized according to sectors or products. They manage the 50 global and regional business units and develop strategies for 75 strategic business units.

The regional and country units represent BASF locally and support the growth of business units with local proximity to customers. For financial reporting purposes, we organize the regional divisions into four regions: Europe, North America, Asia Pacific, and South America, Africa and Middle East.

Our research is currently divided into three global divisions: Process Research & Chemical Engineering, Advanced Materials & Systems Research and Bioscience Research. To strengthen our innovation capabilities, we will reorganize our global research activities in 2022 and align them even more closely with the needs of our customers. To this end, we will integrate downstream research into the divisions and bundle activities with broad relevance in a research unit. This unit will continue to be globally positioned with research centers in Europe, North America and Asia Pacific.

Five service units provide competitive services for the operating divisions and sites: Global Engineering Services, Global Digital Services, Global Procurement, European Site & Verbund Management, Global Business Services (finance, human resources, environmental protection, health and safety, intellectual property, communications, procurement, supply chain and inhouse consulting services).

Following the bundling of services and resources and the implementation of a wide-ranging digitalization strategy, the number of employees in the Global Business Services unit worldwide will decline by up to 2,000 by the end of 2022 compared with baseline 2019. From 2023 onward, the division expects to achieve annual cost savings of over €200 million.

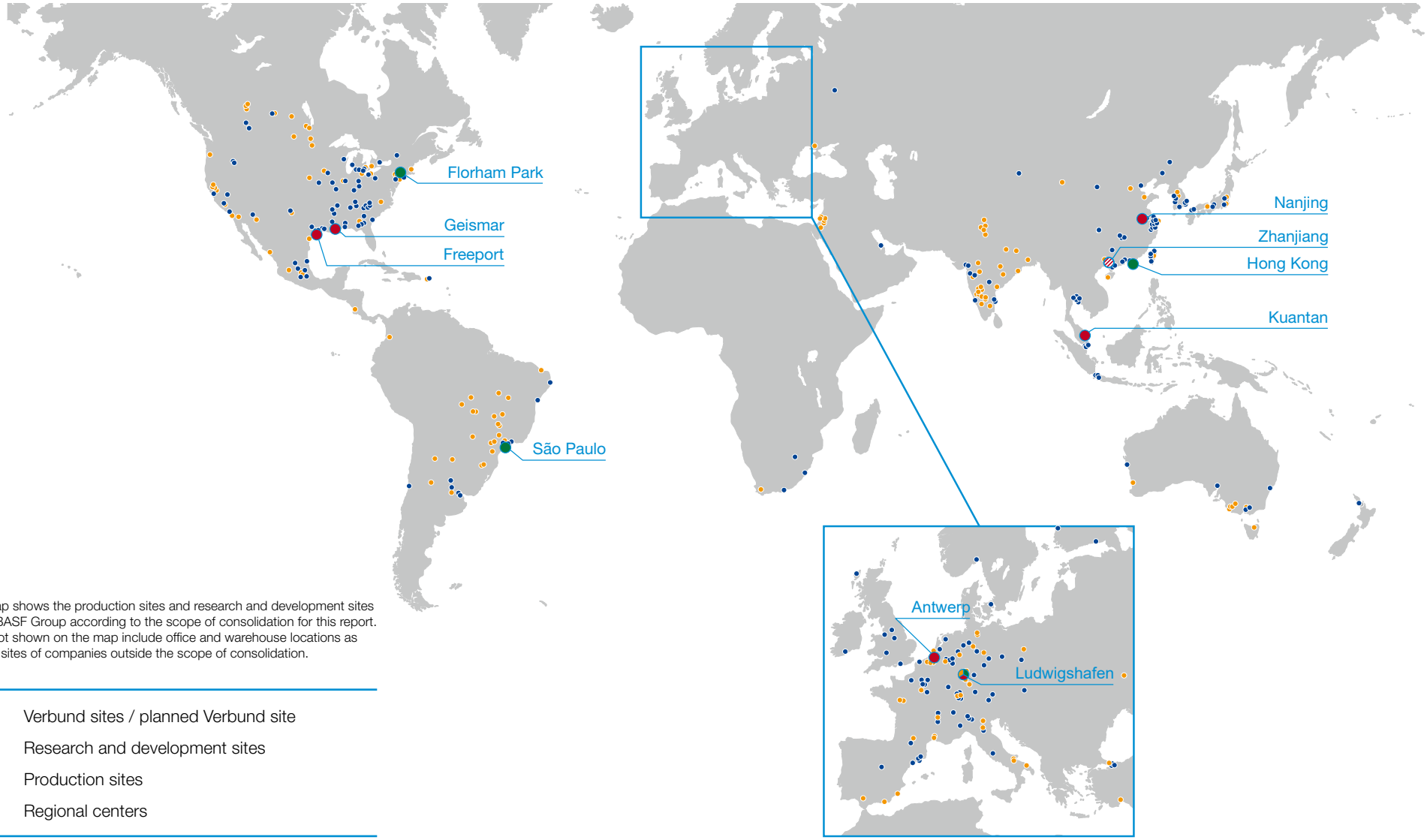
The Corporate Center supports the Board of Executive Directors in steering the company as a whole. These include central tasks from the following areas: strategy, finance and controlling, compliance and law, tax, environmental protection, health and safety, human resources, communications, investor relations and internal audit.

Our Excellence Program aimed to contribute €2 billion to EBITDA annually until the end of 2021 onward compared with baseline 2018. We met this target in 2021. As planned, this was partly due to the reduction of more than 6,000 positions worldwide until the end of 2021. This decrease resulted from the organizational simplification and from efficiency gains in administration, the service units and the operating divisions.

For more information on the products and services offered by the segments, see pages 72, 76, 79, 82, 85 and 88 onward

For more information on the segment structure, see Note 5 to the Consolidated Financial Statements from page 213 onward

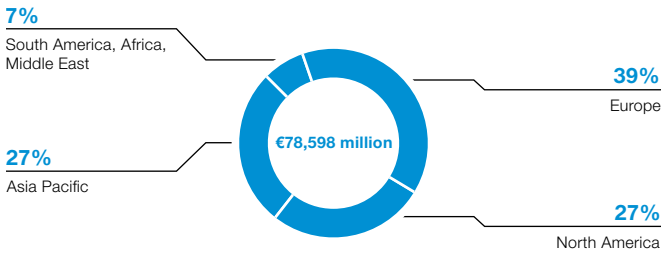
BASF sites



The map shows the production sites and research and development sites of the BASF Group according to the scope of consolidation for this report. Sites not shown on the map include office and warehouse locations as well as sites of companies outside the scope of consolidation.

- Verbund sites / planned Verbund site
- Research and development sites
- Production sites
- Regional centers

BASF sales by region 2021
Location of customer



Procurement and sales markets

BASF supplies products and services to around 90,000 customers[1] from various sectors in almost every country in the world. Our customer portfolio ranges from major global customers and small and medium-sized enterprises to end consumers.

We work with over 70,000 Tier 1 suppliers[2] worldwide. They supply us with important raw materials, chemicals, investment goods and consumables, and perform a range of services. Important raw materials (based on volume) include naphtha, liquid gas, natural gas, benzene and caustic soda.

For more information on customers, see page 28 onward; for more information on suppliers, see page 109 onward

BASF sales by industry 2021
Direct customers

> 20%	Chemicals and plastics | Transportation (respectively)
10%–20%	Agriculture | Consumer goods (respectively)
< 10%	Construction | Electronics | Energy and resources | Health and nutrition (respectively)

Business and competitive environment

BASF's global presence means that it operates in the context of local, regional and global developments and a wide range of conditions. These include:

- Global economic environment
- Legal and political requirements (such as European Union regulations)
- International trade agreements
- Industry standards
- Environmental agreements (such as the E.U. Emissions Trading System)
- Social aspects (such as the U.N. Universal Declaration of Human Rights)

BASF holds one of the top three market positions in around 80% of the business areas in which it is active. Our most important global competitors include Arkema, Bayer, Clariant, Corteva, Covestro, Dow, Dupont, DSM, Evonik, Huntsman, Lanxess, SABIC, Sinopec, Solvay, Sumitomo Chemical, Syngenta, Wanhua and many hundreds of local and regional competitors. We expect competitors from Asia and the Middle East in particular to continue to grow in significance in the years ahead.

Corporate legal structure

As the publicly listed parent company of the BASF Group, BASF SE takes a central position: Directly or indirectly, it holds the shares in the companies belonging to the BASF Group, and is also one of the largest operating companies. The majority of Group companies cover a broad spectrum of our business. In the BASF Group Consolidated Financial Statements, 258 companies including BASF SE are fully consolidated. We consolidate nine joint operations on a proportional basis and account for 27 companies using the equity method.

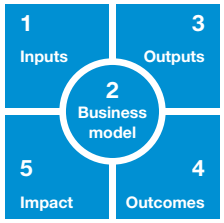
For more information, see Note 2 to the Consolidated Financial Statements from page 205 onward

1 The number of customers refers to all external companies (sold-to parties) that had contracts with the BASF Group in the business year concerned under which sales were generated.
2 BASF considers all direct suppliers of the BASF Group in the business year concerned as Tier 1 suppliers. These are suppliers that provide us with raw materials, investment goods, consumables and services. Suppliers can be natural persons, companies or legal persons under public law.

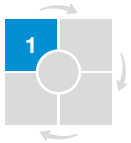
How We Create Value

The following overview provides examples of how we create value for our stakeholders. It is modeled on the framework of the International Integrated Reporting Council (IIRC). The content of the graphic has been audited within the scope of the relevant sections of the Management's Report in which they appear.

Discover the interactive How We Create Value graphic in the BASF Online Report at basf.com/how-we-create-value



Inputs



We use a wide range of resources to implement our customer-focused strategy

Financial

Our aim is to ensure solvency, limit financial risks and optimize the cost of capital.

€87.4 billion
Total assets

48.2%
Equity ratio

Innovation

We develop innovative solutions for and with our customers to expand our leading position.

~10,000
R&D employees

€2.2 billion
R&D expenses

Operations

Safety, quality, and reliability are key to excellence in our production and plant operations.

€3.4 billion
Capex

~60 million MWh
Electricity and steam demand

Environment

We use natural resources to manufacture products and solutions with high value added for our customers.

1.3 million metric tons
Renewable raw materials

1,695 million m^3
Total water usage

Employees

Everything we do is based on the expertise, knowledge, motivation and conduct of our employees.

111,047
Employees around the world

€11.1 billion
Personnel expenses

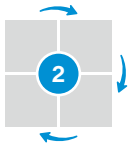
Partnerships

Trust-based relationships are crucial to our license to operate and our reputation.

~280
Research collaborations

>70,000
Suppliers

Business model



We implement our corporate purpose

Corporate purpose

We create chemistry for a sustainable future

Our targets

- Profitable growth
- Effective climate protection
- Product portfolio geared to innovation and sustainability
- Responsible procurement
- Resource-efficient and safe production
- Employee engagement and diversity

How we operate

- Our customers are at the core of our strategy.
- Sustainability and innovation is at the center of everything we do and a driver for growth and value.
- Safety is always our number one priority.
- BASF's Verbund structure is the backbone of our efficient and reliable production.
- Our six segments are aligned with value chains and address customer needs with differentiated solutions and business strategies.
- We have a global, customer-focused presence.
- Effective corporate governance ensures responsible conduct.
- We value our stakeholders and treat them with respect.

Outputs

Financial

€78.6 billion
Sales

€7.8 billion
EBIT before special items

Innovation

~820
New patents worldwide

€24.1 billion
Accelerator sales

Operations

~45,000
Sales products

7.3 million metric tons
CO_2 avoided by the Verbund and combined heat and power generation

Environment

47.0%
Share of our waste recycled or thermally recovered

78.5%
Water demand recirculated

Employees

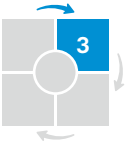
25.6%
Women in leadership positions

82%
Engagement index according to 2020 employee survey

Partnerships

787
Suppliers screened through Together for Sustainability

77
Internal audits on our compliance standards



We focus on material sustainability topics and evaluate the opportunities and risks of our actions

Outcomes[1]

Economic

We make positive contributions by

- Driving forward growth, progress and value creation
- Strengthening our customers' competitiveness and innovative strength
- Accelerating the digital transformation of the industry
- Offering our investors an attractive dividend yield

Potential negative impacts

- Weaker growth stimulus due to the coronavirus pandemic, the ongoing trade conflict between the United States and China, and an escalation of geopolitical conflicts
- A weaker share performance

Our countermeasures

- Disciplined implementation of our corporate strategy
- Active portfolio management
- Systematic cost management
- Optimizing the cost of capital

Environmental

We make positive contributions by creating products that

- Contribute to climate protection
- Conserve resources, avoid waste and strengthen circularity
- Pave the way for climate-friendly mobility
- Are environmentally friendly and safe to use

Negative impacts

- The emission of CO_2 and other gases that affect the climate
- Resource consumption and non-recyclable waste
- Potential misuse or spillage of products

Our countermeasures

- Carbon management
- Circular Economy Program
- Sustainable water and energy management
- Responsible Care management (including product stewardship)

Social

We make positive contributions because we

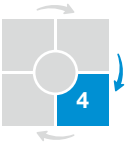
- Offer products that improve people's quality of life
- Provide attractive jobs and promote diversity
- Pay taxes and competitive wages and salaries
- Promote integration and help overcome social challenges

Potential negative impacts

- Risk of violation of labor, environmental and social standards in the production of the raw materials we procure
- Lower demand for employees in some areas

Our countermeasures

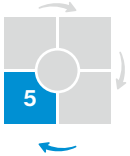
- Careful selection, evaluation and development of suppliers
- Projects to improve sustainability in the supply chains
- Compliance Program and Code of Conduct
- Employee training program



We aim to increase our positive contributions, minimize negative impacts and carefully assess conflicting goals

Impact

We achieve long-term business success by creating value for our shareholders, our company, the environment and society (see page 47 and basf.com/en/value-to-society)



1 The outcomes category shows examples of positive contributions as well as negative impacts and the measures we take to mitigate them.

Our Strategy

GRI 102

Chemistry is our passion. As an industry leader, we want to be the most attractive partner for challenges that can be solved with chemistry. That is why our customers are at the center of everything we do. We want to grow profitably and at the same time, create value for society and the environment. We help to change the world for the better with our expertise, our innovative and entrepreneurial spirit, and the power of our Verbund integration. This is our goal, embedded in our corporate purpose: We create chemistry for a sustainable future.

In this section:

Strategic Action Areas
Values and Global Standards
Business Models of the Segments
Targets and Target Achievement 2021
Investments and Portfolio Measures
Steering Concept
Sustainability Concept
Innovation

The world is changing at a rapid pace – more and more urgently than ever, solutions are needed for a more sustainable future. Chemistry plays a key role here. In almost all areas of life, it can help overcome pressing **global challenges** with innovative products and technologies – from climate change and using resources more sparingly to feeding the world's population. This belief is expressed in our corporate purpose and is what motivates us day in and day out: We create chemistry for a sustainable future.

Our corporate purpose

We create chemistry for a sustainable future

Our mission and motivation is to grow profitably and make a positive contribution to society and the environment. For example, BASF's solutions contribute to climate protection and help to prevent or recycle waste, produce healthy and affordable food, and enable climate-smart mobility.

At the same time, as an energy and resource-intensive company, we are facing what is probably the biggest **transformation** in our over 150-year history: The shift toward a carbon-neutral and circular economy and the associated landmarks such as the European Green Deal demand from us new concepts and approaches – for the way we produce, for our raw material base and for our energy supply.

We also see these disruptive changes as an opportunity. As the world's largest chemical company, we want to lead the way and **actively and responsibly shape the change**. That is why we are gradually switching our energy and raw material supplies to renewable sources. We are strengthening our Verbund structure as the basis for resource-efficient, safe and reliable production. We are developing pioneering low-carbon production processes for our products. We are accelerating our innovation processes and deepening cooperation with partners to develop high-performance products that also require fewer resources and have a lower carbon footprint. We are harnessing the many opportunities of digitalization. We are systematically aligning our portfolio with growth areas and future technologies, and are integrating sustainability into our value chains even more strongly. We create a working environment in which our employees can thrive and contribute to BASF's long-term success. This is how we live our corporate purpose.

For more information on our strategic action areas, see page 28 onward

Good to know

Net Zero Accelerator

The new Net Zero Accelerator unit started work on January 1, 2022. It bundles the extensive cross-company activities with which we want to achieve our ambitious climate protection targets. The unit will initially have around 80 employees and report directly to the Chairman of the Board of Executive Directors. It will focus on accelerating and implementing projects relating to low-CO_2 production technologies, circular economy and renewable energies – driving forward BASF's transformation to a climate-neutral company. In parallel, our operating divisions will continue to work on divisional-specific carbon reduction projects.

For more information on climate neutrality, see pages 27 and 126 to 132

Renewable energy is a central building block on BASF's journey to climate neutrality. To enable us to meet our growing demand in the future, we are gradually switching our supply agreements to green power and investing in our own plants. Find out more about how we are driving forward the transformation of our energy supply in the online report at report.basf.com.

In focus:

Our Journey to Climate Neutrality

Climate change is the greatest challenge of the 21st century. Swift and resolute action is needed to ensure that the targets agreed in the Paris Climate Agreement can be achieved. We stand by this responsibility. In many areas, products and innovations based on chemistry are the key to a climate-neutral future. At the same time, we are working intensively to significantly reduce the carbon footprint of our production and thus of our products.

Our target: net zero emissions by 2050. We have set ourselves an ambitious milestone on this path. By 2030, we want to reduce the greenhouse gas emissions from our production sites and our energy purchases by 25% compared with 2018 – while growing production volumes. This corresponds to a decrease of around 60% compared with 1990. We are intensely pursuing our climate protection targets with investments of up to €4 billion by 2030. Our focus here is on **five strategic levers**: We are increasingly meeting our energy needs from renewable sources (gray-to-green lever). We are increasingly relying on energy recovery to produce steam (power-to-steam lever). We are working to further improve the energy and process efficiency of our plants (continuous opex lever). We are increasingly replacing fossil resources with bio-based raw materials (bio-based feedstocks lever). And together with partners, we are pioneering nearly carbon-free production processes, especially for emission-intensive basic chemicals (new technologies lever).

We want to play an active and responsible role in shaping the transition toward a climate-neutral society. This calls for new ways of thinking and working together. And it needs a political and **regulatory environment** that promotes innovation in climate protection, makes it possible to develop new, climate-smart processes that are competitive internationally and, above all, resolutely drives forward the expansion of renewable energies – including through the appropriate land use designations, rapid planning and approval procedures and the swift expansion of grid infrastructure.

One thing is clear: The transformation will require significantly more energy from renewable sources. Initial estimates suggest that at the Ludwigshafen site in Germany alone, we would need to roughly triple or quadruple our current electricity use (2021: 6.0 TWh) to fully implement new, low-carbon electricity-based production processes. To meet this demand, we are investing in our own power assets, especially for wind power, and are increasingly buying green electricity on the market (make & buy approach).

Also critical to success are **prices for renewable energy**. Substituting fossil fuels is only economically feasible at production costs of 4 to 5 cents/kWh. Consequently, there is an urgent need to expand supply and reduce the levies and fees on electricity prices. In addition, globally comparable carbon pricing – or at least at G20 level – is needed to ensure that climate-friendly processes are competitive internationally.

For more information on energy and climate protection, see page 126 onward

For more information on raw materials, see page 112 onward

Our global climate protection targets

–25%

Reduction in our greenhouse gas emissions by 2030 compared with 2018 (Scope 1 and 2)

Net zero

Greenhouse gas emissions by 2050 (Scope 1 and 2)

Our Strategic Action Areas

Our **customers are our number one priority** and are at the heart of our strategy. We want to be their most attractive partner for challenges that can be solved with chemistry. BASF supplies products and services to around 90,000 customers[1] from almost all sectors and countries around the world. Our customer portfolio ranges from major global customers and small and medium-sized enterprises to end consumers. Our comprehensive product portfolio means that we are active in many value chains and value creation networks. We use various business strategies, which we adapt to the needs of individual industries and markets. These range from cost leadership in basic chemicals to tailored system solutions for specific customer applications.

Selected awards

- Ford: World Excellence Award
- Dulux: Supplier of the Year Award
- 3M: Supplier of the Year Award

We continue to drive forward our customer focus. We have refined our organizational structure to enable our operating divisions to flexibly address specific market requirements and differentiate themselves from the competition.

We are also improving our customer relationships with a range of measures. For example, since 2019 we have been using the Net Promoter System® worldwide to systematically record and optimize our problem-solving skills, product quality and delivery reliability based on direct customer feedback. We have been using a new IT-based customer relationship management system, Salesforce, since 2020. The application helps our sales employees to provide customer support and simplifies their work. Above and beyond this, we have intensified cooperation with our customers to leverage innovation and growth potential together with them. For instance, we established interdisciplinary teams in our business units to even better and more quickly address the needs of our most important customers.

BASF's strategic orientation is founded on a comprehensive analysis of our markets and competitors. We continuously monitor global trends and anticipate the resulting growth opportunities and risks. The following six strategic focus areas enable us to focus on our customers while strengthening our leading position in an increasingly volatile and competitive environment.

Innovation

Innovation is the bedrock of our success. BASF is a leader in the chemical industry with around 10,000 employees in research and development and R&D spending of around €2.2 billion. We are expanding this position by strengthening specific research activities, for example in battery materials, polymer technologies, catalyst processes or biotechnological methods. In addition, we are bringing research and development even closer together, incorporating our customers' requirements into our innovation processes even earlier and more intensively, and expanding cooperation with customers, universities, research institutions and other partners. To further strengthen our innovation power, we will reorganize our global research activities in 2022 and bundle them in a global research unit based in Ludwigshafen, Germany.

Our **innovation pipeline** is geared to sustainability – especially climate protection and the circular economy. This lays the foundation for future growth: We are working intensively on fundamental innovations for products, processes and business models, for example in the chemical recycling of plastics, battery and catalyst technologies, low-carbon production of basic chemicals, and digital,

Good to know

The virtual car

The automotive industry is one of our most important customer sectors. In February 2021, we launched an interactive platform that showcases BASF's wide range of solutions and innovation expertise in mobility: Customers can explore over 500 application areas in a new virtual car – from high-performance plastics and coatings to automotive fluids, catalysts, cathode materials and more. Detailed information is provided on all products and solutions. The virtual car offers a selection of different powertrain technologies: combustion engine, plug-in hybrid, battery electric vehicle and fuel cell vehicle. E-mobility solutions can also be filtered by material properties such as battery efficiency, corrosion protection or thermal protection.

Discover the virtual car at basf-vcar.com

1 The number of customers refers to all external companies (sold-to parties) that had contracts with the BASF Group in the business year concerned under which sales were generated.

more environmentally friendly agriculture. At the same time, we are driving forward product improvements in all business units that offer our customers sustainability and competitive advantages, such as in lightweight construction and surface solutions for the automotive industry, bio-based and biodegradable active ingredients for the cosmetics, detergent and cleaner industries, and energy-efficient building materials.

For more information on innovation, see page 49 onward

Sustainability

We believe that the economy, environment and society are inextricably linked and interrelated. We want to create value in all three areas with our products, solutions and technologies. We pledged our commitment to sustainability in 1994 and since then, have systematically aligned our activities with the principles of sustainability. We want to further strengthen our position as a thought leader in sustainability. We see sustainability as an integral part of our strategy as well as our targets, steering processes and business models. This establishes us as a responsible and attractive partner supporting our customers, opens up new growth areas and secures the long-term success of our company. Our approach covers the entire value chain – from responsible procurement and safety and resource efficiency in production to sustainable solutions for our customers.

Since 1990, we have almost halved our **carbon emissions** while simultaneously doubling sales product volumes. By 2030, we want to reduce[1] our absolute CO_2 emissions by 25% compared with 2018 and will invest up to €4 billion to this end. By 2050, we aim to achieve net zero emissions from our production sites and our energy purchases. We are pursuing ambitious climate protection targets with our carbon management. This comprises five strategic levers that we are systematically driving forward to reduce our greenhouse gas emissions (see page 27). To increase the share of renewables in our energy supply, for instance, we entered into pioneering cooperation agreements in 2021. For example, we hold a share in the Hollandse Kust Zuid offshore wind farm, which Vattenfall expects to commission in 2023. Together with RWE, we are developing a project concept for an offshore wind farm in the North Sea. In addition, we have signed long-term purchase agreements for renewable energy with suppliers such as Ørsted and Engie.

Another focus is our product portfolio. We already met our 2025 target of generating Accelerator sales of €22 billion in 2021. In the future, we want to align our product portfolio even more strongly with climate protection, carbon neutrality and circularity in order to meet the growing sustainability demands in our markets with innovative solutions. Consequently, we will update our product portfolio steering target in 2022.

For more information on energy and climate protection, see page 126 onward
For more information on circular economy, see pages 44 and 142
For more information on Accelerator products und Sustainable Solution Steering, see pages 45 and 141

Production

Our core business is the production and processing of chemicals. Our strength here lies – both now and in the future – in the **Verbund** and its integrated value chains. The Verbund offers us many technological, market, production-related and digital advantages. Our comprehensive product portfolio, which ranges from basic chemicals to tailored system solutions, enables us to meet the increasingly diverse needs of our customers with a differentiated offering. This is complemented by our global presence, coupled with our many decades of experience, which have allowed us to develop an in-depth understanding of the needs and landscape of local markets.

Our integrated Verbund structure enables efficient, reliable and carbon-optimized steering of our production activities. In 2021, for example, we avoided 7.3 million metric tons of CO_2 worldwide through the intelligent networking of our plants and combined heat and power generation.

We plan to invest €25.6 billion worldwide between now and 2026 to expand capacities based on market demand and to further increase the availability, efficiency and flexibility of our plants. Our aim here is to be close to our customers and to grow together with them.

For more information on our production sites and the Verbund structure, see page 20

Digitalization

We want to leverage the diverse growth potential of digitalization and seize the associated opportunities to the benefit of our customers. To achieve this, we promote digital skills among our employees, cooperate with partners and make **digital technologies and ways of working** an integral part of our business. For example, we had introduced augmented reality solutions at 340 plants worldwide as of the end of 2021. We plan to implement these at more than 80 other plants by the end of 2022.

Digitalizing our plants and systematically analyzing data enables us to further automate processes and in this way, increase the capacity, availability and efficiency of our plants, for example with predictive maintenance. Linking data from different sources and using artificial intelligence for smart data analysis opens up numerous opportunities for us to manage our business more efficiently and improve our processes, for example in logistics.

The combination of products, services and digital offerings also opens up new business models and advantages for our customers, such as in agriculture or 3D printing. In addition, digitalization enables us to further strengthen our innovative power. BASF has one of the most powerful supercomputers in the chemical industry – Quriosity. It can be used to significantly accelerate complex computational processes such as the simulation of molecules, enabling new chemical products to be developed more quickly, for example. At the same time, we are already working on groundbreaking technologies such as quantum computing, including as a founding

1 In March 2021, we replaced our previous target of CO_2-neutral growth until 2030 (baseline 2018: 21.9 million metric tons of CO_2e) with a new, more ambitious climate protection target to reduce absolute CO_2 emissions by 25% compared with 2018 (new target: 16.4 million metric tons of CO_2e).

member of the Quantum Technology and Application Consortium (QUTAC) industry consortium launched in 2021.

For more information on digitalization in production, see page 119

Portfolio

The **acquisitions and divestitures** made in the past few years have oriented our portfolio even more strongly toward innovation-driven growth areas. In 2021, we successfully integrated the polyamide business acquired from Solvay, further strengthening our position in engineering plastics. We closed the divestiture of our pigments business to the fine chemicals company DIC as planned in the first half of 2021. The sale of our shareholding in Solenis to Platinum Equity was also completed as planned in November 2021. We intend to close the divestiture of our kaolin minerals business to KaMin, announced in November 2021, in the second half of 2022, subject to the approval of the relevant merger control authorities.

We steer our six segments along our value chains. Our operating divisions drive forward our industry and customer orientation with differentiated strategies.

The Asian market will play a key role in our future growth. With a share of more than 45%, **China** is already the world's largest chemical market and will be an even stronger driver of growth in global chemical production in the future. Our strong innovation, production and sales base in Asia, and in particular in China, enables us to respond to the needs of our customers in a differentiated way. To further strengthen our position in this dynamic growth market, we plan to build a second Verbund site in China, in Zhanjiang in the southern Chinese province of Guangdong. Construction on the first plants continued as planned in 2021. They are scheduled for startup in 2022. We will also expand the Verbund site we operate together with Sinopec in Nanjing, China, by 2023. This investment includes new production plants for selected products in the Petrochemicals and Intermediates divisions.

We are expanding our **battery materials business** with further investments and strategic partnerships and are developing innovative recycling concepts, in particular to supply the fast-growing global e-mobility market with sustainable solutions. We are currently building a precursor plant for cathode active materials[1] in Harjavalta, Finland, and a production plant for cathode materials[2] in Schwarzheide, Germany. Both plants are scheduled for startup in 2022. In Schwarzheide, we are also building a prototype plant for battery recycling, which is expected to start up in 2023.[2] We also reached another important milestone in the development of a global value chain for battery materials with the formation of BASF Shanshan Battery Materials Co., Ltd. in China at the end of August 2021. With production facilities in all key regions and a global capacity of 160 metric kilotons of cathode materials from 2022 onward, we are able to serve cell manufacturers and OEM customers in all relevant markets with tailored and sustainable solutions. We also entered into a number of cooperative agreements in 2021, including with battery cell manufacturers such as CATL and SVOLT and automotive manufacturers such as Porsche. The aim is to jointly drive forward the development of innovative cathode materials and recycling technologies.

The transition to electromobility is leading to fundamental changes in the automotive industry. As a leading chemical supplier to the automotive industry, we will further strengthen our focus on battery materials and battery recycling. To this end, in January 2022, we started the carve-out process for our mobile emissions catalysts business, automotive catalysts recycling and the associated precious metal services unit. The new, standalone organizational structure prepares the business for the upcoming changes in the internal combustion engine market.

For more information on material investments and portfolio measures, see page 38 onward

Employees

Our employees are key to BASF's success. That is why we believe that it is important to have an inspiring working environment that fosters and develops employees' individual talents and enables them and their teams to perform at their best. We are pursuing three action areas to make our high-performance organization even more so: empowerment, differentiation and simplification. At the same time, we encourage and promote a leadership culture that empowers our employees to respond to customer needs quickly and efficiently with a solution orientation. We value diversity in people, opinions and experience as being crucial to creativity and innovation. We embrace bold ideas, help our employees to implement them and learn from setbacks. It is founded on an open feedback and leadership culture based on mutual trust, respect and dedication to top performance.

For more information on employees, see page 97 onward

1 The investment in Finland is co-financed by Business Finland, the Finnish government organization for innovation funding and trade, travel and investment promotion.
2 Our investment and research activities in Schwarzheide and Ludwigshafen, Germany, receive funding from the German Federal Ministry for Economic Affairs and Climate Action and the Ministry for Economic Affairs, Labor and Energy of the German state of Brandenburg under the IPCEI on Batteries (funding code 16BZF101A/B).

Our Values and Global Standards

How we act is critical to the successful implementation of our strategy and how our stakeholders perceive us. This is what our four corporate values represent: creative, open, responsible, entrepreneurial (CORE). They are binding for all employees worldwide. Together with our Code of Conduct and our global standards and guidelines, they provide the framework for responsible conduct.

Our CORE values define how we want to work together – as a team, with our customers and our partners.

Creative: We make great products and solutions for our customers. This is why we embrace bold ideas and give them space to grow. We act with optimism and inspire one another.

Open: We value diversity, in people, opinions and experience. This is why we foster feedback based on honesty, respect and mutual trust. We learn from setbacks.

Responsible: We value the health and safety of people above all else. We make sustainability part of every decision. We are committed to strict compliance and environmental standards.

Entrepreneurial: We focus on our customers, as individuals and as a company. We seize opportunities and think ahead. We take ownership and embrace personal accountability.

Our standards fulfill and in some cases, exceed existing laws and regulations and take internationally recognized principles into account. We respect and promote:

- The 10 principles of the U.N. Global Compact
- The Universal Declaration of Human Rights and the two U.N. Human Rights Covenants
- The core labor standards of the ILO and the Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy (MNE Declaration)
- The OECD Guidelines for Multinational Enterprises
- The Responsible Care® Global Charter
- The German Corporate Governance Code

We stipulate binding rules for our employees with standards that apply throughout the Group. We set ourselves ambitious goals with voluntary commitments and regularly monitor our performance in environmental protection, health and safety with our Responsible Care Management System. We mainly approach our adherence to international labor and social standards using three elements: the Compliance Program including our Code of Conduct and compliance hotlines, close dialog with our stakeholders, and the global management process to respect international labor norms. Our business partners are expected to comply with prevailing laws and regulations and to align their actions with internationally recognized principles. We have established appropriate monitoring systems to ensure this.

For more information on the Responsible Care Management System, see page 117 onward
For more information on compliance, see page 171 onward
For more information on stakeholder engagement, see pages 47 and 106
For more information on our expectations of our suppliers, see page 109 onward

Good to know

CORE Leadership Values

Leaders have a special responsibility for our success, especially in challenging and changing times. Good leadership provides support and is vital to our employees' motivation and performance. That is why we have derived specific leadership skills from each CORE corporate value – our CORE Leadership Values. They serve as guiding principles and describe our expectations of leadership behavior – such as living optimism, inspiring teams, promoting diversity and making even difficult decisions.

We support our leaders at every stage of their careers in fulfilling their responsibilities and acting as role models. One component of this is the CORE Leadership Upskilling program launched in 2021. It comprises a range of virtual training modules and learning resources that encourage self-reflection and provide opportunities for global dialog.

For more information on what we expect from our leaders, see page 98

BASF is conducting research globally on innovative battery materials. Kathrin Michel's team, for example, is looking at how charging times can be shortened, ranges increased and battery life improved. Find out more about how BASF is contributing to climate-smart mobility in the online report at report.basf.com.

In focus:

Global Trends and Growth Opportunities for BASF

It is important for us to understand which global trends will shape the future. On this basis, we can identify opportunities, align our strategies and operations, monitor risks and create value added for our stakeholders.

The **transition to a climate-neutral society** is the greatest challenge of the coming decades. Many of our products and technologies are key to this transformation. For example, we are developing innovative battery materials, lightweight materials, and additives for climate-smart mobility. Catalysts and other emission control technologies from BASF reduce emissions in many applications. Materials from BASF make buildings more energy efficient and generating power from wind and solar energy possible. We help farmers reduce carbon emissions with our integrated offering of seeds, crop protection and digital solutions. We are continuously expanding our portfolio of climate protection products. At the same time, we are working hard to significantly reduce the carbon footprint of our production and our products in our carbon management.

Population growth and rising prosperity will increase demand for food, household and personal care products, drugs, clothing and much more. At the same time, consumer behavior is changing. Sustainability aspects are playing an increasingly important role in our value chains. Our innovative solutions for agriculture enable higher yields from the same land area, contributing to a food supply that meets diverse economic, environmental and social requirements. We offer food and feed manufacturers and customers in the pharmaceutical, cosmetics, detergents and cleaners industries a product portfolio focused on sustainability, which we are continually expanding with bio-based and biodegradable solutions.

Growing **resource scarcity** means that resources and materials must be used responsibly. We develop and market innovative technologies and products in a wide variety of areas to keep recyclable materials in circulation for as long as possible. Going forward, we will align our business models, products and processes even more strongly with the circular economy. For example, we are driving forward the chemical recycling of plastics and improving mechanical recycling with new products and technologies. Other action areas include the use of renewable and recycled raw materials and the recovery of metals from spent batteries and catalytic converters.

Digitalization and connectivity offer many opportunities to optimize our processes: maintenance work can be planned in advance, innovation processes accelerated or logistics concepts and customer relationships improved. In addition, new business models are opening up, for example in agriculture or with products for the electronics and semiconductor industries.

In the **emerging countries of Asia and South America**, we have an innovation, production and sales base that has grown over several decades. We are strengthening this position with further investments.

Business Models of the Segments

Markets and consumer behavior are moving faster than ever, presenting our customers from a variety of industries and regions with a wide range of challenges. These include managing limited natural resources amid rising demand and the trend toward sustainable products. Our segments' business models help to solve these challenges and show how we implement our corporate strategy in practical terms.

Chemicals

The Chemicals segment is at the heart of the Verbund. It reliably supplies BASF's other segments with chemicals to produce higher value-added products. It also markets high-quality basic chemicals and intermediates to customers in downstream industries. In this way, the Chemicals segment makes a significant contribution to BASF's organic growth.

We create value through process and product innovation and invest in research and development to implement new, sustainable technologies and make our existing technologies even more efficient. Technological leadership, operational excellence and a clear focus on individual value chains are among our most important competitive advantages. We concentrate on the critical **success factors of the traditional chemicals business**: leveraging economies of scale and the advantages of our Verbund, high asset reliability, continuous optimization of access to raw materials, lean and energy efficient processes, and reliable, cost-effective logistics. We continuously improve our value chains and are expanding our market position – especially in Asia – with investments and collaborations in growth markets.

Furthermore, we are constantly improving our **global production structures** and aligning these with regional market requirements. For example, we closed a production plant for butanediol in Kuantan, Malaysia, in 2021. We also plan to expand our 2-ethylhexanoic acid plant there, which is scheduled for startup in 2024.

Strategic alignment of the segments

	Chemicals	Materials	Industrial Solutions	Surface Technologies	Nutrition & Care	Agricultural Solutions
Verbund synergies	Catalysis					
	Process technology					
		Automotive industry				
	Recycling and renewable raw materials					
					Biosciences	
		Formulation				
	Digitalization and artificial intelligence					
Strategic focus	Economies of scale in basic chemicals and intermediates	High-performance plastics	Additives platform	Surface technology platform	Ingredients for consumer products	Connected offer across technologies for farmers
Innovation and sustainability focus	Improved and new processes	Applications, recycled and bio-based materials	Polymer dispersions, resins	Battery materials, coatings	Biotechnology, natural active ingredients, formulations	Active ingredients, seeds and traits, digital solutions

Materials

The Materials segment develops new plastics applications, high-performance materials, systems and digital solutions. Our product portfolio is unique in the industry. We aim to grow mainly organically by differentiating ourselves from our competitors with our **systems-oriented application expertise and industry knowledge**, and creating maximum value in our isocyanate and polyamide value chains. Our **advanced material simulation capabilities** are a unique selling proposition in the industry and enable us to operate close to our customers.

Additional differentiators are our products that contribute to the **circular economy** and our more sustainable production processes. BASF is active in substantial parts of plastic value chains, from monomers to polymers and their formulated specialties. Combined with our specific technology knowledge, this offers us the unique ability to shape and close cycles ourselves. One concrete example is our pilot projects for recycling used mattresses: Based on a wet chemical process developed by BASF, precursors recovered from old mattresses can be used to produce new mattress-sized blocks of flexible polyurethane foam. Other examples include our ChemCycling™ project, biomass balanced products and certified

compostable bioplastics. This also enables us to meet growing customer needs in all key markets.

Tailor-made service and product offerings enable us to continuously expand the range of applications in our portfolio. We operate close to our customers with our global production network.

Industrial Solutions

The Industrial Solutions segment markets and develops ingredients and additives for industrial applications. These include fuel and lubricant solutions, ingredients for paints and coatings, electronic materials and plastic additives. We concentrate on research and development and invest in the creation of innovations with the aim of enabling **more efficient resource use**. This is why we develop more sustainable products and processes, for example, in polymer dispersions, resins and plastic additives, and enable our customers to contribute to sustainability through their applications and processes. Other focus areas are efficient production setups, backward integration in our Production Verbund's value chains, capacity management, and technology and cost leadership.

Our global presence enables us to operate close to our customers and their industries. As a reliable partner, we offer high-quality products at good value. We work on new solutions together with our customers and strive for long-term partnerships that create **profitable growth opportunities** for both parties. To achieve this, we draw on our innovative strength and our many years of experience and in-depth industry expertise. Through our in-depth application knowledge and technological innovations, we strengthen customer relationships in key industries such as the automotive, plastics and electronics industries.

Surface Technologies

In the Surface Technologies segment, our focus is on the protection, modification and development of surfaces. We develop innovative products and technologies in close collaboration with our customers from the catalysts, coatings and battery materials sectors. We also offer precious and base metal as well as surface treatment services. Our aim is to drive growth by leveraging our portfolio of technologies to find the best solution for our customers in terms of functionality and cost. This in turn helps our customers to drive forward innovation in their industries and contribute to sustainable development.

Key growth drivers for us are the **positive medium-term development** of the automotive market, especially in Asia, the trend toward sustainable, low-emission mobility, and the associated rise in demand for **battery materials for electromobility**. Together with our customers, we are developing customized, more sustainable solutions in these growth areas for battery materials, emission control, recycling and functional coatings. Our specialties and system solutions in these areas enable customers to stand out from their competition.

The above trends mean that the automotive industry is currently undergoing a fundamental transformation. As one of the largest chemicals suppliers to this industry, we will, as announced in December 2021, further strengthen our focus on battery materials and recycling and pursue an ambitious growth plan. We will also establish a new entity (BASF Automotive Catalysts and Recycling) within the Catalysts division for mobile emissions catalysts, automotive catalysts recycling and associated precious metal services. The carve-out process started in January 2022. The new organizational structure will prepare the business for the upcoming changes in the internal combustion engine market and allow for future strategic options.

Nutrition & Care

In the Nutrition & Care segment, we strive to expand our position as a leading provider of nutrition and care ingredients for consumer applications. We aim to enhance our capabilities in areas such as biotechnology and broaden our portfolio with **bio-based and biodegradable products**. In this connection, BASF has entered into partnerships to further strengthen its position in the bio-based surfactants and actives market. One example is the technology cooperation with Holiferm Ltd, Manchester, United Kingdom. The focus here is on the development of fermentatively accessible glycolipids for home and personal care and industrial formulator applications.

Our **enzymes business** enables us to pursue a targeted, accelerated marketing strategy and expand our portfolio for natural and biotechnological products. Furthermore, we are investing in natural and biological substances. BASF's biopharma business supports the biopharmaceutical industry by supplying the raw materials used to produce biological drugs.

In addition, acquisitions complement our focus on emerging markets, new business models and sustainability trends in consumer markets. **Future growth in our markets** will be driven by trends like growing consumer awareness and the resulting demand for sustainable product solutions, natural and organic ingredients and their traceability. Moreover, the shift toward individualization and local production supports new players and business models. Digitalization, a focused technology and product portfolio, and close cooperation with our customers is crucial to meeting these dynamic market requirements both now and in the future.

Agricultural Solutions

Farming is fundamental given that by 2050, the world's population is expected to increase by two billion people.[1] In the Agricultural Solutions segment, we believe that the way forward for agriculture is to find the right balance and create value for the environment, society and business. While the demand for food, feed, fiber and energy is growing, natural resources are limited. **Agriculture** is a key enabler in providing enough healthy, affordable food and responding to changing consumer behavior while reducing the impact on the environment.

1 Source: U.N. World Population Prospects 2019

As one of the world's leading agricultural solutions companies, we are committed to making a positive impact on sustainable agriculture and food systems. Our **innovation-driven strategy** for agriculture focuses on selected crops and their appropriate cultivation systems in specific regions. We integrate sustainability criteria into all business and portfolio decisions. In doing so, we help farmers achieve better yield – yield that is produced in ways that are recognized as valuable by society, are kind to the planet and enable farmers to produce economically.

We leverage our expertise in research and development and our deep understanding of the way individual growers manage their farms to provide **offers across technologies**. These include novel solutions for seeds, traits, crop protection and digital products, which we link intelligently. This enables us to offer farmers solutions tailored to their region and crop systems to safeguard yields, mitigate risks and fulfill societal requirements.

Targets and Target Achievement 2021

Business success tomorrow means creating value for the environment, society and business. That is why we have set ourselves ambitious targets along our entire value chain. We report transparently on our target achievement so that our stakeholders can track our progress. In order to **grow profitably**, we want to grow sales volumes faster than global chemical production, further increase our profitability, achieve a return on capital employed (ROCE) considerably above the cost of capital percentage and increase the dividend per share every year based on a strong free cash flow.

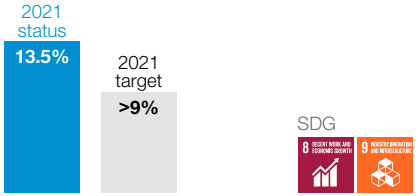
We also pursue broad **sustainability targets**. In this context, we significantly raised our CO_2 reduction target in 2021.[2] We want to strengthen the sustainability focus of our product portfolio and will update our portfolio steering targets in 2022.[3] We also strive to strengthen the sustainability of our supply chains and use resources responsibly. We want to further improve safety in production. In addition, we aim to promote diversity within the company and create a working environment in which our employees feel that they can thrive and perform at their best.

The objective of these targets is to steer our business into a sustainable future, and at the same time, contribute to the implementation of the United Nations' Sustainable Development Goals (SDGs). We are focusing on issues where we as a company can make a significant contribution, such as climate protection, sustainable consumption and production, and fighting hunger.

For more information on financial indicators, see page 52 onward

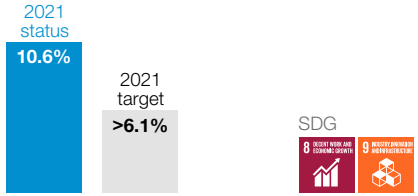
For more information on sustainability along the value chain, see page 96 onward

Profitable growth



Most important key performance indicator

Achieve a **return on capital employed (ROCE)** considerably above the cost of capital percentage every year

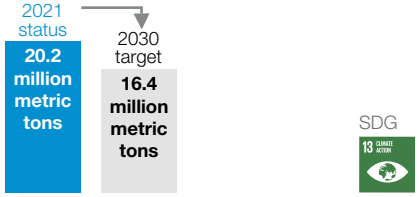


Grow **sales volumes** faster than global chemical production every year

Increase **EBITDA before special items** by 3%–5% per year

Increase the **dividend per share** every year based on a strong free cash flow

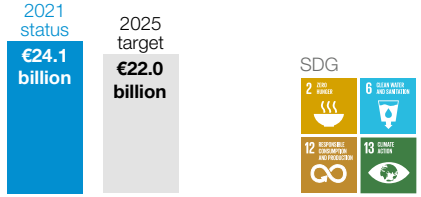
Effective climate protection



Most important key performance indicator

Reduce our absolute **CO_2 emissions[2]** by 25% by 2030

Sustainable product portfolio



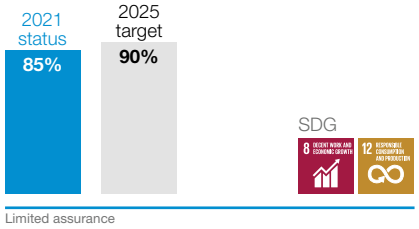
Most important key performance indicator

Achieve €22 billion in **Accelerator sales** by 2025[3]

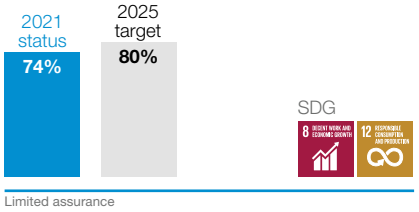
Reduction target

1 Dividend proposed by the Board of Executive Directors
2 Includes Scope 1 and Scope 2 emissions. In March 2021, we replaced our previous target of CO_2-neutral growth until 2030 (baseline 2018: 21.9 million metric tons of CO_2e) with a new, more ambitious climate protection target to reduce absolute CO_2 emissions by 25% compared with 2018 (new target: 16.4 million metric tons of CO_2e).
3 We already reached our 2025 sales target for Accelerator products in 2021. Consequently, we will update our product portfolio steering target over the course of 2022.

Responsible procurement

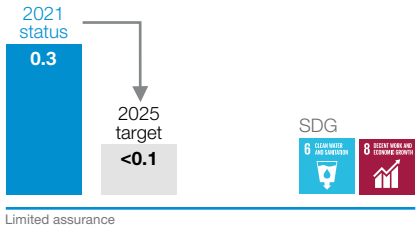


Cover 90% of our relevant spend with **sustainability evaluations** by 2025

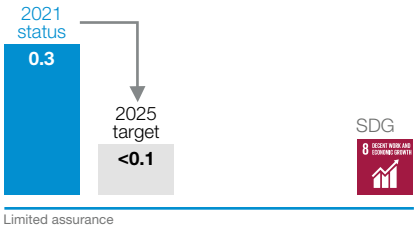


Have 80% of our suppliers improve their **sustainability performance** upon re-evaluation

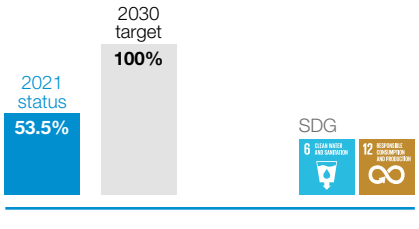
Resource efficiency and safe production



Reduce worldwide **process safety incidents** per 200,000 working hours to ≤0.1 by 2025

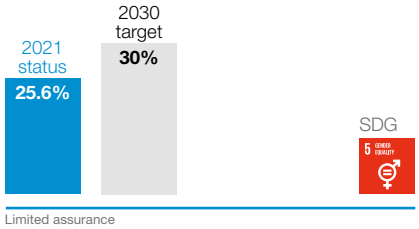


Reduce the worldwide **lost-time injury rate** per 200,000 working hours to ≤0.1 by 2025

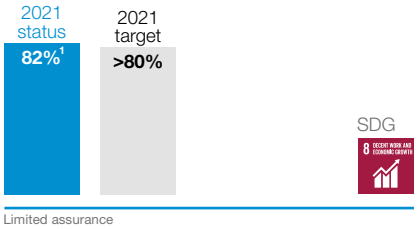


Introduce **sustainable water management** at our production sites in water stress areas and at our Verbund sites by 2030

Employee engagement and diversity



Increase the proportion of **women in leadership positions** with disciplinary responsibility to 30% by 2030



More than 80% of our **employees** feel that at BASF, they can thrive and perform at their best

Reduction target

1 We regularly calculate the employee engagement level. The most recent survey was conducted in 2020. The next survey is planned for spring 2022.

Material Investments and Portfolio Measures

In addition to innovations, investments make a decisive contribution toward achieving our ambitious growth and climate protection goals. We use targeted acquisitions to supplement our organic growth. Our focus is on innovation-driven growth areas and sustainable technologies.

At a glance

€3.4 billion
Capex[1] in 2021

€25.6 billion
Capex planned for 2022 to 2026

By investing in our plants, we create the conditions for the profitable growth we strive for and continuously improve the efficiency of existing production processes. Investments in new technologies and in the transformation of our energy supply will help to achieve our growth targets and our ambitious climate targets. For the period from 2022 to 2026, we are planning capital expenditures (capex)[1] totaling €25.6 billion, including €12.9 billion for our major growth projects.[2]

For more information on our investments from 2022 onward, see page 150

Investments and acquisitions 2021
Million €

	Investments	Acquisitions	Total
Intangible assets	78	392	470
of which goodwill	–	254	254
Property, plant and equipment[a]	4,078	332	4,410
Total	**4,156**	**725**	**4,881**

a Including restoration obligations, IT investments and right-of-use assets arising from leases

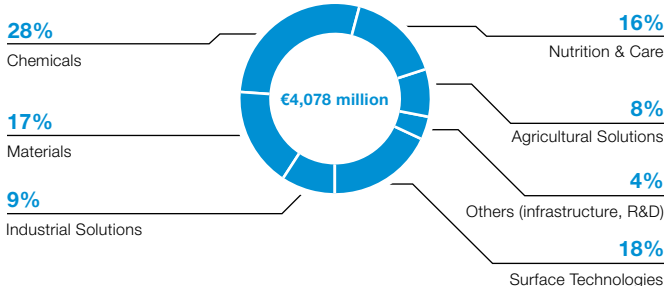
With a world market share of over 45%, China is already the largest chemical market and will drive growth in global chemical production to an even greater extent in the future. We expect China's share to increase to over 50% by 2030. To further strengthen our position in Asia, we plan to build a new integrated Verbund site in Zhanjiang in the southern Chinese province of Guangdong. The first plants started construction in 2020, and we made further progress on these in 2021. They are scheduled for startup in 2022. We will also expand the Verbund site we operate together with Sinopec in Nanjing, China, by 2023.

In addition, we are refining our portfolio through acquisitions that promise above-average profitable growth as part of the BASF Verbund to help reach a relevant market position. A key consideration is that these are innovation-driven or offer a technological differentiation, and make new, sustainable business models possible. Investments and acquisitions alike are prepared by interdisciplinary teams and assessed using various criteria. In this way, we ensure that economic, environmental and social concerns are included in strategic decision-making.

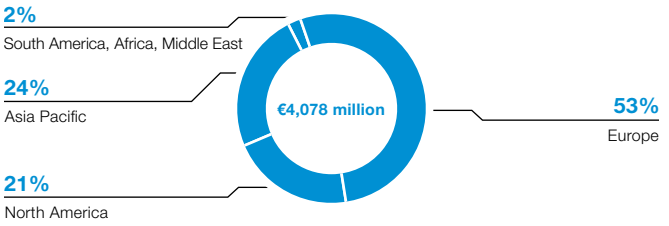
Investments in the segments and regions

Investments in property, plant and equipment amounted to €4,078 million in 2021 (2020: €3,516 million). Capex accounted for €3,363 million of this amount (2020: €2,878 million). Our investments in 2021 focused on the Chemicals, Materials, Surface Technologies and Nutrition & Care segments.

Additions to property, plant and equipment[a] by segment in 2021



Additions to property, plant and equipment[a] by region in 2021



a Including restoration obligations, IT investments and right-of-use assets arising from leases

1 Additions to property, plant and equipment excluding acquisitions, restoration obligations, IT investments and right-of-use assets arising from leases
2 Major growth projects are the construction of our future Verbund site in Zhanjiang, China, as well as our battery materials activities.

Chemicals

Strategically, our investments concentrate on the growth markets to support the growth of our customers in China. In 2021, for example, we increased the production capacity for tertiary butylamine. Together with our partner Sinopec, we are pushing ahead with plans to further expand the site in Nanjing, China, to strengthen the joint production of chemical products in China. For instance, we plan to further expand our production capacities for propionic aldehyde, propionic acid, purified ethylene oxide, ethanolamines and ethyleneamines, and build a new tert-butyl acrylate plant. The expanded and new plants are scheduled to come onstream in 2023.

At our Verbund site in Antwerp, Belgium, we are significantly expanding our ethylene oxide plant. The project also includes several downstream plants, for example, to produce surfactants. The expansion is scheduled to come onstream in 2022.

Materials

In the Materials segment, production capacities at the methylene diphenyl isocyanate (MDI) plants in Geismar, Louisiana, were successfully increased by one third following the construction of a new MDI synthesis unit, which was completed with the start of operations in 2020. In the final phase, we plan to increase capacities to around 600,000 metric tons per year by 2026. With this gradual capacity expansion, we are supporting the continuing growth of our North American MDI customers.

The construction of the first plants at our smart Verbund site in Zhanjiang, China, is in progress. The new plants are scheduled to come onstream in 2022. They will produce engineering plastics and thermoplastic polyurethane (TPU) to serve the increasing needs of various growth industries in the southern China market and in other Asian markets.

BASF is investing in a new world-scale production plant for hexamethylenediamine (HMD) at the Chalampé site in France. The

Overview of material investments

Segment	Location	Project	Start-up
Chemicals	Antwerp, Belgium	Capacity expansion: ethylene oxide plant	2022
	Kuantan, Malaysia	Capacity expansion: 2-ethylhexanoic acid plant[a]	2024
	Nanjing, China	Capacity expansion: tertiary butylamine plant	2021
		Capacity expansion: propionic aldehyde, propionic acid, purified ethylene oxide, ethyleneamines and ethanolamines plants[b]	2023
		Construction: tert-butyl acrylate plant[b]	2023
	Zhanjiang, China	Construction: neopentyl glycol plant	2025
Materials	Chalampé, France	Construction: world-scale production plant for HMD	2024
	Geismar, Louisiana	Capacity expansion: MDI plants	2026
	Zhanjiang, China	Construction: engineering plastics plant	2022
Industrial Solutions	Jiaxing, China	Capacity expansion: production plant for sulfuric acid	2023
	Jinshan, China	Capacity expansion: synthetic esters	2022
	Jurong, Singapore	Capacity expansion: antioxidants (Irganox®)	2022
	Pasir Gudang, Malaysia	Capacity expansion: production plant for acrylics dispersions	2021
	Pontecchio Marconi, Italy	Capacity expansion: antioxidants (Irganox®)	2021
		Capacity expansion: light stabilizers (Tinuvin® NOR® 356)	2021
Surface Technologies	Chennai, India	Capacity expansion: plant for mobile emissions catalysts	2022
	Harjavalta, Finland	Construction: precursor plant for cathode active materials	2022
	Pinghu, China	New surface treatment site	2021
	Schwarzheide, Germany	Construction: cathode active materials plant	2022
		Construction: battery recycling prototype plant	2023
Nutrition & Care	Antwerp, Belgium	Capacity expansion: alkoxylates	2018–2022
	Düsseldorf, Germany	Gradual upgrade of production plants in accordance with the Good Manufacturing Practice Standard issued by the European Federation for Cosmetic Ingredients (EFfCI)	2023
	Jinshan, China[c]	New production line: UV filters	2023
	Ludwigshafen, Germany	Capacity expansion: production plant for methane sulfonic acid	2022
		Capacity expansion: production plant for vitamin A	2021
Agricultural Solutions	Beaumont, Texas	Modernization of site infrastructure	2022
	Hannibal, Missouri	Modernization of site infrastructure	2022
	Nunhem, Netherlands	Expansion of breeding facilities for vegetable seeds	2021
	Singapore	New formulation hub for crop protection products	2022
	Sparks, Georgia	New facility for seed treatment formulations	2021

a Operated by a fully consolidated joint venture with Petronas Chemicals Group Berhad
b Operated by a joint venture with Sinopec
c This project was relocated from Kaohsiung, Taiwan, to Jinshan, China.

new plant will increase BASF's annual HMD production capacity to 260,000 metric tons. Production is expected to start in 2024.

Industrial Solutions

In the Industrial Solutions segment, we are increasing global production capacity for the antioxidant Irganox® 1010 through a project to expand production at the site in Jurong, Singapore. With the completion of the project in 2022, BASF aims to better serve the growing demand from customers in Asia, Europe, the Middle East and Africa. In addition, we increased production capacity for the antioxidant Irganox® 1520L by 20% at the site in Pontecchio Marconi, Italy, in the first quarter of 2021.

To meet the increasing demand for high-quality dispersions solutions in the growing ASEAN, Australian and New Zealand markets, we have doubled the production capacity for acrylics dispersions in Pasir Gudang, Malaysia. The additional capacities started up in the first quarter of 2021. We are currently building our third electronic-grade sulfuric acid plant in Jiaxing, China. This investment will more than double BASF's existing sulfuric acid production capacity in the country to serve the rapidly growing semiconductor industry. The site expansion is scheduled for completion in 2023.

Surface Technologies

We aim to expand our position as a leading and innovative provider of battery materials and benefit from the strong growth in this market segment. A global, customer-focused production network for battery materials is crucial here. Construction of our new production plant for cathode materials in Schwarzheide, Germany, continued as planned in 2021. The new plant will use precursors from the production facility under construction in Harjavalta, Finland. The two plants are scheduled for startup in 2022 and will produce cathode active materials for around 20 gigawatt hours of cell capacity per year. With these investments in Finland and Germany, BASF aims to become the first cathode active materials supplier with local production capacities in what are currently the main markets: China, Japan, North America and Europe.

In addition, BASF announced in 2021 that it will build a battery recycling prototype plant in Schwarzheide, Germany. Startup is planned for 2023. The prototype plant will allow for the development of operating procedures and optimization of technology to deliver superior returns of lithium, nickel, cobalt and manganese from end-of-life lithium-ion batteries.

Nutrition & Care

In Ludwigshafen, Germany, we started up the expanded vitamin A production facilities for the Nutrition & Care segment in July 2021. We also invested in the expansion of alkoxylate capacities at the Verbund site in Antwerp, Belgium.

By mid-2022, BASF will increase its capacities for methane sulfonic acid by around 65% in response to growing cross-industry demand, strengthening its position as a leading global producer. To this end, we are investing in the construction of a new methane sulfonic acid plant at the Ludwigshafen site in Germany. Methane sulfonic acid is an organic acid used in numerous applications ranging from chemical and biofuel synthesis to industrial cleaning and metal surface treatment in the electronics industry.

Agricultural Solutions

The investment in a formulation hub for crop protection products in Singapore will, from 2022 onward, ensure that multiple formulation technologies are produced in close proximity to farmers in Asia Pacific. We also invested in the expansion of our production site in Sparks, Georgia, establishing a new formulation plant for seed treatment products, which came into operation in 2021. At the Nunhem site in the Netherlands, we continued the expansion of our breeding facilities for vegetable seeds with a state-of-the-art tomato greenhouse, which has been available since 2021. Further investments were made in the modernization of site infrastructure in North America. To meet continuing high demand for our innovative solutions in the future, between 2022 and 2026, we will invest more than €950 million in developing and expanding our infrastructure, including state-of-the-art R&D facilities, and in our production and formulation capacities for active ingredients as well as for seed solutions.

For more information on our segments, see page 72 onward

Good to know

New Verbund site in Zhanjiang

Based on its goal of net zero emissions by 2050, BASF has made further progress toward reducing its carbon footprint. In June 2021, we signed a purchase agreement for renewable electricity with China Resources Power, Hong Kong, China, under the new Guangdong renewable energy trading rules in China. This will enable us to run the first plants at BASF's new Verbund site in Zhanjiang entirely on renewable energy. The new plants are scheduled for startup in late 2022. This is a significant step toward transforming of our energy supply in China.

Discover the smart Verbund site in Zhanjiang, China, at basf.com/zhanjiang

Acquisitions

On August 31, 2021, BASF and Shanshan announced the formation of BASF Shanshan Battery Materials Co., Ltd. The newly formed entity is majority-owned by BASF (BASF 51%; Shanshan 49%). It has four sites in Hunan and Ningxia, China, with more than 1,600 employees. BASF Shanshan Battery Materials Co., Ltd. will focus primarily on the rapidly growing electric vehicle (EV) market while serving global consumer electronic and energy storage market segments. The business is a part of the Catalysts division.

For more information on this acquisition, see Note 3 to the Consolidated Financial Statements from page 207 onward

Following approval of the relevant authorities, we completed the purchase of 49.5% of Vattenfall's Hollandse Kust Zuid wind farm on September 1, 2021.[1] The purchase price was €0.3 billion. Wind farm construction began in July 2021. Once fully operational in 2023, the wind farm will be the largest commercial offshore wind farm in the world. This wind farm does not receive any subsidies for the power produced. On December 6, 2021, BASF and Allianz Capital Partners announced that they had reached an agreement on the purchase of a 25.2% interest by Allianz Capital Partners (see "Agreed transactions").

Divestitures

On May 31, 2021, BASF completed the sale of its production site in Kankakee, Illinois, to a subsidiary of One Rock Capital Partners, LLC. The agreement also includes the vegetable-oil-based sterols and natural vitamin E business as well as the anionic surfactants and esters produced at the Kankakee site. The purchase price was €177 million. The transaction affected the Nutrition & Health and Care Chemicals divisions.

On June 30, 2021, we closed the divestiture of our global pigments business to the Japanese fine chemical company DIC, Tokyo, Japan. The business transfer agreement, which affected around 2,500 employees, was signed on August 29, 2019. The purchase price on a cash and debt-free basis was €1.15 billion. The Dispersions & Pigments division was renamed Dispersions & Resins following the transaction closing.

For more information on this divestiture, see Note 3 to the Consolidated Financial Statements from page 209 onward

On November 9, 2021, BASF and Clayton, Dubilier & Rice sold their shares in Solenis to Platinum Equity, a private equity company based in Beverly Hills, California. With over 5,200 employees, Solenis serves customers in water-intensive industries by helping them solve complex water treatment and process improvement challenges. BASF held a 49% share in Solenis after transferring its paper and water chemicals business to the company in February 2019. This was reported as a non-integral investment accounted for using the equity method. The remaining 51% of the shares were held by funds managed by Clayton, Dubilier & Rice, and by Solenis management. The purchase price attributable to BASF was €1.1 billion.

On November 30, 2021, we completed the sale of the precision microchemicals business to Entegris. The transaction included fixed assets and inventories. The purchase price amounted to $90 million. The precision microchemicals business was part of the Surface Treatment business unit of BASF's Coatings division, operating under the Chemetall brand.

Agreed transactions

On November 18, 2021, BASF and KaMin LLC. / CADAM S.A. (KaMin) signed an agreement to sell BASF's kaolin minerals business to KaMin, a global performance minerals company headquartered in Macon, Georgia. Currently, the kaolin minerals business is part of BASF's Performance Chemicals division and has approximately 440 employees in North America, Europe and Asia. The divestiture comprises the production hub with sites in Daveyville, Toddville, Edgar, Gordon and related mines, reserves and mills in Toomsboro and Sandersville in Georgia. The refinery catalysts operations located at the same site are not part of the divestiture. Pending approval by the relevant authorities, closing of the transaction is expected in the second half of 2022.

On December 6, 2021, BASF and Allianz Capital Partners, on behalf of Allianz Insurance Companies (Allianz), announced that they had reached an agreement on the purchase of 25.2% of the Hollandse Kust Zuid (HKZ) wind farm by Allianz. This follows a transaction between Vattenfall and BASF under which BASF acquired 49.5% of HKZ from Vattenfall on September 1, 2021. BASF will continue to receive most of the power produced by its originally acquired share of 49.5% of HKZ under a long-term fixed-price corporate power purchasing agreement. The transaction is expected to close in the first quarter of 2022, subject to the approval of the relevant merger control authorities.

On December 28, 2021, BASF reached an agreement to divest its production site in Quincy, Florida, and the associated attapulgite business to Clariant for a purchase price of $60 million. The Quincy facility employs around 75 employees and manufactures clay-based mineral products used in a variety of industrial applications. The transaction affects the Dispersions & Resins division and is expected to close in the summer of 2022, subject to the approval of the relevant antitrust authorities.

1 The transaction is not reported as an acquisition in the Notes to the Consolidated Financial Statements as according to IFRS 3.2b, it does not fall within the scope of IFRS 3.

Our Steering Concept

Creating long-term value as a company means more than generating earnings that cover the cost of capital employed. Our steering concept encourages and supports all employees in thinking and acting entrepreneurially. Our key financial management indicator is the return on capital employed (ROCE). The BASF Group's most important nonfinancial key performance indicators are CO_2 emissions and Accelerator sales.

Our financial targets follow a steering concept that is aligned with our values. The return on capital employed (ROCE) is used as the key target and management indicator for the BASF Group. As stated in our strategic goals, we aim to achieve a ROCE considerably above the cost of capital percentage every year. With ROCE, the same logic and data is used for our value-based management, external communication with the capital markets and variable compensation. This means we use the same yardstick for internal management, employee incentivization and our shareholders' expectations.

As part of our corporate strategy and the sustainability targets derived from this, we have also used CO_2 emissions and Accelerator sales as the most important nonfinancial key performance indicators since the 2020 business year. Two targets are based on these indicators: sustainability-oriented portfolio management with our Sustainable Solution Steering method and reducing absolute CO_2 emissions. We reached our Accelerator sales target in 2021, earlier than planned. Consequently, we will adjust our portfolio steering target over the course of 2022.

Calculating ROCE and cost of capital

ROCE is calculated as the EBIT of the segments as a percentage of the average cost of capital basis.

To calculate the **EBIT of the segments**, we take the BASF Group's EBIT and deduct the EBIT of activities recognized under Other, which are not allocated to the divisions.

The **cost of capital basis** is calculated using the month-end figures and consists of the operating assets of the segments. These comprise the current and noncurrent asset items of the segments, including tangible and intangible fixed assets, integral investments accounted for using the equity method, inventories, trade accounts receivable, other receivables and other assets generated by core business activities and, where appropriate, the assets of disposal groups. The cost of capital basis also includes customer and supplier financing.

We have integrated the **cost of capital percentage** into our ROCE target as a comparative figure. This is determined using the weighted cost of capital from equity and borrowing costs (weighted average cost of capital, WACC). To calculate a pre-tax figure similar to EBIT, the cost of capital is adjusted using the projected tax rate for the BASF Group for the business year. In addition, the projected net expense of Other is already provided for by an adjustment to the cost of capital percentage. The cost of equity is ascertained using the capital asset pricing model. Borrowing costs are determined based on the financing costs of the BASF Group. The cost of capital percentage for 2022 is 9% (2021: 9%).

Calculation of CO_2 emissions

We calculate our absolute **CO_2 emissions** on the basis of greenhouse gas emissions, which are the sum of direct emissions from production processes and the generation of steam and electricity (Scope 1), as well as indirect emissions from the purchase of energy (Scope 2). Direct emissions from the generation of energy for third parties are not considered here. Relevant emissions include other greenhouse gases according to the Greenhouse Gas Protocol, which are converted into CO_2 equivalents.

We set ourselves even more ambitious targets with our roadmap to climate neutrality, which we presented in March 2021: Compared with the 2018 baseline, we want to reduce greenhouse gas emissions by 25% by 2030.[1] We aim to achieve net zero emissions (Scope 1 and Scope 2) by 2050.

For more information on CO_2 emissions and our climate protection targets, see page 126 onward

1 In March 2021, we replaced our previous target of CO_2-neutral growth until 2030 (baseline 2018: 21.9 million metric tons of CO_2e) with a new, more ambitious climate protection target to reduce absolute CO_2 emissions by 25% compared with 2018 (new target: 16.4 million metric tons of CO_2e).

Calculation of Accelerator sales[1]

Accelerator sales refer to sales generated by the BASF Group from products in our strategic portfolio to third parties in the business year concerned. Accelerator products make a substantial sustainability contribution in the value chain. In line with our corporate strategy, we set ourselves the global target of achieving €22 billion in Accelerator sales by 2025. This target was already achieved in 2021. Consequently, we will adjust our portfolio steering target over the course of 2022.

For more information on sustainability-oriented portfolio management, see page 141 onward

Value-based management throughout the company

An important part of our value management is the target agreement process, which aligns individual employee targets with BASF's targets. The most important financial performance indicator in the operating units is ROCE. The other units' contribution to value is also assessed according to effectiveness and efficiency on the basis of quality and cost targets. To assess this, we use metrics such as BASF's internal service score in the service units.

In addition to ROCE as the BASF Group's most important financial key performance indicator, we use EBIT before special items and capex (capital expenditure) as key performance indicators that have a direct impact on ROCE and as such, support its management.

- **EBIT before special items** is used to steer profitability at Group and segment level. This is calculated by adjusting the EBIT reported in the Consolidated Financial Statements for special items, making it especially suitable for assessing economic development over time. **Special items** arise from the integration of acquired businesses, from restructuring measures, certain impairments, gains or losses resulting from divestitures and sales of shareholdings, and other expenses and income that arise outside of ordinary business activities.
- **Capital expenditures** (capex) are used to manage capital employed in the BASF Group. These comprise additions to property, plant and equipment excluding additions from acquisitions, IT investments, restoration obligations and right-of-use assets arising from leases. Capex is not just relevant to ROCE management, but also supports our long-term goal of increasing our dividend each year based on a strong free cash flow.

Furthermore, we comment on and forecast **sales** at Group and segment level in our financial reporting as a significant driver for EBIT before special items and thus ROCE.

For more information on the development of these indicators, see Results of Operations from page 56 onward

1 The definition of the relevant portfolio and further information can be found in the Sustainable Solution Steering manual at basf.com/en/sustainable-solution-steering

Together with partners, BASF is developing innovative products and technologies to improve recyclability and enable resources to be fed back into the system in the future. One example is chemical recycling. Find out more about how used tires and mixed plastic waste are converted into new raw materials in the online report at report.basf.com.

In focus:

Thinking and Acting Circular

As the world's population grows, so does demand for limited natural resources. At the same time, many recyclable materials end up in landfill or in waste incineration. New concepts are needed to decouple growth from resource consumption. Reduce, reuse and recycle are the keywords of this transition to a system of more sustainable product cycles with less resource consumption and lower carbon emissions.

The concept of conserving resources, recycling and feeding waste back into the system is not new for BASF. As early as 1865, it underpinned the foundation of our company: At that time, Friedrich Engelhorn pursued the idea of producing synthetic dyes from coal tar – a waste product – and organizing production efficiently in an integrated **Verbund structure**. We are still committed to this tradition today and are aligning our actions more strongly than ever with circularity. The chemical industry is doubly important for the transition to a circular economy. Firstly because many value chains start here. And secondly because many products and technologies based on chemistry help to close loops. That is why both aspects – switching to renewable raw materials and innovations for more circularity – are core elements of our Circular Economy Program.

For example, we already use bio-based and renewable raw materials in our production (see page 113). To further reduce the resource and carbon footprints of our products and solutions, we will align our raw material base even more strongly toward recycled and renewable raw materials. For instance, we aim to process 250,000 metric tons of **recycled and waste-based raw materials** in our production plants annually from 2025. Together with partners, we are analyzing waste streams and raw material sources to find the best solution and develop suitable, innovative processes (see page 115). This is the case, for example, in the chemical recycling of used tires and different types of plastics, where we can feed recovered raw materials such as pyrolysis oil or monomers back into our Verbund structure at different points. Another example is the recovery of valuable metals from spent batteries and catalytic converters.

In addition, we are developing **innovative products and technologies** in many areas that will increase the service life of materials or their recyclability and compostability. One example is additives for the mechanical recycling of plastics. A Group-wide co-funding program supports our employees in developing new business models for the circular economy – from the initial idea to market launch. Our target: By 2030, we want to double our sales of solutions for the circular economy to €17 billion. These are products that are based on alternative raw materials, that close material loops or increase the resource efficiency and durability of products.

For more information on recycled raw materials, see page 115 onward

For more information on sustainable solutions and the circular economy, see page 141 onward

Our circular economy targets

250,000 metric tons

Recycled and waste-based raw materials processed every year from 2025

€17 billion

Sales of solutions for the circular economy by 2030

Our Sustainability Concept

GRI 102, 103, 203, 304, 412, 413, 415, 416

We implement our corporate purpose – We create chemistry for a sustainable future – by systematically incorporating sustainability into our strategy, our business, and into our assessment, steering and compensation systems. We secure our long-term success with products, solutions and technologies that create value added for the environment, society and the economy.

Our strategic approach

At a glance

- Sustainability aspects integrated into corporate steering
- Targets for climate protection, product portfolio, circular economy, procurement, safety and employees
- Strategic guidelines on stakeholder management and our societal engagement

Sustainability is at the core of what we do and a driver for growth and value. Analyzing our contributions to sustainability also enables us to manage risks effectively. We pursue a holistic sustainability approach that covers the entire value chain – from our suppliers and our own activities to our customers. We have formulated commitments for our conduct along the value chain and underpinned these with corresponding targets and measures (see page 36).

Based on our corporate strategy and the global targets derived from this, we steer the **sustainability targets** (reduce absolute CO_2 emissions[1] by 25% by 2030 compared with baseline 2018 and achieve €22 billion in Accelerator[2] sales by 2025) as most important key performance indicators. To this end, we have established the necessary steering mechanisms and control systems at Group level. Our global activities to reduce greenhouse gas emissions include using renewable energies for both electricity and steam production, developing and applying new low-carbon production processes, using renewable raw materials, and ongoing measures to further increase energy and resource efficiency in our production (see page 126). We use the Sustainable Solution Steering method to improve the sustainability contributions of our product portfolio along the value chain (see page 141). To assess the sustainability performance of our products and identify solutions with a substantial sustainability contribution in the value chain, we regularly reassess our product portfolio. We already reached our 2025 sales target for Accelerator products in 2021. Consequently, we will update our product portfolio steering target over the course of 2022.

In addition to the climate protection and Accelerator sales targets, we have set ourselves further sustainability goals. A particular focus is the circular economy due to its strong connection to climate protection. We have defined further targets on water management, responsible procurement, engaged employees, women in leadership positions, occupational health and safety, and process safety.

We have also set up a project organization to achieve our climate protection targets. The new Net Zero Accelerator unit concentrates on implementing and accelerating projects on low-carbon production technologies, the circular economy and renewable energies.

As a co-founder of the U.N. Global Compact and a recognized LEAD company, we contribute to the implementation of the United Nations' Agenda 2030. Our products, solutions and technologies help to achieve the U.N. **Sustainable Development Goals** (SDGs), especially SDG 2 (Zero hunger), SDG 5 (Gender equality), SDG 6 (Clean water and sanitation), SDG 7 (Affordable and clean energy), SDG 8 (Decent work and economic growth), SDG 12 (Responsible consumption and production) and SDG 13 (Climate action). To prioritize these, internal experts assessed the impacts and positive contributions of our products, our corporate targets and strategic action areas. The Value to Society method is used to measure the contribution of our activities along the value chain. This assesses our positive and negative impacts on the environment, society and the economy (see page 47).

We identify key sustainability topics with our comprehensive **materiality analysis**. The graphic on page 46 shows how we assess relevant topics. Here, we take into account topics that we have an impact on, topics that have an impact on us, and topics that our stakeholders consider important to us. The topics identified based on these three dimensions of materiality are: climate and energy, health and safety / product stewardship, water, emissions to air and soil, resource efficiency and waste, biodiversity, human rights, employment and diversity.

For more information on our materiality analysis, see basf.com/materiality

For more information on the metastudy on sustainability trends, see basf.com/sustainability-trends

1 The target includes Scope 1 and Scope 2 emissions. Other greenhouse gases are converted into CO_2 equivalents in accordance with the Greenhouse Gas Protocol. In March 2021, we replaced our previous target of CO_2-neutral growth until 2030 (baseline 2018: 21.9 million metric tons of CO_2e) with a new, more ambitious climate protection target to reduce absolute CO_2 emissions by 25% compared with 2018 (new target: 16.4 million metric tons of CO_2e).
2 Accelerator products make a substantial sustainability contribution in the value chain.

Our organizational and management structures

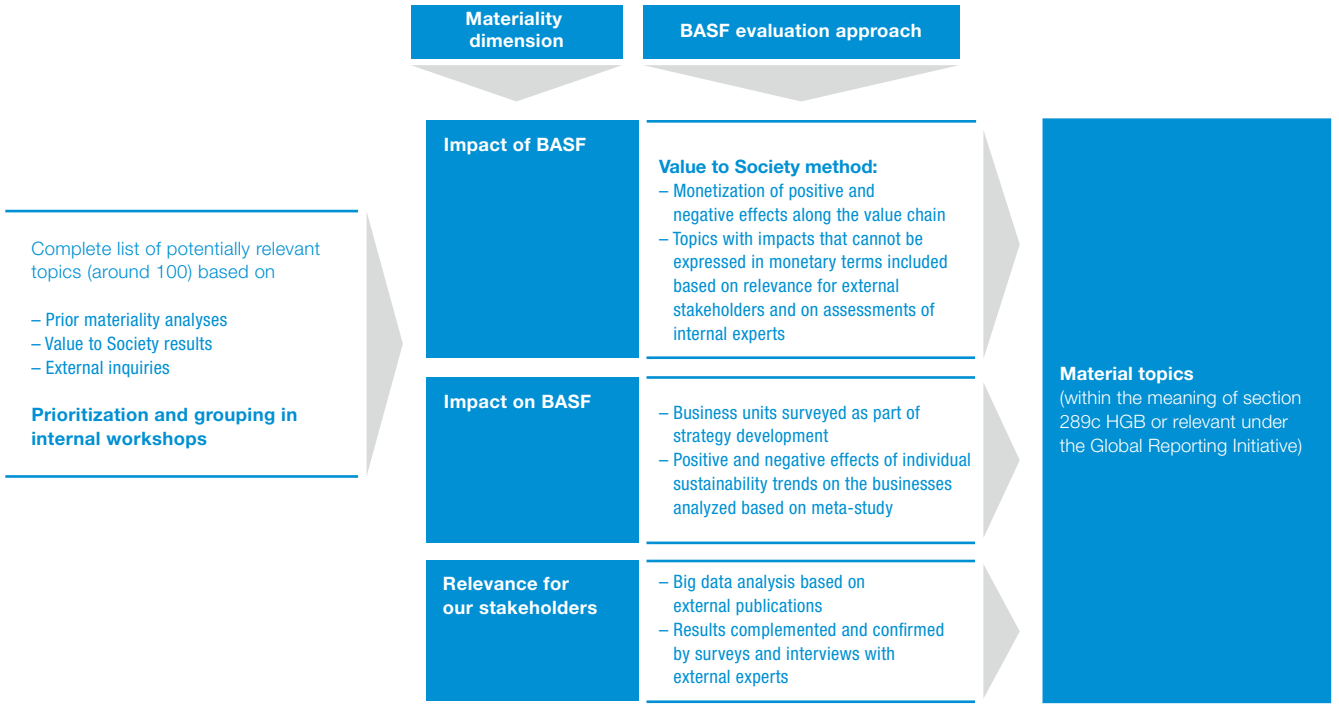
We are constantly working to broaden our contributions to key sustainability topics and reduce the negative impact of our business activities. Together with decentrally organized specialists, the Corporate Strategy & Sustainability unit in the Corporate Center is responsible for **integrating sustainability** into core business activities and decision-making processes. This unit's tasks include the global steering of climate-related matters.

The new Net Zero Accelerator project organization has reported directly to the Chairman of the Board of Executive Directors since January 2022. It focuses on the further acceleration and implementation of existing and new projects to achieve CO_2 reduction targets at company level worldwide and drives them forward.

The Board of Executive Directors and the Supervisory Board are regularly briefed on the current status of individual sustainability topics. The Board of Executive Directors incorporates the results and recommendations from sustainability evaluations of business processes into its decisions, for example, on proposed investments and acquisitions. It makes decisions with strategic relevance for the Group and monitors the implementation of strategic plans and target achievement. The Corporate Sustainability Board, which is composed of heads of business and Corporate Center units and regions, supports the Board of Executive Directors on sustainability topics and discusses operational matters. A member of the Board of Executive Directors serves as chair.

We **systematically evaluate sustainability criteria**, including the effects of climate change, as an integral part of decisions on acquisitions and investments in property, plant and equipment or financial assets. In this way, we not only assess economic dimensions, but also the potential impacts on areas such as the environment, human rights or the local community. We evaluate both the potential impacts of our activities here as well as which effects we are exposed to.

Identifying and assessing sustainability topics[1, 2]



1 Our stakeholders also confirmed the materiality of the nonfinancial topics that the Value to Society method identified as having an impact along the value chain.
2 Quantitative thresholds for defining material topics have not been set due to the complexity of the assessment methods used for each dimension of materiality. The final list of topics is based on an expert comparison of the results of all the assessment approaches described.

In 2018, we established our Sustainable Finance Roundtable, which discusses topics related to sustainable finance. Here, experts from departments such as Finance, Corporate Strategy, Investor Relations and Communications discuss upcoming new legal requirements. The interdisciplinary group analyzes the steadily growing requirements, assesses the impact on BASF and drives forward the necessary change processes as well as the concrete implementation of measures. In a U.N. Global Compact task force, we are developing recommendations on how the SDGs should be considered in financial decisions and in interactions with investors.

For more information on our financial and sustainability targets, see pages 36 and 37
For more information on our risk management, see pages 151 to 160
For more information on the organization of our sustainability management, see basf.com/sustainabilitymanagement
For more information on compensation structures, see the compensation report at basf.com/compensationreport

Measuring sustainable value added

We are aware that our business activities can have both positive and negative impacts on the environment and society. We aim to increase our positive contributions and minimize the negative impacts of our business activities. To achieve this, we need to understand how our actions and our products impact society and the environment.

We already have many years of experience in this area from evaluating our products and processes using methods such as Eco-Efficiency Analyses, the SEEbalance® Socio-Eco-Efficiency Analysis, our Sustainable Solution Steering portfolio analysis, BASF's corporate carbon footprint or the calculation of Product Carbon Footprints.

We want to holistically capture the value we contribute to society along the value chain and make this transparent. However, there are still no uniform, global standards for measuring and reporting on companies' overall impact that cover economic, environmental and social aspects of business activities along the value chain. This is why we developed the **Value to Society method** in 2013 together with external experts. We can use this methodological approach to compare the significance of financial and sustainability-related impacts of our business activities on society and show their interdependencies. The results illustrate the positive contributions and negative effects, both at BASF and in our value chains. Positive factors include taxes paid, wages, social benefits, employee training and our net income.[1] Negative contributions include environmental impacts such as carbon emissions, land use and emissions to air, soil and water, as well as health and safety incidents. The positive impacts of our economic activities declined in 2020,[2] primarily due to the economic conditions caused by the coronavirus pandemic, which led to lower economic value added. In addition, higher water consumption and increased land use in supplier and customer industries had a greater impact on the environment.

Overall, the Value to Society method helps us to continually monitor our progress. It complements existing concepts for assessing risks and business opportunities by providing a macro perspective and enables us to derive the necessary business steps.

We are a founding member of the value balancing alliance e.V. (VBA) and have contributed our knowledge and experience to this cross-industry initiative. We support the development of an accounting and reporting standard that makes the value companies provide to society transparent and comparable. The aim is to present the financial, ecological, and social impacts of business activities on the basis of a standardized framework. The VBA is supported by major auditing firms, the Organisation for Economic Co-operation and Development (OECD), leading universities and other partners. Together with the OECD and the Business for Inclusive Growth (B4IG) coalition, we are pushing to further expand the social indicators. Here, BASF leads the Impact Measurement working group together with partners. Through the VBA, we are involved in the E.U.'s Platform on Sustainable Finance. Together with the VBA and other partners, we supported the establishment of the International Sustainability Standard Board (ISSB), are involved in the work of the World Economic Forum (WEF) and are part of the G7 Impact Taskforce. Our Corporate Finance unit is also involved in the work of the European Financial Reporting Advisory Group's (EFRAG) Project Task Force on European sustainability reporting standards.

The method developed by the VBA was enhanced and refined on the basis of feedback from the scientific community and member companies. Amendments include the addition of two social indicators and the calculation of downstream impacts, as well as revisions to financial indicators, for example. This enhanced method will again be piloted by all member companies and the results will be fed back to the VBA for further development.

For more information on this method and the results of Value to Society, see basf.com/en/value-to-society
For more information on our sustainability tools, see basf.com/en/measurement-methods
For more information on value balancing alliance e.V., see value-balancing.com

Our stakeholder management

Our stakeholders include customers, employees, investors, suppliers, the communities surrounding our sites, and representatives from industry, academia, politics and society. Parts of our business activities, such as the use of certain new technologies or our environmental impacts, are often viewed by stakeholders with a critical eye. We take these questions seriously, initiate dialogs and participate in discussions. Such **ongoing exchange** with our stakeholders helps us to even better understand what matters to groups of society, what they expect of us and which measures we need to pursue in order to establish and maintain trust, build partnerships, and increase societal acceptance for and the sustainability of our business activities. In doing so, we want to harness potential for mutual value creation and strengthen societal acceptance of our business activities. For important topics, we systematically identify key stakeholders at an early stage to discuss critical questions with them. Relevant considerations here include their topic-specific expertise and willingness to engage in constructive dialog.

We established an external, independent Stakeholder Advisory Council (SAC) in 2013 and the Human Rights Advisory Council (HRAC) in 2020. In the SAC, which is led by the Chairman of the Board of Executive Directors, international experts from academia and society contribute their perspectives to discussions with BASF's Board of Executive Directors. The HRAC is an advisory body comprising external human rights specialists and internal experts. This helps us to critically reflect on our positions and address potential for improvement.

1 The net income of BASF's production presented in the Value to Society is calculated using the BASF Group's net income, adjusted for the interest result, the other financial result and noncontrolling interests.
2 Value to Society results are calculated annually following the publication of the BASF Report. Accordingly, the statements on this in the BASF Report 2021 refer to the evaluation conducted for the 2020 business year.

Our **political advocacy** is conducted in accordance with transparent guidelines and our publicly stated positions. The same applies to our activities in associations. For instance, we again published an Industry Associations Review in 2021 comparing the energy and climate protection positions of BASF and the most important associations of which we are a member, with explanations on our approach.

BASF does not financially support political parties, for example through donations in cash or in kind. This is codified in a global guideline. In the United States, employees at BASF Corporation have exercised their right to establish a Political Action Committee (PAC). The BASF Corporation Employee PAC is an independent, federally registered employee association founded in 1998. It collects donations from employees for political purposes and independently decides how these are used, in accordance with U.S. law.

We have a particular responsibility toward our production sites' neighbors. With the established **community advisory panels**, we promote open exchange between residents and our site management and strengthen trust in our activities. Our globally binding requirements for community advisory panels are based on the grievance mechanism standards in the United Nations' Guiding Principles on Business and Human Rights. We keep track of their implementation through the existing global database of the Responsible Care Management System.

For more information on dialog with our stakeholder groups, see page 106

For more information on our guidelines for responsible lobbying, see basf.com/guidelines_political_communication

For more information on the Industry Associations Review, see basf.com/corporategovernance

For more information on the Human Rights Advisory Council, see basf.com/human-rights-council

For more information on the Stakeholder Advisory Council, see basf.com/en/stakeholder-advisory-council

Stakeholder demands and expectations of BASF

Customers

- Innovative and sustainable solutions
- Reliable partner
- Cost effectiveness

Investors

- Attractive dividend yield
- Transparency and risk minimization
- Strong long-term share performance

Society: politics, NGOs, media

- Responsible and trustworthy partner
- Production of safe products in compliance with environmental and social standards
- Jobs and taxes

Suppliers

- Fair and reliable business relationships
- Support in complying with our Supplier Code of Conduct (environmental and social requirements)

Community

- Support for local communities
- Safe, disruption-free operations
- Attractive jobs

Employees and management

- Attractive and fair employer
- Health protection
- Opportunities for professional development

Our societal engagement approach

Through our societal engagement, we want to help disadvantaged groups tackle their specific challenges – whether through initiatives in our immediate communities or around the world in cooperation with global organizations. We want to foster societal cohesion by supporting and protecting health, skills and resources. We support projects that aim to have a **lasting impact** on specific target groups and offer learning opportunities for participating cooperation partners and BASF (see page 106).

In this way, societal engagement is an important part of the implementation of our sustainability strategy and our corporate social responsibility. Our societal engagement policy provides the guardrails for our activities in this area. It stipulates that all engagement measures worldwide must be conducted in line with our compliance policy, BASF's strategy and our sustainability commitments.

For more information on our societal engagement, see page 106

Innovation

GRI 102, 302, 305

Protecting our climate and making the best use of limited natural resources while supplying the fast-growing global population with food, energy and clean water are among the greatest challenges of our time. Innovations based on chemistry play a pivotal role in overcoming these. That is why we are working together with our customers on innovative processes, technologies and products for a more sustainable future.

At a glance

€2.2 billion
Research and development expenses

~820
New patents filed

- Close cooperation between research and business units
- Focus on customers' needs and requirements
- Close cooperation with universities, research institutes and companies

Innovation has always been the key to BASF's success. The knowledge and skills of our highly qualified employees is our most valuable resource here and the source of our innovative strength. We had approximately 10,000 employees involved in research and development worldwide in 2021.

Our **research and development expenses** amounted to €2,216 million in 2021 (2020: €2,086 million). Research and development activities in our operating divisions, which is mainly application and customer-related, accounted for 83% of this figure. Corporate research, in which we bundle cross-divisional and long-term topics, was responsible for 17% of these expenses.

Our **innovation focus** is on developing sustainable solutions for our customers. We ensure our long-term competitiveness by helping our customers reduce their carbon footprint, use resources more efficiently, or manufacture products in a more environmentally friendly way and to recycle them, to name a few examples.

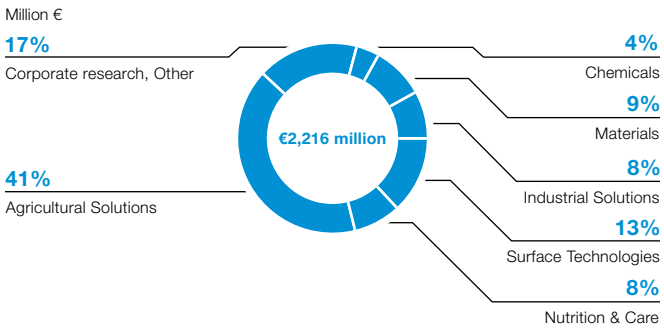
In 2021, we generated sales of over €11 billion with products launched on the market in the past five years that stemmed from research and development activities. In the long term, we aim to continue significantly increasing sales and earnings with new and improved products – especially with products that make a substantial sustainability contribution in the value chain (see page 141).

Our central research is currently divided into three global divisions, run from Europe, Asia Pacific and North America: Process Research & Chemical Engineering (Ludwigshafen, Germany); Advanced Materials & Systems Research (Shanghai, China); and Bioscience Research (Research Triangle Park, North Carolina).

We have already brought our research and development units closer together over the past few years. **We will reorganize our global research activities in 2022** to further strengthen our innovation performance and respond to our customers' industry-specific requirements even better and more quickly going forward. Business and application-driven research units that are currently allocated to the three corporate research divisions will be integrated into the operating divisions, aligning them even more closely with the needs of our customers. The aim is to further shorten the time to market for new products and accelerate BASF's organic growth. Research activities that are relevant to several operating divisions will be bundled in a central research division steered from Ludwigshafen, Germany. This unit will continue to be globally organized with research centers in Europe, North America and Asia Pacific. Together with the development units in our operating divisions, it forms the core of our global Know-How Verbund.

We will continue to use corporate funding to finance research of broad relevance to the BASF Group that goes beyond the industry-specific focus of the individual operating divisions.

Research and development expenses by segment 2021



We strengthen existing research focus areas and continually develop new key technologies that are of central significance for our operating divisions, such as polymer technologies, catalyst processes or biotechnological methods.

We promote creative and agile research approaches. We are driving forward the development of new business areas. For example, we are developing innovative coating technologies and materials that make innovative surfaces and functions possible. Functional films can be used to reduce the frictional resistance of surfaces or improve UV protection and weather resistance, for example. Our innovative solutions help our customers to achieve their sustainability goals.

As part of our Carbon Management R&D Program, we are carrying out intensive research into pioneering, low-carbon production processes for basic chemicals such as hydrogen (see page 132). This will enable us to offer our customers products with a lower carbon footprint in the future.

Employees in research and development

~10,000

Our **global research and development presence** – and its effectiveness – is vital to our long-term success. This enables us to respond to the needs and requirements of the regional markets in a differentiated way and leverage growth potential.

The Ludwigshafen site in Germany is and will remain the largest in our Research Verbund. Investments there include a combined laboratory building for cleanroom and elemental analysis. The new building's modern digitalization and automation solutions set new standards in safety and efficiency. It is scheduled to open in 2022. In addition, we will build a new Catalyst Development and Solids Processing Center in Ludwigshafen, Germany, by 2024 to bring process innovations and new chemical catalysts to market faster.

We want to continue advancing our research and development activities, especially in Asia. For instance, in 2021 we started the third expansion phase for the BASF Innovation Campus in Shanghai, China. With this expansion, BASF will strengthen its research and development capabilities for advanced materials and systems as well as for chemical engineering. Construction is expected to be completed by the end of 2022.

A strong presence outside Europe creates new opportunities for developing and expanding our customer relationships and scientific collaborations as well as for gaining access to talented employees. This strengthens our Research and Development Verbund and makes BASF an even more attractive partner and employer.

The number and quality of our **patents** also attest to our power of innovation and long-term competitiveness. In 2021, we filed around 820 new patents worldwide. The Patent Asset Index, a method that compares patent portfolios, once again ranked us among the leading companies in the chemical industry in 2021.

For more information on innovation, see basf.com/innovations

Global network

Our global network of top universities, research institutes and companies forms an important part of our Know-How Verbund. It gives us direct access to external scientific expertise, talented minds from various disciplines as well as new technologies – and helps us to quickly develop targeted, marketable innovations, strengthen our portfolio with creative new projects, and in this way, reach our growth targets.

Our eight academic research alliances bundle partnerships with several research groups in a region or with a specific research focus.

Eight Academic Research Alliances

Access to scientific expertise, talented minds and new technologies

The Northeast Research Alliance (NORA) and the California Research Alliance (CARA) are located in the **United States**. NORA focuses on materials science and biosciences, catalysis research, digitalization and cooperation with startups. Teams at the interdisciplinary CARA research center are working on new functional materials, formulations, digital methods, catalysis, chemical synthesis, and in engineering sciences and biosciences.

The Joint Research Network on Advanced Materials and Systems (JONAS) is active in **Europe** and concentrates on supramolecular chemistry, polymer chemistry and the incubation of sustainable technologies. We are working on innovative components and materials for electrochemical energy storage with the Karlsruhe Institute of Technology (KIT) at the Battery and Electrochemistry Laboratory (BELLA). At the joint Catalysis Research Laboratory (CaRLa), BASF is researching homogeneous catalysis in cooperation with the University of Heidelberg. BasCat is a joint laboratory operated by the UniCat cluster of excellence and BASF at the Technical University of Berlin, where new heterogenous catalysis concepts are being explored together with the Fritz Haber Institute of the Max Planck Society, also based in Berlin. The iL (Innovation Lab) in Heidelberg, Germany, focuses on functional printing, printed sensors and IoT (internet of things) applications.

At the Network for Asian Open Research (NAO) in the **Asia Pacific** region, research focuses on polymer and colloid chemistry, catalysis, machine learning and smart manufacturing.

The Academic Research Alliances are complemented by cooperative partnerships with around 280 universities and research institutes as well as collaborations with a large number of companies.

For more information on our collaboration initiatives, see basf.com/innovate-with-us

In focus:

From the Lab to Real-World Applications

Our aim is to quickly turn ideas into innovations for a sustainable future. To achieve this, we bring together the creativity, experience and expertise of our employees with the know-how of our partners from academia and industry.

Recycling industrial off-gases: Industrial off-gases are usually incinerated or thermally recovered. In both cases, CO_2 is emitted. To avoid this and to recycle the main components of the off-gases so they can be used in chemical production, BASF has been researching an innovative process, gas fermentation, with the U.S. startup LanzaTech since 2018. The interdisciplinary team achieved an important breakthrough in 2021: using special bacteria, they were able to produce n-octanol from carbon monoxide and hydrogen for the first time. The molecule is an alcohol and is used in cosmetics, for example. Normally, microorganisms cannot produce n-octanol, which is toxic to them. However, using biotechnological methods, LanzaTech was able to program the organisms to produce and tolerate n-octanol as part of a gas fermentation process. In parallel, BASF researchers developed a process that enables the continuous separation and purification of n-octanol. Following successful implementation in the laboratory, the team is now working on further process improvements. Integrating gas fermentation technology into the BASF Verbund could contribute to a carbon-neutral circular economy in the future.

Bio-based and biodegradable ingredients: Circular economy and sustainability are also playing an increasingly important role for our customers in the detergent and cleaner industry. That is why interdisciplinary teams at BASF have been working hard on the question of how to optimize cleaning performance and environmental compatibility. The focus here is on new ingredients that can be produced from renewable raw materials and biodegraded at the end of their productive life cycle. This calls for new approaches in research and development. We are developing a fundamental understanding of how biodegradation occurs under different conditions in joint projects with academic partners and closely coordinated laboratory and field research. The additional integration of new digital tools and faster screening and testing methods enables us to shorten our development times and develop high-performance, environmentally compatible ingredients – not only for cleaning purposes, but also for cosmetics and industrial applications such as agrochemicals.

Animal-free testing methods: The European Union wants to significantly improve the safety of chemical products. BASF supports this goal and has been actively working to make it a reality for many years. For example, in order to meet expanded requirements and additional testing obligations under the E.U.'s Chemicals Strategy for Sustainability in the future, we are developing innovative in vitro methods with our own laboratory team and together with partners. Among other things, they will help us to efficiently and reliably detect and evaluate potential hormonal effects of substances – even without animal testing. BASF has been researching alternative methods for many years and recently reached an important milestone: In 2021, the OECD approved the world's first toxicology testing strategy without animal testing – a joint project between BASF and Givaudan (see page 123). It can be used to reliably predict whether a substance causes allergic reactions in the skin without animal testing. We make all methods developed by us and approved freely available to interested companies and authorities.

The BASF Group's Business Year

In this section:
Economic Environment
Results of Operations
Net Assets
Financial Position
Actual Development Compared With Outlook for 2021
Business Review by Segment
Other
Non-Integral Oil and Gas Business
Regional Results
E.U. Taxonomy

Economic Environment[1]

The global economy recovered more quickly in 2021 from the previous year's severe slump in economic activity than had been expected at the beginning of the year. Many governments' aid programs and rising vaccination rates were key contributing factors to the recovery. Nevertheless, the economic upturn was repeatedly hampered by measures to contain the pandemic and supply chain disruptions.

For the outlook on the economic environment in 2022, see page 145 onward

2021 at a glance

+5.8%
Global GDP growth

>6%
Increase in global industrial and chemical production

- Economic recovery in Europe and the United States, slowing momentum in Asia
- Dynamic growth in global industrial production despite fragile supply chains and stagnating automotive industry
- Strong growth in the global chemical industry
- Sharp increase in prices for crude oil and naphtha, drastic rise in gas prices

Global gross domestic product (GDP) grew by 5.8% year on year (2020: –3.4%). Industrial production expanded by 6.5% (2020: –3.0%). Global chemical production grew by 6.1% (2020: –0.1%). The average price for a barrel of Brent crude oil increased to $71 per barrel (2020: $42 per barrel).

Trends in the global economy in 2021

The recovery of the global economy varied from region to region in 2021. There were severe restrictions on public life in the first half of the year, particularly in Europe. In the second and third quarters, many Asian countries struggled with coronavirus outbreaks and took corresponding countermeasures. China maintained its zero-Covid strategy throughout the year and responded to the emergence of any infections with strict containment measures. In the United States, most restrictions were eased after the first quarter despite sharply rising infection numbers over the course of the year. The steady reopening of economies was facilitated by increasing vaccination rates. Vaccination rates increased significantly during the year in Western Europe and the United States, followed by the advanced Asian countries and China with some delay. Other advanced emerging economies, for example in South America, now also have high vaccination rates. In contrast, vaccination rates are still low in large parts of the poorer countries of Africa and Asia, as well as in Russia.

GDP rates in 2021 were strongly influenced by base effects. China's GDP grew at a double-digit rate in the first quarter year on year. In the second quarter, the United States and the European Union then recorded very high growth rates. Global growth slowed down, however, in the second half of the year. Bottlenecks in global supply chains increasingly limited industry growth. Added to this were the dampening effects of very high energy prices and a further sharp rise in infection rates in individual countries.

1 All information relating to past years in this section can deviate from the previous year's report due to statistical revisions. Where available, calendar-adjusted macroeconomic growth rates are reported. Figures for 2021 not yet available in full are estimated.

Gross domestic product

Real change compared with previous year

	2021	2020
World	**5.8%**	**–3.4%**
E.U.[1]	5.2%	–6.1%
United States	5.7%	–3.4%
Emerging markets of Asia[2]	7.3%	0.0%
Japan	1.7%	–4.5%
South America	6.8%	–6.2%

Economic trends by region

In the **European Union (E.U.)**, GDP grew by 5.2% (2020: –6.1%). At the beginning of the year, restrictions in stationary retail, hospitality, tourism, and the cultural and entertainment sectors negatively impacted economic recovery. In the course of the second quarter, the restrictions were successively relaxed as a result of falling infection rates. At the same time, the vaccination campaign, which got off to a slow start due to a shortage of vaccines, gained momentum. Due to base effects, GDP growth in the second quarter was in the double digits compared with the previous year. There was, however, also a significant upturn in the second and third quarters of 2021 compared with the first quarter, especially in European tourist destinations. In France (+7.0%), Italy (+6.4%) and Spain (+5.0%), GDP grew especially dynamically in 2021. By contrast, Germany was hit harder by bottlenecks in intermediate inputs for the investment goods and automotive industries. At 2.8%, Germany's economy thus grew at a below-average rate in 2021. Despite lower vaccination rates and higher infection rates, growth in the eastern E.U. countries (+5.3%) was at a similar level to that in the western E.U. countries (+5.2%).

Despite the end of the Brexit transition period at the beginning of the year, the **United Kingdom's** economy (2021: +7.5%) recovered substantially from its major slump in the previous year (2020: –9.4%). Rapidly rising vaccination rates, as well as the complete reopening of the U.K. economy from mid-July, contributed to this. However, the consequences of Brexit were felt over the course of the year, particularly due to the shortage of labor in logistics chains and skilled trades.

Russia's GDP grew by 4.3% (2020: –2.9%). Increased oil and gas prices led to rising trade surpluses and bolstered growth, while high infection rates and lockdowns weighed on the economy.

Economic development in the **United States** was volatile. Government stimulus programs bolstered household demand considerably early in the year, which resulted in strong GDP growth in the first two quarters. However, due to the expiration of aid benefits and a further rise in infection rates coupled with increasing supply problems due to congestion in the country's largest ports, growth in private consumption was more sluggish in the second half of the year. In total, GDP in the United States grew by 5.7% in 2021 (2020: –3.4%).

In the **emerging markets of Asia**, growth weakened significantly in the course of the year. **China's** dynamic recovery that began in the previous year continued initially. However, mobility restrictions and selective lockdowns, even with only few occurrences of coronavirus infections, as well as more restrictive financing conditions in the construction sector, negatively affected domestic demand growth. In addition, energy was rationed. By contrast, export demand grew significantly. In total, the Chinese economy expanded by 8.1% (2020: 2.2%). Many other emerging markets in Asia, including India, Malaysia and Thailand, were forced to temporarily adopt restrictive measures to contain waves of infection. All in all, the region grew by 7.3% in 2021.

The economies of **Japan** and **South Korea** were also significantly impacted by the pandemic. Japan temporarily declared a state of emergency. Private consumption was thus only able to increase slightly. Although exports rose considerably, they were negatively affected by the decline in growth in China and supply bottlenecks in the automotive industry. Japan's GDP only grew by 1.7% (2020: –4.5%). South Korea saw significantly higher growth of 4.0% (2020: –0.9%).

The **South America** region recorded a rapid economic recovery, supported by rising prices for agricultural goods and industrial raw materials. Domestic demand in some countries was, however, dampened by currency devaluations and rising inflation rates. **Brazil** was able to increase its GDP by 4.7% (2020: –4.2%), bolstered by a considerable rise in exports and investments as well as moderate growth in private consumption. **Argentina's** economic output grew by a strong 9%, though the previous year's decline had been significantly larger at nearly –10%. For the region as a whole, GDP rose by 6.8% in 2021, after a decline of approximately the same magnitude in the previous year.

Trends in key customer industries

Growth in industrial production was negatively impacted by supply difficulties in 2021. In many areas, existing orders could not be processed due to a lack of intermediate goods. Transport capacities, especially ship and container capacities in overseas trade, were not sufficient to meet the sharp rise in demand for industrial goods. Furthermore, manufacturing disruptions in Asia due to regional lockdowns were also a factor.

Global industrial production grew by 6.5% in 2021 (2020: –3.0%). The advanced economies saw somewhat lower growth of 5.3% overall than the emerging markets, which saw a rise of 7.4%. The largest contribution to global industrial production growth came from China (2021: +8.4%; 2020: +3.7%). Around 30% of global industrial value creation and almost 40% of its growth were generated there. In total, over 50% of global industrial growth came from Asia. The region's production expanded by 7.5% in 2021 (2020: –0.1%).

1 In this chapter, "E.U." refers to the E.U. 27.
2 We define the emerging markets of Asia as Greater China, the ASEAN countries (Brunei, Indonesia, Malaysia, Myanmar, Cambodia, Laos, the Philippines, Singapore, Thailand, Vietnam), India, Pakistan and Bangladesh.

In the E.U., industrial production also increased significantly by 6.6% (2020: –7.1%). After the sharp decline in the previous year, the United Kingdom saw growth of 8.3% (2020: –10.4%). By contrast, North America's industrial growth was below average at 5.0% (2020: –4.8%). South America recorded an increase just above the global average (2021: 7.0%; 2020: –6.5%).

Growth in key customer industries

Real change compared with previous year

	2021	2020
Industry total	**6.5%**	**–3.0%**
Transportation	2.5%	–16.6%
Of which: automotive industry	2.5%	–15.9%
Energy and resources	3.3%	–3.5%
Construction	3.9%	–1.1%
Consumer goods	9.0%	–2.7%
Electronics	12.0%	3.2%
Health and nutrition	6.4%	0.2%
Agriculture	3.2%	2.0%

Global automotive production was particularly affected by supply problems with semiconductors. Although base effects ensured strong growth at the beginning of the year, the shortage in semiconductors worsened so significantly in the second half of the year that many automotive manufacturers had to respond by cutting production or even temporarily shutting down entire plants. As a result, automotive production grew only slightly overall by 2.5% in 2021 after contracting by 15.9% in the previous year. Production levels remained exceptionally low, with a total of around 76 million vehicles produced worldwide. Similarly low production volumes had last been recorded in the early 2010s. Moderate growth was achieved in Asia (+5.1%). The North American market stagnated (+0.1%). In the E.U., by contrast, production decreased by 6.2% in 2021, following a decline of nearly 25% in 2020. Of all the regions, South America achieved the highest growth rate; however, it saw the strongest decrease in the previous year (2021: +16.1%; 2020: –31.1%).

The **construction industry** expanded by around 4% (2020: –1.1%) despite a sharp rise in prices for scarce building materials. Growth was strongest in residential construction at almost 6%. Here, the rising demand for housing during the pandemic played a key role; furthermore, government transfers and persistently low interest rates strengthened the purchasing power of private households. Growth in residential construction was particularly high in the United States. Residential construction in Europe grew only slightly above the overall market average. In China, on the other hand, residential construction cooled significantly in the wake of the government's efforts to limit real estate prices and debt. Commercial construction investments remained weak with growth of less than 3%. Growth in the less volatile infrastructure segment was also below average at around 3%.

After a decline of 2.7% in the previous year, **consumer goods** production grew by a total of 9.0%. High growth rates between around 9% and 13% were recorded in the furniture and textile industries as well as in the production of electrical appliances. Expansion in the care products sector was, by contrast, more modest at 4.3%. This industry had not contracted in the previous year and was therefore less able to benefit from base effects.

The **electronics sector** saw above-average growth of 12%. It benefited from the general trend toward digitalization and connectivity, as well as from demand for consumer electronics and electronic control of household appliances and motor vehicles. Growth was slowed by capacity bottlenecks in the production of computer chips.

Global demand for energy and industrial raw materials rose sharply in 2021. Production in the **energy and raw materials** sector, however, only increased by 3.3% (2020: –3.5%), which resulted in significant price increases. The **health and nutrition** sector achieved growth of 6.4%, which was above average for recent years due to 15% growth in the pharmaceuticals industry resulting from vaccine production. Production in the food industry grew by 3.7%, which, by contrast, was just slightly better than the long-term average.

Also above average, **agricultural production** grew by 3.2%, as the overall negative impact of extreme weather events on yields was minor relative to recent years and global demand for agricultural goods increased dynamically due to economic recovery. Growth was driven primarily by Asia (+5.3%). By contrast, production growth was only weak in South America (+1.2%) and even declined slightly in North America and Europe.

Trends in the chemical industry

Global growth in the chemical industry was 6.1% in 2021, almost as high as growth for the industry as a whole, despite only a minimal decline in chemical production in the previous year unlike in many other industries. While the stronger performance in the previous year had mainly been due to extraordinary pandemic-related demand for disinfectants, cleaning agents and single-use plastics, as well as to the early recovery in China, in 2021, the global upswing in many consumer goods industries contributed to growth.

Chemical production in China, the world's largest chemical market, saw especially strong expansion (+7.7%). However, growth slowed at a high level during the course of the year. Electricity cuts had a negative effect on production, particularly in the third and fourth quarters. Growth in other emerging markets of Asia was also high at around 6.9%.

Chemical production growth in the European Union was also extraordinarily high at 6.0%. A contributing factor was the low basis in the previous year (2020: –2.1%). In addition, the European chemical industry benefited from the fact that availability of global production capacities for basic chemicals was intermittently limited. The Middle East (+6.2%) also recorded solid production growth.

By contrast, significant petrochemical capacities were temporarily unavailable in the United States, in particular. After the cold spell in the first quarter, production on the U.S. Gulf Coast was negatively impacted by hurricanes Ida and Nicholas as well. In total, production

in the United States thus only grew by 1.8% in 2021. Chemical production in South America increased by 4.6%.

Chemical production (excluding pharmaceuticals)

Real change compared with previous year

	2021	2020
World	**6.1%**	**–0.1%**
European Union	6.0%	–2.1%
United States	1.8%	–3.5%
Emerging markets of Asia	7.6%	2.4%
Japan	3.7%	–12.7%
South America	4.6%	–0.6%

Price trends for key commodities

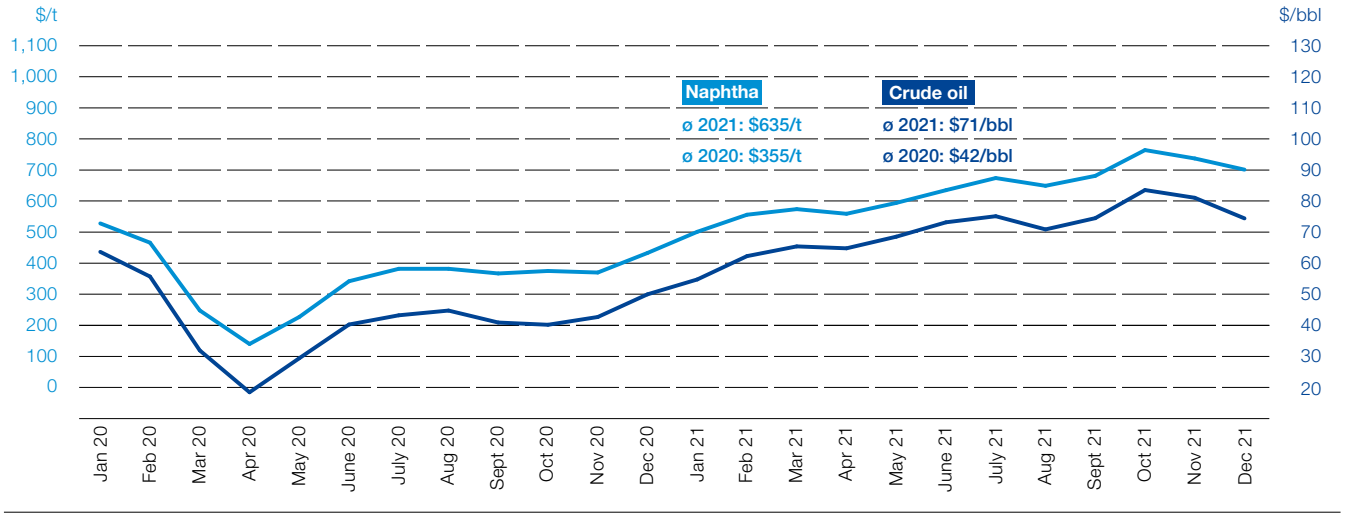
Following the slump in 2020, raw materials prices rose sharply over the course of 2021. Global oil demand increased significantly again, but supply was only augmented modestly by OPEC+. As a result, the average price for **reference Brent crude oil** increased to $71 per barrel (2020: $42 per barrel). The price of oil fluctuated over the course of the year between around $55 per barrel in January and around $84 per barrel in October.

Over the course of the year, the average monthly price for the chemical raw material naphtha ranged between $501 per metric ton in January and $764 per metric ton in October. At $635 per metric ton, the annualized average price of naphtha in 2021 was significantly higher than in 2020 ($355 per metric ton).

High demand from Asia, cold weather and low storage levels in Western Europe, as well as a limited supply of liquid natural gas led to sharp increases in gas prices. At $16.02 per mmBtu, the average price of gas on the European spot market in particular was significantly higher than in 2020 ($3.17 per mmBtu). It rose from an average price of $6.56 per mmBtu in the first quarter to $31.92 per mmBtu in the fourth quarter. The average price of gas in the United States was $3.89 per mmBtu, likewise well above the prior-year level ($1.99 per mmBtu). Gas prices in China averaged around $6.72 per mmBtu nationally (2020: $6.29 per mmBtu), while the average price in the coastal provinces was $7.99 per mmBtu (2020: $7.48 per mmBtu).

Price trends for crude oil (Brent) and naphtha

$/barrel, $/metric ton



Results of Operations

The global economy recovered much more strongly than we expected in 2021 following the severe slump in the previous year due to the effects of the coronavirus pandemic. Many governments' aid programs and rising vaccination rates were key contributing factors to this. In this market environment, growth in global industrial production and in the global chemical industry (excluding pharmaceuticals) was also significantly above the prior-year level and the long-term average. BASF's business also developed favorably: We considerably increased sales and earnings.

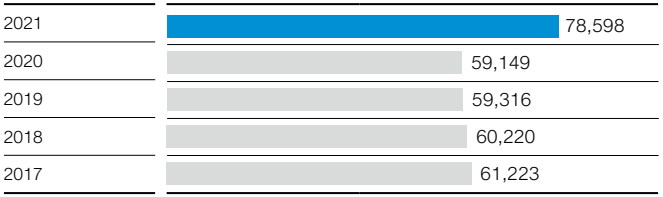
Business reviews by segment can be found from page 69 onward

At a glance

- Sales and EBIT before special items considerably above prior year
- Considerable increase in ROCE to 13.5%
- Net income from shareholdings improves by €1,116 million
- Earnings per share of €6.01; adjusted earnings per share of €6.76

Sales rose by €19,449 million compared with the previous year to €78,598 million in 2021. This was mainly driven by higher prices and volumes in all segments. Price levels increased in the Chemicals, Surface Technologies and Materials segments in particular. Sales volumes grew primarily in the Surface Technologies and Materials segments. Currency effects, mainly relating to the U.S. dollar, had an offsetting effect. Sales performance was also weighed down by negative portfolio effects, especially in the Industrial Solutions segment following the divestiture of the global pigments business. This could only be partly offset by positive portfolio effects, mainly from the acquisition of a majority shareholding in BASF Shanshan Battery Materials Co., Ltd. in the Surface Technologies segment.

Sales[a, b]
Million €



a Sales for 2018 were reduced by the share attributable to construction chemicals activities due to their presentation as discontinued operations. Figures for 2017 have not been restated.
b Sales for 2017 were reduced by the share attributable to oil and gas activities due to their presentation as discontinued operations.

For more information on the development of Accelerator sales, see page 141 onward

For more information on the development of CO_2 emissions, see page 127

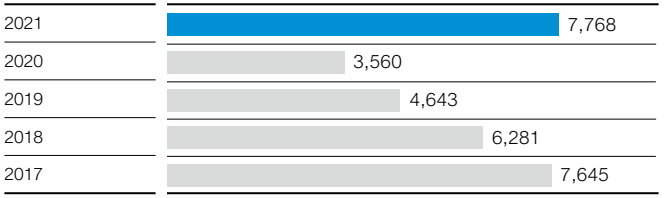
Factors influencing sales of the BASF Group

	Change in million €	Change in %
Volumes	6,279	10.6
Prices	14,673	24.8
Currencies	–1,439	–2.4
Acquisitions	431	0.7
Divestitures	–495	–0.8
Changes in the scope of consolidation	–1	0.0
Total change in sales	**19,449**	**32.9**

Income from operations (EBIT) before special items rose by €4,208 million to €7,768 million, largely due to considerably higher earnings in the Chemicals and Materials segments. Earnings development in the Chemicals segment was primarily driven by higher margins, higher sales volumes and an improvement in equity-accounted income. Earnings growth in the Materials segment was mainly attributable to higher margins in isocyanates and polyamides, as well as positive volume development. EBIT before special items also improved considerably in the Surface Technologies and Industrial Solutions segments, largely as a result of higher volumes. By contrast, the Nutrition & Care and Agricultural Solutions segments recorded considerably lower EBIT before special items. The decline in earnings in the Nutrition & Care segment was mainly attributable to lower margins on the back of higher raw materials and energy prices, as well as an increase in fixed costs. EBIT before special items was lower in the Agricultural Solutions segment, largely due to higher fixed costs, higher raw materials prices and logistics costs, and a low-margin product mix. The segment's earnings were additionally weighed down by negative currency effects.

For an explanation of the indicator EBIT before special items, see page 43

EBIT before special items[a, b, c]
Million €



a EBIT for 2019 has been restated to reflect the reclassification of income from non-integral companies accounted for using the equity method to net income from shareholdings. Figures for the years 2017 and 2018 have not been restated.
b EBIT before special items for 2018 was reduced by the share attributable to construction chemicals activities due to their presentation as discontinued operations. Figures for 2017 have not been restated.
c EBIT before special items for 2017 was reduced by the share attributable to oil and gas activities due to their presentation as discontinued operations.

Special items in EBIT totaled –€91 million in 2021, compared with –€3,751 million in the previous year, which was strongly impacted by impairments on property, plant and equipment and intangible assets in the total amount of around €2.9 billion. In 2021, restructuring measures gave rise to expenses of €99 million (2020: expenses of €952 million), mainly in the Agricultural Solutions and Materials segments and in Other. The release of provisions in connection with the restructuring of the Global Business Services unit had an offsetting effect. Integration costs amounted to €85 million (2020: integration costs of €157 million) and primarily related to the integration of the acquired BASF Shanshan companies and the polyamide business acquired from Solvay in 2020. Divestitures, which also included the disposal of the global pigments business, gave rise to

special income totaling €120 million, especially from the sale of our production site in Kankakee, Illinois, the Coatings division's precision microchemicals business and our share in the condensate splitter in Port Arthur, Texas. Other items led to special charges in the total amount of €27 million.

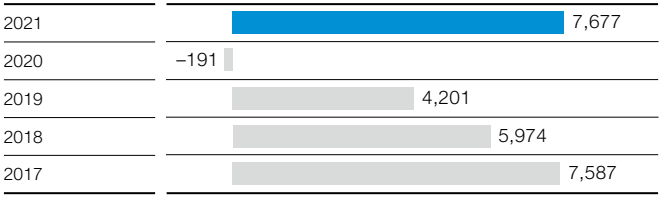
For the definition of special items, see page 43

Special items
Million €

	2021	2020
Restructuring measures	–99	–952
Integration costs	–85	–157
Divestitures	120	–76
Other charges and income	–27	–2,566
Total special items in EBIT	**–91**	**–3,751**

At €7,677 million, **EBIT** for the BASF Group in 2021 was considerably above the previous year, which was impacted by high impairments. This figure includes income from integral companies accounted for using the equity method, which rose by €455 million to €675 million. This was mainly attributable to the business-related increase in the earnings contributed by BASF-YPC Company Ltd., Nanjing, China, which rose by €343 million.

EBIT[a, b, c]
Million €



a EBIT for 2019 has been restated to reflect the reclassification of income from non-integral companies accounted for using the equity method to net income from shareholdings. Figures for the years 2017 and 2018 have not been restated.
b EBIT before special items for 2018 was reduced by the share attributable to construction chemicals activities due to their presentation as discontinued operations. Figures for 2017 have not been restated.
c EBIT for 2017 was reduced by the share attributable to oil and gas activities due to their presentation as discontinued operations.

We use the indicator **return on capital employed (ROCE)**. ROCE was 13.5%, after 1.7% in the previous year. The increase in ROCE was primarily due to considerably higher EBIT.[1]

For more information on the calculation of ROCE, see page 42

The calculation of EBIT as part of our statement of income is shown in the Consolidated Financial Statements on page 194

ROCE
Million €

		2021	2020
EBIT of BASF Group		7,677	–191
– EBIT of Other		–641	–1,203
EBIT of the segments		8,317	1,012
Cost of capital basis of segments, average of month-end figures		**61,579**	**60,111**
ROCE	**%**	**13.5**	**1.7**

Capital employed
Million €

	2021	2020
Intangible assets	13,143	14,249
+ Property, plant and equipment	19,280	20,210
+ Integral investments accounted for using the equity method	1,682	1,395
+ Inventories	11,459	10,469
+ Accounts receivable, trade	11,588	9,379
+ Current and noncurrent other receivables and other assets[a]	3,908	3,149
+ Assets of disposal groups	520	1,260
Cost of capital basis of segments, average of month-end figures	**61,579**	**60,111**
+ Deviation from cost of capital basis at closing rates as of December 31	2,688	–3,948
+ Assets not included in cost of capital	23,115	24,129
Assets of the BASF Group as of December 31	**87,383**	**80,292**

a Including customer/supplier financing and other adjustments

1 For more information on net assets, see page 61 onward

Net income from shareholdings, financial result and income after taxes

Net income from shareholdings was above the prior-year figure, rising by €1,116 million to €207 million in 2021 (2020: –€909 million). The increase was mainly due to special income from the sale of our shares in Solenis (€589 million) as well as the improved earnings contribution from Wintershall Dea AG (–€344 million). This included impairments in the amount of €581 million, less than in the prior year.

The **financial result** amounted to –€436 million, compared with –€462 million in the previous year. The interest result improved by €59 million overall, due in part to lower interest expenses for financial indebtedness. The other financial result amounted to –€122 million after –€89 million in 2020, primarily driven by higher net expenses in connection with bonds in foreign currency and the corresponding hedging instruments. Lower write-downs on securities and loans, as well as a lower net interest expense from pension plans and similar obligations had an offsetting effect.

Income before income taxes amounted to €7,448 million in 2021, after –€1,562 million in 2020.

Income tax expenses were €1,430 million, after the negative pre-tax result had led to tax income of €91 million in the previous year.

Compared with 2020, **income after taxes from continuing operations** rose by €7,489 million to €6,018 million. **Income after taxes from discontinued operations** amounting to –€36 million resulted from purchase price adjustments for the divestiture of the construction chemicals business. The prior-year figure of €396 million included the book gain from the sale of the former Construction Chemicals division and its operating income after taxes until divestiture.

Income after taxes in the amount of €5,982 million (2020: –€1,075 million) included €5,523 million attributable to shareholders of BASF SE (2020: –€1,060 million). **Noncontrolling interests** amounted to €459 million, after –€15 million in the prior year. This mainly resulted from a higher earnings contribution from BASF TotalEnergies Petrochemicals LLC in Port Arthur, Texas, and a positive earnings contribution from BASF Petronas Chemicals Sdn. Bhd. Petaling Jaya, Malaysia, where earnings in the prior year had been impacted by impairments.

In 2021, earnings per share amounted to €6.01, compared with –€1.15 in the previous year.

For more information on the items in the statement of income, see the Notes to the Consolidated Financial Statements from page 200 onward

For more information on the tax rate, see Note 12 to the Consolidated Financial Statements from page 231 onward

Additional indicators for results of operations

We also use alternative performance measures (APMs) to steer the BASF Group. Investors, analysts and rating agencies use them to assess our performance. These are not defined by IFRS. As such, the methods of calculation can differ from those used by other companies. Alternative performance measures for the results of operations are EBIT before special items, EBITDA before special items, EBITDA, the EBITDA margin and adjusted earnings per share. Other APMs are net debt,[1] free cash flow[1] and capital expenditure (capex).[2]

Income from operations before depreciation, amortization and special items (EBITDA before special items) and **income from operations before depreciation and amortization (EBITDA)** are indicators that describe operational performance independent of age-related depreciation and amortization of assets and any impairment or reversal of impairment. Both figures are therefore particularly useful in cross-company comparisons. EBITDA before special items is also highly useful in making comparisons over time. The EBITDA margin is a relative indicator and is calculated as the ratio of EBITDA to sales revenue, enabling operational performance to be compared independent of the size of the underlying business.

EBITDA before special items rose by €3,913 million year on year to €11,348 million in 2021. At €11,355 million, EBITDA was €4,861 million above the prior-year figure. The EBITDA margin was 14.4% in 2021, compared with 11.0% in the previous year.

EBITDA before special items

Million €

	2021	2020
EBIT	7,677	–191
– Special items	–91	–3,751
EBIT before special items	**7,768**	**3,560**
+ Depreciation and amortization	3,534	3,805
+ Impairments and reversals of impairments on property, plant and equipment and intangible assets before special items	45	70
Depreciation, amortization, impairments and reversals of impairments on property, plant and equipment and intangible assets before special items	**3,580**	**3,875**
EBITDA before special items	**11,348**	**7,435**

1 For more information on these indicators, see the Financial Position from page 63 onward
2 For more information on capex, see Our Steering Concept on page 43 and Material Investments and Portfolio Measures on page 38

EBITDA

Million €

	2021	2020
EBIT	7,677	–191
+ Depreciation and amortization	3,534	3,805
+ Impairments and reversals of impairments on property, plant and equipment and intangible assets	144	2,880
Depreciation, amortization, impairments and reversals of impairments on property, plant and equipment and intangible assets	**3,678**	**6,685**
EBITDA	**11,355**	**6,494**
Sales revenue	78,598	59,149
EBITDA margin %	**14.4**	**11.0**

Adjusted earnings per share

Million €

	2021	2020
Income after taxes	**5,982**	**–1,075**
– Special items[a]	–181	–4,606
+ Amortization, impairments and reversals of impairments on intangible assets	614	1,496
– Amortization, impairments and reversals of impairments on intangible assets contained in special items	0	819
– Adjustments to income taxes	116	958
– Adjustments to income after taxes from discontinued operations	–36	251
Adjusted income after taxes	**6,695**	**2,999**
– Adjusted noncontrolling interests	483	54
Adjusted net income	**6,212**	**2,945**
Weighted average number of outstanding shares (in thousands)	918,479	918,479
Adjusted earnings per share €	**6.76**	**3.21**

a Includes special items in net income from shareholdings of €90 million for 2021 and €855 million for 2020

Compared with earnings per share, **adjusted earnings per share** is firstly adjusted for special items. Amortization, impairment and reversal of impairment on intangible assets are then eliminated. Amortization of intangible assets primarily results from the purchase price allocation following acquisitions and is therefore of a temporary nature. The effects of these adjustments on income taxes and on noncontrolling interests are also considered. This makes adjusted earnings per share a suitable measure for making comparisons over time and predicting future profitability.

In 2021, adjusted earnings per share amounted to €6.76, compared with €3.21 in the previous year.

For more information on the earnings per share according to IFRS, see Note 6 to the Consolidated Financial Statements on page 220

Sales and earnings

Million €

		2021	2020	+/–
Sales		78,598	59,149	32.9%
Income from operations before depreciation, amortization and special items		11,348	7,435	52.6%
Income from operations before depreciation and amortization (EBITDA)		11,355	6,494	74.9%
EBITDA margin	%	14.4	11.0	–
Depreciation and amortization[a]		3,678	6,685	–45.0%
Income from operations (EBIT)		7,677	–191	.
Special items		–91	–3,751	97.6%
EBIT before special items		7,768	3,560	118.2%
Income before income taxes		7,448	–1,562	.
Income after taxes from continuing operations		6,018	–1,471	.
Income after taxes from discontinued operations		–36	396	.
Net income		5,523	–1,060	.
Earnings per share	€	6.01	–1.15	.
Adjusted earnings per share	€	6.76	3.21	110.6%

a Depreciation and amortization of property, plant and equipment and intangible assets (including impairments and reversals of impairments)

Sales and earnings by quarter in 2021[a]

Million €

		Q1	Q2	Q3	Q4	Full year
Sales		19,400	19,753	19,669	19,776	78,598
Income from operations before depreciation, amortization and special items		3,181	3,217	2,771	2,179	11,348
Income from operations before depreciation and amortization (EBITDA)		3,176	3,199	2,729	2,250	11,355
Depreciation and amortization[b]		865	883	907	1,023	3,678
Income from operations (EBIT)		2,311	2,316	1,822	1,227	7,677
Special items		–10	–39	–43	1	–91
EBIT before special items		2,321	2,355	1,865	1,227	7,768
Income before income taxes		2,247	2,189	1,777	1,235	7,448
Income after taxes from continuing operations		1,810	1,794	1,424	990	6,018
Income after taxes from discontinued operations		–	–	–43	7	–36
Net income		1,718	1,654	1,253	898	5,523
Earnings per share	€	1.87	1.80	1.36	0.98	6.01
Adjusted earnings per share	€	2.00	2.03	1.56	1.17	6.76

Sales and earnings by quarter in 2020[a]

Million €

		Q1	Q2	Q3	Q4	Full year
Sales		16,753	12,680	13,811	15,905	59,149
Income from operations before depreciation, amortization and special items		2,579	1,229	1,542	2,085	7,435
Income from operations before depreciation and amortization (EBITDA)		2,428	1,070	1,044	1,952	6,494
Depreciation and amortization[b]		972	1,011	3,682	1,020	6,685
Income from operations (EBIT)		1,456	59	–2,638	932	–191
Special items		–184	–167	–3,219	–181	–3,751
EBIT before special items		1,640	226	581	1,113	3,560
Income before income taxes		1,200	–923	–2,786	947	–1,562
Income after taxes from continuing operations		881	–888	–2,177	713	–1,471
Income after taxes from discontinued operations		22	14	13	347	396
Net income		885	–878	–2,122	1,055	–1,060
Earnings per share	€	0.97	–0.96	–2.31	1.15	–1.15
Adjusted earnings per share	€	1.26	0.25	0.60	1.10	3.21

a Quarterly results not audited
b Depreciation and amortization of property, plant and equipment and intangible assets (including impairments and reversals of impairments)

Net Assets

Assets

	December 31, 2021		December 31, 2020	
	Million €	%	Million €	%
Intangible assets	13,499	15.4	13,145	16.4
Property, plant and equipment	21,553	24.7	19,647	24.5
Integral investments accounted for using the equity method	2,540	2.9	1,878	2.3
Non-integral investments accounted for using the equity method	9,843	11.3	10,874	13.5
Other financial assets	575	0.7	582	0.7
Deferred tax assets	2,600	3.0	3,386	4.2
Other receivables and miscellaneous assets	1,722	2.0	912	1.1
Noncurrent assets	**52,332**	**59.9**	**50,424**	**62.7**
Inventories	13,868	15.9	10,010	12.5
Accounts receivable, trade	11,942	13.7	9,466	11.8
Other receivables and miscellaneous assets	5,568	6.4	4,673	5.8
Marketable securities	208	0.2	207	0.3
Cash and cash equivalents	2,624	3.0	4,330	5.4
Assets of disposal groups	840	1.0	1,182	1.5
Current assets	**35,051**	**40.2**	**29,868**	**37.3**
Total assets	**87,383**	**100.0**	**80,292**	**100.0**

Assets

At a glance

- Increase in total assets to €87,383 million mainly due to higher current assets
- Intangible fixed assets and property, plant and equipment around €2.3 billion above the prior year-end figure overall

Total assets amounted to €87,383 million as of December 31, 2021, €7,091 million above the prior-year level.

Noncurrent assets rose by €1,908 million to €52,332 million. This was mainly attributable to the €1,906 million increase in property, plant and equipment. Additions to property, plant and equipment amounted to €4,410 million and included €332 million in connection with the formation of BASF Shanshan Battery Materials Co., Ltd. Currency effects of €798 million also contributed to the increase. Depreciation amounted to €2,922 million. Intangible assets amounted to €13,499 million, €354 million above the prior year-end figure. The increase was due in particular to currency effects in the amount of €572 million. Additions to intangible assets totaled €470 million and included €392 million from the formation of BASF Shanshan Battery Materials, of which goodwill was €254 million. Amortization of €612 million had an offsetting effect.

For more information on the above transactions see page 41 of this Management's Report and Note 3 to the Consolidated Financial Statements from page 207 onward

Noncurrent other receivables and miscellaneous assets amounted to €1,722 million, up €810 million from the prior-year level. This primarily resulted from higher defined benefit assets and derivatives with positive fair values.

Integral investments accounted for using the equity method rose by €662 million year on year to €2,540 million, mainly due to positive after-tax earnings at BASF YPC-Company Ltd., Nanjing, China, and positive currency effects.

The €1,031 million decline in the carrying amounts of non-integral shareholdings accounted for using the equity method compared with December 31, 2020, was largely attributable to dividend payments by and negative after-tax earnings at Wintershall Dea AG and to the disposal of the shareholding in Solenis.

Other financial assets decreased by €7 million compared with the prior year-end figure.

Deferred tax assets declined by €786 million, primarily as a result of lower pension provisions.

Current assets rose by €5,183 million to €35,051 million. This was driven by the €3,858 million increase in inventories compared with the prior year-end as a result of higher raw materials prices and the stronger business performance in 2021. The €2,476 million increase in trade accounts receivable was also mainly due to strong business development.

Other receivables and miscellaneous assets rose by €895 million, primarily due to higher tax refund claims and positive fair values of derivatives.

The €1,706 million decrease in cash and cash equivalents compared with the figure as of December 31, 2020, to €2,624 million had an offsetting effect.

Assets of disposal groups amounted to €840 million as of December 31, 2021. These include the assets of the shareholding in the Hollandse Kust Zuid wind farm and the kaolin minerals business, which is held for sale.

For more information on the composition and development of individual asset items, see the Notes to the Consolidated Financial Statements from page 200 onward

Financial Position

Equity and liabilities

	December 31, 2021		December 31, 2020	
	Million €	%	Million €	%
Subscribed capital and capital reserves	4,282	4.9	4,291	5.3
Retained earnings	40,365	46.2	37,911	47.2
Other comprehensive income	–3,855	–4.4	–8,474	–10.6
Noncontrolling interests	1,289	1.5	670	0.8
Equity	**42,081**	**48.2**	**34,398**	**42.8**
Provisions for pensions and similar obligations	6,160	7.0	8,566	10.7
Deferred tax liabilities	1,499	1.7	1,447	1.8
Tax provisions	415	0.5	587	0.7
Other provisions	1,782	2.0	1,484	1.8
Financial indebtedness	13,764	15.8	15,819	19.7
Other liabilities	1,600	1.8	1,711	2.1
Noncurrent liabilities	**25,220**	**28.8**	**29,614**	**36.9**
Accounts payable, trade	7,826	9.0	5,291	6.6
Provisions	3,935	4.5	2,825	3.5
Tax liabilities	1,161	1.3	988	1.2
Financial indebtedness	3,420	3.9	3,395	4.3
Other liabilities	3,679	4.2	3,440	4.3
Liabilities of disposal groups	61	0.1	341	0.4
Current liabilities	**20,081**	**23.0**	**16,280**	**20.3**
Total equity and liabilities	**87,383**	**100.0**	**80,292**	**100.0**

Equity and liabilities

At a glance

- Equity ratio of 48.2% after 42.8% in previous year
- Net debt slightly reduced to €14,352 million
- Rated A by Standard & Poor's, Moody's and Fitch
- Cash flows from operating activities and free cash flow higher year on year

Equity rose by €7,683 million compared with the previous year to €42,081 million. Retained earnings rose by €2,454 million, mainly because net income significantly exceeded the dividend payments of €3,031 million disbursed in the second quarter of 2021. Other comprehensive income increased equity by €4,619 million, primarily as a result of actuarial gains and currency effects.

The equity ratio improved from 42.8% to 48.2%.

Compared with the 2020 year-end, **noncurrent liabilities** declined by €4,394 million to €25,220 million. This was primarily attributable to the €2,406 million decrease in provisions for pensions and similar obligations, mainly as a result of higher interest rates in all relevant currency zones and returns on plan assets.

Furthermore, noncurrent financial indebtedness declined by €2,055 million. This was primarily due to the reclassification of three bonds with an aggregate carrying amount of €1,936 million and a loan in the amount of €240 million to current financial indebtedness. Exchange rates and interest had an offsetting effect.

Tax provisions declined by €172 million year on year to €415 million. By contrast, deferred tax liabilities were slightly above the prior year-end figure, at €1,499 million.

The €111 million decrease in other noncurrent liabilities largely resulted from lower negative fair values of derivatives.

Other provisions rose by €298 million, mainly due to higher environmental provisions.

At €20,081 million, **current liabilities** were €3,801 million above the figure as of December 31, 2020. This was primarily due to the €2,535 million increase in trade accounts payable, largely as a result of positive business development. In addition, current provisions rose by €1,110 million compared with the previous year, primarily from higher provisions for bonus payments and for rebates. Other liabilities increased by €239 million.

Current financial indebtedness was on a level with the prior year-end. This was attributable to the above-mentioned reclassification of three bonds and a loan in the aggregate amount of around €2.2 billion from noncurrent to current financial indebtedness. The reduction in commercial paper at BASF SE (around €1 billion) and the scheduled repayment of a eurobond (€1 billion) and a loan (€150 million) had an offsetting effect.

Tax liabilities rose by €173 million compared with the previous year.

Liabilities of disposal groups amounted to €61 million.

Net debt declined by €325 million compared with December 31, 2020, to €14,352 million.

For more information on the composition and development of individual asset items, see the Notes to the Consolidated Financial Statements from page 200 onward

For more information on the development of the balance sheet, see the Ten-Year Summary on page 288

Net debt
Million €

	December 31, 2021	December 31, 2020
Noncurrent financial indebtedness	13,764	15,819
+ Current financial indebtedness	3,420	3,395
Financial indebtedness	**17,184**	**19,214**
– Marketable securities	208	207
– Cash and cash equivalents	2,624	4,330
Net debt	**14,352**	**14,677**

Off-balance sheet obligations

Off-balance sheet obligations mainly relate to long-term purchase obligations for raw materials. We also concluded long-term supply agreements for green power in 2021. In addition, obligations exist in connection with initiated or planned investment projects.

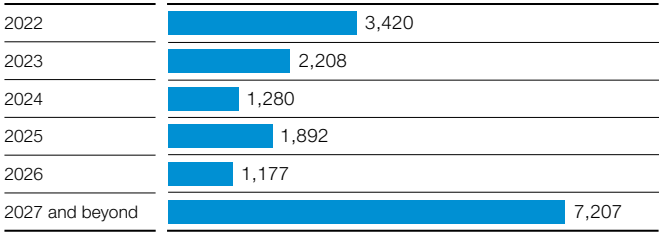
For more information, see Note 25 to the Consolidated Financial Statements on page 263 and the forecast from page 145 onward

Financing policy and credit ratings

Our financing policy aims to ensure our solvency at all times, limiting the risks associated with financing and optimizing our cost of capital. We preferably meet our external financing needs on the international capital markets.

We strive to maintain a solid A rating, which ensures unrestricted access to financial and capital markets. Our financing measures are aligned with our operational business planning as well as the company's strategic direction and also ensure the financial flexibility to take advantage of strategic options.

Maturities of financial indebtedness
Million €

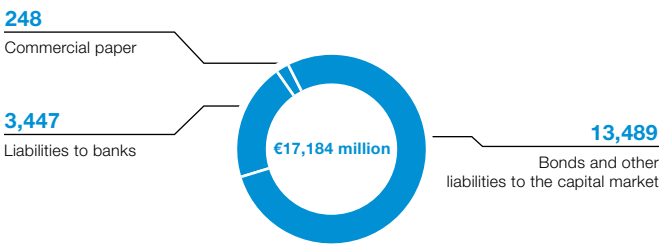


BASF enjoys good credit ratings, especially compared with competitors in the chemical industry. Standard & Poor's most recently confirmed its rating for BASF of A/A-1/outlook stable on January 6, 2022. Moody's most recently confirmed BASF's A3/P-2/outlook stable rating on January 5, 2022. Fitch's rating of A/F1/outlook stable from June 11, 2021, also remained unchanged.

We have solid financing. Corporate bonds form the basis of our medium to long-term debt financing. These are issued in euros and other currencies with different maturities as part of our €20 billion debt issuance program. The goal is to create a balanced maturity profile, diversify our financing and optimize our debt capital financing conditions.

For short-term financing, we use BASF SE's global commercial paper program, which has an issuing volume of up to $12.5 billion. As of December 31, 2021, commercial paper with a carrying amount of €248 million was outstanding under this program. A firmly committed, syndicated credit line of €6 billion with a term until 2026 covers the repayment of outstanding commercial paper. It can also be used for general company purposes. The credit line, as well as a short-term credit line of €3 billion that expired in the second quarter of 2021, were not used at any point in 2021. Our external financing is therefore largely independent of short-term fluctuations in the credit markets.

Financing instruments
Million €



BASF Group's most important financial contracts contain no side agreements with regard to specific financial ratios (financial covenants) or compliance with a specific rating (rating trigger).

To minimize risks and leverage internal optimization potential within the Group, we bundle the financing, financial investments and foreign currency hedging of BASF SE's subsidiaries within the BASF Group where possible. Foreign currency risks are primarily hedged centrally using derivative financial instruments in the market.

Our interest risk management generally pursues the goal of reducing interest expenses for the BASF Group and limiting interest risks. Interest rate hedging transactions are therefore conducted with banks in order to turn selected liabilities to the capital market from fixed to variable interest rates or vice versa.

For more information on the financing tools and hedging instruments used, see Note 21 from page 251 onward and Note 26 from page 263 onward in the Notes to the Consolidated Financial Statements

Statement of cash flows

Cash flows from operating activities amounted to €7,245 million, compared with €5,413 million in the previous year. The considerable increase was primarily due to the improvement in net income, which had included high impairments in the previous year. Accordingly, depreciation and amortization of property, plant and equipment and intangible assets was significantly below the prior-year figure in 2021, at €3,687 million. An offsetting factor was cash tied up in net working capital, which rose by €1,166 million to €1,566 million in 2021. This mainly resulted from the significant increase in inventories by €3,304 million due to higher business volumes and prices after a reduction in inventories had supported operating cash flows in the previous year.

Cash of €1,272 million was tied up in receivables, €904 million less than in the prior year. The improvement was due in particular to the reduction in precious metal trading exposures. Trade accounts receivable rose by €1,799 million, €805 million more than in the previous year. By contrast, the €3,010 million rise in liabilities increased operating cash flows. This was largely attributable to the increase in trade accounts payable and current provisions. This effect was less pronounced in the previous year at €927 million.

Miscellaneous items led to cash tied up of €398 million in 2021, after cash released of €122 million in the previous year. This was due in particular to the elimination of equity-accounted income and the reclassification of income from divestitures, including the gain on the disposal of the shareholding in Solenis, to cash flows from investing activities.

Cash flows from investing activities totaled –€2,622 million in 2021, after –€1,904 million in the previous year. Payments received for divestitures and the disposal of the shareholding in Solenis in 2021 were below the figure from the disposal of the construction chemicals business in the previous year. By contrast, payments made for acquisitions amounted to €600 million in 2021, around half the prior-year figure. The €403 million increase in payments made for property, plant and equipment and intangible assets also contributed to the decrease in cash flows from investing activities.

Cash flows from financing activities amounted to –€6,457 million. In addition to the payment of dividends in the amount of €3,312 million (2020: €3,139 million), financial and similar liabilities were reduced by €3,145 million.

Free cash flow, which remains after deducting payments made for property, plant and equipment and intangible assets from cash flows from operating activities, represents the financial resources remaining after investments. It amounted to €3,713 million in 2021, after €2,284 million in the previous year.

Statement of cash flows

Million €

	2021	2020
Net income	5,523	–1,060
Depreciation and amortization of property, plant and equipment and intangible assets	3,687	6,751
Changes in net working capital	–1,566	–400
Miscellaneous items	–398	122
Cash flows from operating activities	**7,245**	**5,413**
Payments made for property, plant and equipment and intangible assets	–3,532	–3,129
Acquisitions/divestitures	430	1,280
Changes in financial assets and miscellaneous items	480	–55
Cash flows from investing activities	**–2,622**	**–1,904**
Capital increases/repayments and other equity transactions	–	3
Changes in financial and similar liabilities	–3,145	1,580
Dividends	–3,312	–3,139
Cash flows from financing activities	**–6,457**	**–1,556**
Cash-effective changes in cash and cash equivalents	–1,834	1,953
Cash and cash equivalents at the beginning of the period and other changes[a]	4,458	2,382
Cash and cash equivalents at the end of the year[a]	**2,624**	**4,335**

a In 2021 and 2020, cash and cash equivalents presented in the statement of cash flows deviate from the figures in the balance sheet. For explanations and other disclosures on the statement of cash flows, see Note 27 to the Consolidated Financial Statements from page 277 onward.

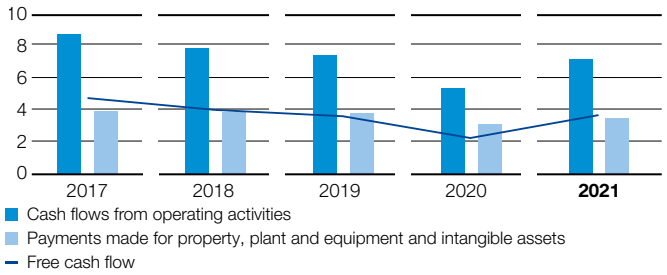
Free cash flow

Million €

	2021	2020
Cash flows from operating activities	7,245	5,413
– Payments made for property, plant and equipment and intangible assets	3,532	3,129
Free cash flow	**3,713**	**2,284**

Cash flow

Billion €



Actual Development Compared With Outlook for 2021

Sales, earnings and ROCE forecast for the BASF Group

We increased **sales** to €78.6 billion in 2021, considerably above our forecast at the beginning of the year of sales growth to between €61 billion and €64 billion. Sales in the Surface Technologies, Chemicals, Industrial Solutions, Agricultural Solutions and Nutrition & Care segments rose more strongly than initially expected. This was driven primarily by significantly higher prices, especially in the Surface Technologies and Chemicals segments. We increased sales volumes as expected. Currency and portfolio effects had an offsetting impact, in line with our assumptions.

At €7.8 billion, **EBIT before special items** likewise significantly exceeded the forecast range of between €4.1 billion and €5.0 billion. The Industrial Solutions, Nutrition & Care and Agricultural Solutions segments in particular did not develop as expected. Industrial Solutions increased EBIT before special items considerably, contrary to the forecast of a slight decline. EBIT before special items in the Agricultural Solutions and Nutrition & Care segments declined considerably; in both segments, we had expected a slight improvement in earnings.

We considerably increased **ROCE** in almost all segments. ROCE increased only slightly in the Agricultural Solutions segment, while the Nutrition & Care segment saw a considerable decline. Overall, the degree of improvement exceeded our expectations: ROCE for the BASF Group amounted to 13.5%, considerably above the range we had forecast of between 8.0% and 9.2%.

We revised the outlook provided in February 2021 in April, July and October 2021. In October 2021, we projected sales of between €76 billion and €78 billion. We expected EBIT before special items of €7.5 billion to €8.0 billion. For ROCE, we forecast a range of 13.2% to 14.1%.

Forecast/actual comparison

	Sales		EBIT before special items		ROCE	
	2021 forecast	2021 actual	2021 forecast	2021 actual	2021 forecast	2021 actual
Chemicals	↗	↑	↑	↑	↑	↑
Materials	↑	↑	↑	↑	↑	↑
Industrial Solutions	↘	↑	↘	↑	↑	↑
Surface Technologies	↗	↑	↑	↑	↑	↑
Nutrition & Care	↗	↑	↗	↓	↑	↓
Agricultural Solutions	↗	↑	↗	↓	↑	↗
Other	↑	↑	↑	↑	–	–
BASF Group	**€61 billion–€64 billion[a]**	**€78.6 billion**	**€4.1 billion–€5.0 billion[a]**	**€7.8 billion**	**8.0%–9.2%[a]**	**13.5%**

→ At prior-year level: no change (+/–0.0%)
↗|↘ Slight increase/decrease: "slight" represents a change of 0.1%–5.0% for sales; 0.1%–10.0% for earnings; 0.1 to 1.0 percentage points for ROCE
↑|↓ Considerable increase/decrease: "considerable" represents a change of 5.1% or higher for sales; 10.1% or higher for earnings; more than 1.0 percentage points for ROCE

a We updated our outlook in April, July and October 2021. We most recently updated it in October 2021, forecasting sales of between €76 billion and €78 billion, EBIT before special items of between €7.5 billion and €8.0 billion, and a ROCE of between 13.2% and 14.1%.

Accelerator sales and CO_2 emissions forecast for the BASF Group

We increased **Accelerator sales** to €24.1 billion in 2021, considerably above the range forecast in February of between €18 billion and €19 billion. The range forecast in October – between €21.5 billion and €22.5 billion – was likewise exceeded. This was due to the BASF Group's extremely positive business performance, which was also reflected in Accelerator sales. The decline caused by the divestiture of the global pigments business and the resulting outflow of Accelerator products only had a slight offsetting effect overall.

CO_2 emissions amounted to 20.2 million metric tons, slightly below the range we forecast in February of between 20.5 million metric tons and 21.5 million metric tons. BASF significantly increased production volumes in 2021 in response to stronger demand. To reduce the additional emissions resulting from this, we made procuring energy from renewable sources a focus. To this end, BASF converted energy supply agreements, acquired renewable energy certificates and signed long-term supply agreements for green power. A project to reduce nitrous oxide emissions in Ludwigshafen, Germany, was successfully implemented. Divestitures such as the disposal of the global pigments business led to a slight decline in emissions. In addition, emissions were significantly reduced by the lower capacity utilization of the ammonia plant due to the sharp rise in natural gas prices.

Capex forecast for the BASF Group

In 2021, we invested a total of €3.4 billion in capital expenditures (capex), excluding additions from acquisitions, IT investments, restoration obligations and right-of-use assets arising from leases. The figure forecast in February 2021 was €3.6 billion.

Sales, earnings and ROCE forecast for the segments

We considerably increased sales in the **Chemicals** segment in 2021, after only forecasting a slight increase in sales at the beginning of the year. Both divisions raised prices, significantly exceeding the price increases assumed in February as a result of extraordinary supply bottlenecks in the markets. We increased volumes as expected. The segment considerably increased EBIT before special items and ROCE, in line with the forecast.

The **Materials** segment recorded a considerable improvement in sales, EBIT before special items and ROCE as forecast.

Sales in the **Industrial Solutions** segment rose considerably in 2021, exceeding our expectations of a slight decline. This was largely driven by volume growth. Against our assumptions, this more than compensated for the negative effects from the divestiture of the global pigments business. The segment's volume growth also led to considerably higher EBIT before special items, contrary to our forecast of a slight decline. ROCE was significantly above the prior-year level, as expected.

The **Surface Technologies** segment achieved significant sales growth, exceeding our forecast from February, in which we had assumed only a slight increase in sales. This primarily resulted from higher precious metal prices, which rose more strongly than expected. The significant recovery in EBIT before special items and ROCE materialized as expected.

Sales in the **Nutrition & Care** segment were considerably above the prior-year figure, exceeding our forecast of slight growth. This was mainly due to higher price levels, after we had assumed lower prices in February. We increased volumes in both divisions as expected. EBIT before special items declined significantly in 2021, falling short of our expectations of a slight increase. The decrease was attributable to lower earnings contributions from both divisions. This was mainly due to lower margins as a result of higher raw materials and energy prices as well as higher fixed costs, primarily from higher bonus provisions. ROCE also declined considerably in line with earnings development in the segment. Our forecast had assumed a considerable increase.

Sales in the **Agricultural Solutions** segment rose considerably, not just slightly as forecast. Higher sales volumes and prices exceeded negative currency effects to a greater extent than we had anticipated. Contrary to our forecast of a slight increase, EBIT before special items was considerably below the prior-year level. The positive sales development was unable to compensate for an increase in fixed costs, mainly from higher bonus provisions, higher raw materials prices and logistics costs, and a low-margin product mix. Based on the development of earnings, we were only able to increase ROCE slightly, against our assumption of a considerable increase.

We significantly improved sales and EBIT before special items in **Other** as forecast.

For more information on our forecast for 2022, see page 148 onward

For more information on investments, see page 38 onward

Business Review by Segment

Segments:
Chemicals
Materials
Industrial Solutions
Surface Technologies
Nutrition & Care
Agricultural Solutions

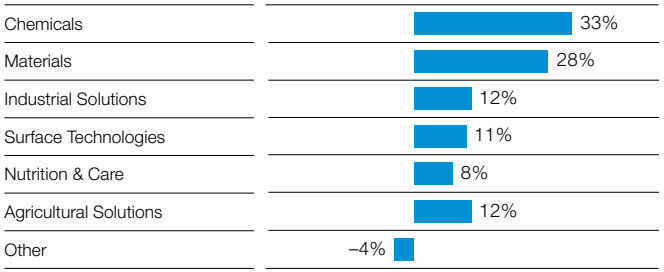
Segment overview
Million €

	Sales		Income from operations before depreciation and amortization (EBITDA)		Income from operations (EBIT) before special items	
	2021	2020	2021	2020	2021	2020
Chemicals	13,579	8,071	3,764	1,237	2,974	445
Materials	15,214	10,736	3,162	1,556	2,418	835
Industrial Solutions	8,876	7,644	1,344	1,099	1,006	822
Surface Technologies	22,659	16,659	1,243	900	800	484
Nutrition & Care	6,442	6,019	967	1,152	497	773
Agricultural Solutions	8,162	7,660	1,358	1,582	715	970
Other	3,666	2,360	–484	–1,032	–643	–769
BASF Group	**78,598**	**59,149**	**11,355**	**6,494**	**7,768**	**3,560**

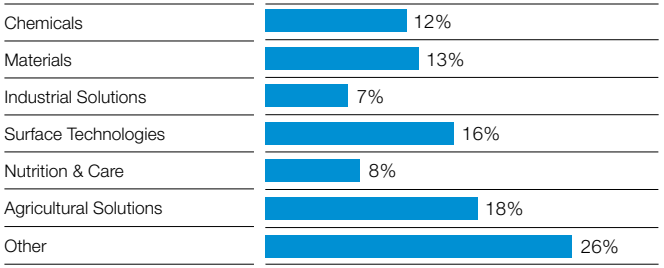
	Income from operations (EBIT)		Assets		Investments including acquisitions[a]	
	2021	2020	2021	2020	2021	2020
Chemicals	2,997	–192	10,369	7,896	1,157	871
Materials	2,345	–109	11,286	9,118	709	1,957
Industrial Solutions	965	630	6,302	6,402	361	331
Surface Technologies	761	–587	13,769	11,691	1,469	585
Nutrition & Care	554	688	7,231	6,214	654	510
Agricultural Solutions	696	582	15,305	14,840	347	459
Other	–641	–1,203	23,121	24,131	183	156
BASF Group	**7,677**	**–191**	**87,383**	**80,292**	**4,881**	**4,869**

a Additions to property, plant and equipment (of which from acquisitions: €332 million in 2021 and €559 million in 2020) and intangible assets (of which from acquisitions: €392 million in 2021 and €691 million in 2020)

Contributions to EBITDA by segment



Contributions to assets by segment

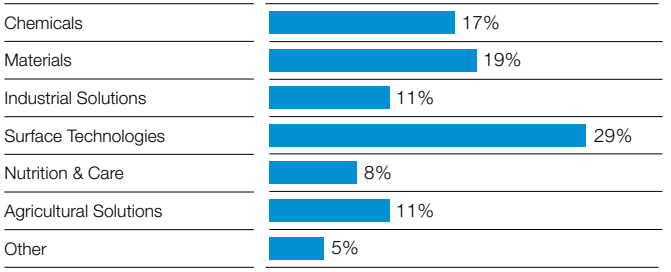


Sales[a]

Million €

	Q1		Q2		Q3		Q4	
	2021	2020	2021	2020	2021	2020	2021	2020
Chemicals	2,736	2,350	3,419	1,791	3,693	1,783	3,731	2,147
Materials	3,447	2,874	3,743	2,143	3,973	2,657	4,052	3,062
Industrial Solutions	2,108	2,098	2,359	1,819	2,205	1,844	2,204	1,883
Surface Technologies	5,947	4,328	5,892	3,099	5,631	4,142	5,189	5,090
Nutrition & Care	1,533	1,582	1,584	1,555	1,598	1,427	1,727	1,455
Agricultural Solutions	2,846	2,819	1,963	1,766	1,593	1,474	1,760	1,601
Other	783	702	793	507	976	484	1,113	667
BASF Group	**19,400**	**16,753**	**19,753**	**12,680**	**19,669**	**13,811**	**19,776**	**15,905**

Contributions to total sales by segment

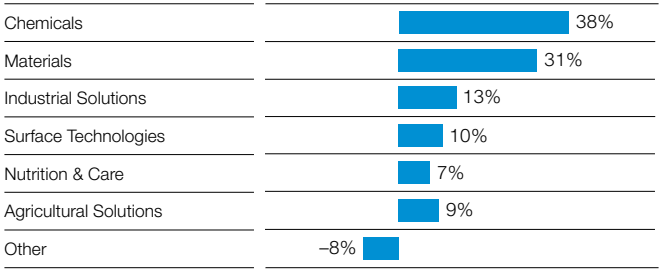


Income from operations (EBIT) before special items[a]

Million €

	Q1		Q2		Q3		Q4	
	2021	2020	2021	2020	2021	2020	2021	2020
Chemicals	558	174	990	–2	850	46	576	227
Materials	672	209	792	–80	631	217	323	489
Industrial Solutions	266	273	307	163	262	186	171	200
Surface Technologies	360	220	289	–151	119	200	32	215
Nutrition & Care	218	254	138	256	104	143	37	120
Agricultural Solutions	807	809	75	120	–90	26	–77	15
Other	–560	–299	–236	–80	–11	–237	165	–153
BASF Group	**2,321**	**1,640**	**2,355**	**226**	**1,865**	**581**	**1,227**	**1,113**

Contributions to EBIT before special items by segment



a Quarterly results not audited

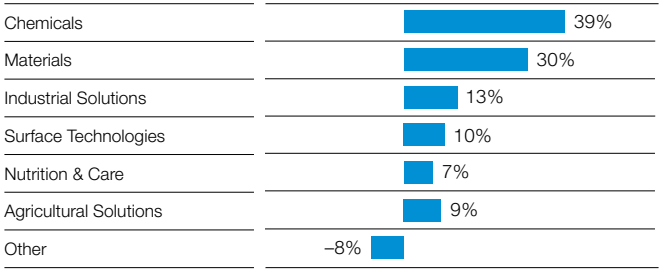
Income from operations (EBIT)[a]

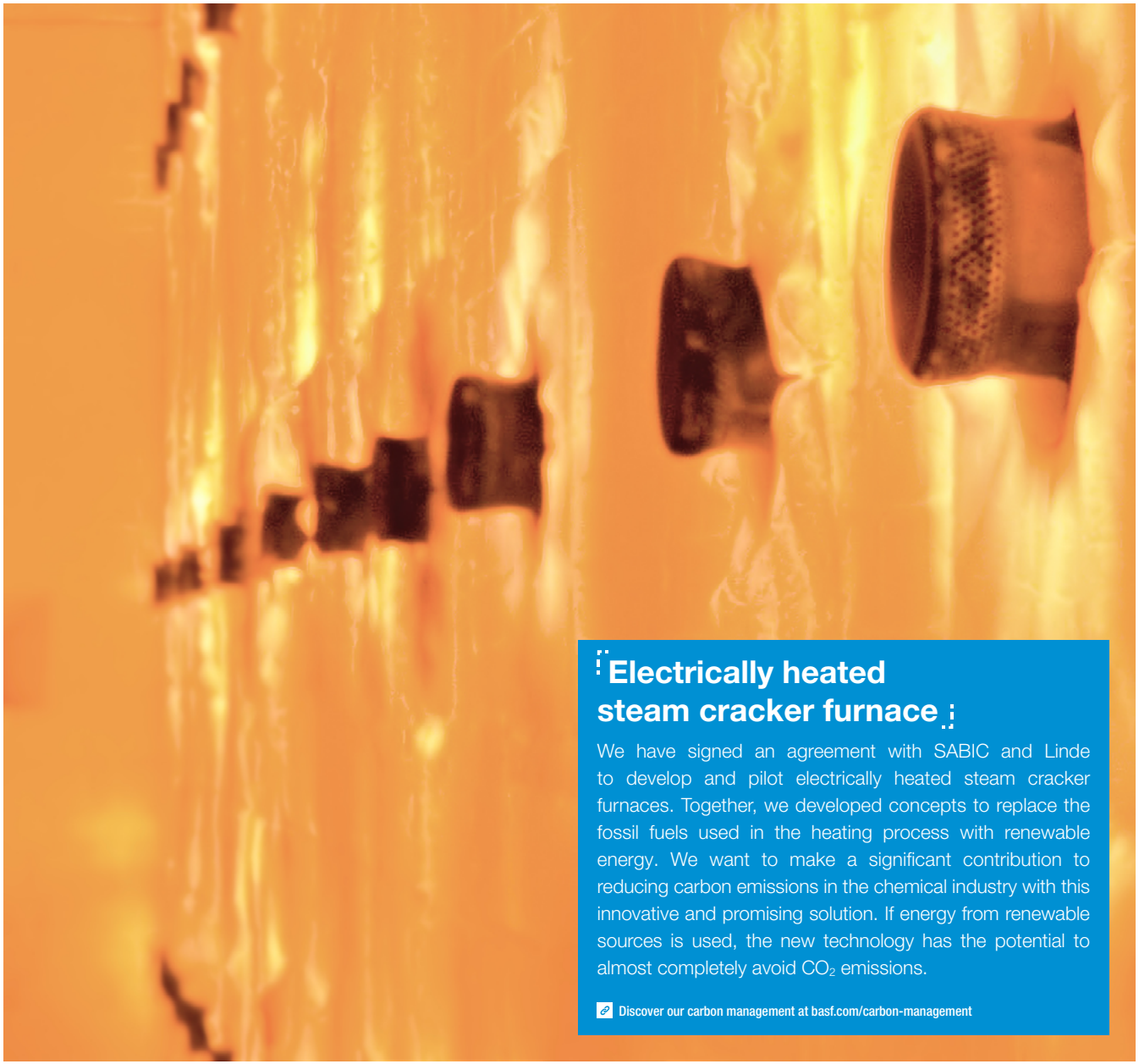
Million €

	Q1		Q2		Q3		Q4	
	2021	2020	2021	2020	2021	2020	2021	2020
Chemicals	605	170	981	–18	850	–504	561	160
Materials	648	119	762	–102	620	–546	315	420
Industrial Solutions	259	240	340	133	229	78	136	179
Surface Technologies	356	217	289	–176	104	–803	12	175
Nutrition & Care	215	244	194	255	105	86	40	103
Agricultural Solutions	804	787	35	95	–44	–304	–99	4
Other	–576	–321	–285	–128	–42	–645	262	–109
BASF Group	**2,311**	**1,456**	**2,316**	**59**	**1,822**	**–2,638**	**1,227**	**932**

a Quarterly results not audited

Contributions to EBIT by segment





Electrically heated steam cracker furnace

We have signed an agreement with SABIC and Linde to develop and pilot electrically heated steam cracker furnaces. Together, we developed concepts to replace the fossil fuels used in the heating process with renewable energy. We want to make a significant contribution to reducing carbon emissions in the chemical industry with this innovative and promising solution. If energy from renewable sources is used, the new technology has the potential to almost completely avoid CO_2 emissions.

Discover our carbon management at basf.com/carbon-management

Chemicals

The Chemicals segment consists of the Petrochemicals and Intermediates divisions. It supplies the other segments with basic chemicals and intermediates, contributing to the organic growth of our key value chains. Alongside internal transfers, our customers mainly come from the chemical and plastics industries. We aim to further expand our competitiveness through technological leadership and operational excellence.

For more information on the Chemicals segment's business model, see page 33 onward

Sales

€13,579 million

2020 €8,071 million

EBIT before special items

€2,974 million

2020: €445 million

Business review

At a glance

- Sales rise 68.2% to €13,579 million, mainly due to higher prices
- EBIT before special items improves by 568.3% to €2,974 million

At €13,579 million, **sales to third parties** in the Chemicals segment were €5,508 million above the prior-year figure in 2021. Both divisions contributed to the increase with considerable sales growth. The Petrochemicals division increased sales by €4,248 million to €9,674 million, while sales in the Intermediates division rose by €1,259 million to €3,904 million.

Factors influencing sales – Chemicals

	Chemicals	Petrochemicals	Intermediates
Volumes	9.6%	10.5%	7.9%
Prices	61.2%	71.5%	40.2%
Portfolio	–0.7%	–1.0%	0.0%
Currencies	–1.9%	–2.6%	–0.4%
Sales	**68.2%**	**78.3%**	**47.6%**

Sales performance was mainly driven by significantly higher price levels. This was largely due to strong demand alongside low product availability, mainly caused by extreme weather conditions such as Winter Storm Uri in North America, supply chain disruptions, as well as significantly higher feedstock and energy costs. As a result, the Petrochemicals division increased prices in all business areas, especially for steam cracker products, styrene monomers and along the entire propylene value chain. The Intermediates division raised prices in the butanediol and derivatives business in particular, as well as in the acids and polyalcohols business.

Sales growth was supported by a significant increase in volumes due to strong demand. Volumes in the Petrochemicals division grew mainly in steam cracker products and styrene monomers. The Intermediates division increased volumes primarily in the butanediol and derivatives business and in the acids and polyalcohols business. The amines business in Europe also posted significant volume growth. In the previous year, volume development was significantly weighed down by the impact of the coronavirus pandemic and the unplanned outage of the steam cracker in Port Arthur, Texas.

Sales growth was curbed by negative currency effects, mainly relating to the U.S. dollar.

Sales development was slightly dampened by portfolio effects in the Petrochemicals division from the disposal of our share in the condensate splitter in Port Arthur, Texas, to Total Petrochemicals & Refining USA, Inc.

Segment data – Chemicals

Million €

		2021	2020	+/–
Sales to third parties		13,579	8,071	68.2%
of which Petrochemicals		9,674	5,426	78.3%
Intermediates		3,904	2,645	47.6%
Intersegment transfers		4,269	2,861	49.2%
Sales including transfers		17,848	10,932	63.3%
Income from operations before depreciation, amortization and special items		3,724	1,305	185.4%
Income from operations before depreciation and amortization (EBITDA)		3,764	1,237	204.3%
EBITDA margin	%	27.7	15.3	–
Depreciation and amortization[a]		767	1,429	–46.3%
Income from operations (EBIT)		2,997	–192	.
Special items		23	–637	.
EBIT before special items		2,974	445	568.3%
Return on capital employed (ROCE)	%	32.9	–2.2	–
Assets		10,369	7,896	31.3%
Investments including acquisitions[b]		1,157	871	32.9%
Research and development expenses		97	96	1.1%

a Depreciation and amortization of property, plant and equipment and intangible assets (including impairments and reversals of impairments)
b Additions to property, plant and equipment and intangible assets

Chemicals – sales

By division

Compared with 2020, **income from operations (EBIT) before special items** rose by €2,529 million to €2,974 million as a result of considerable earnings growth in both divisions. In both the Petrochemicals and Intermediates divisions, this was primarily attributable to significantly higher margins, higher sales volumes and improved income from investments accounted for using the equity method.

EBIT amounted to €2,997 million, an improvement of €3,189 million compared with the previous year. This included special income from the disposal of our share in the condensate splitter in the first quarter of 2021. In the previous year, special items were mainly impacted by impairments.

For the outlook for 2022, see page 148 onward

Division sales by region
(Location of customer)

Divisions	Europe	North America	Asia Pacific	South America, Africa, Middle East	Total (million €)
Petrochemicals	56%	28%	11%	5%	9,674
Intermediates	37%	15%	45%	3%	3,904

Division, products, applications

	Products	Customer industries and applications
Petrochemicals	Ethylene, propylene, butadiene, benzene, alcohols, solvents, plasticizers, alkylene oxides, glycols, acrylic monomers, styrene and polystyrene, styrenic foams, superabsorbents	Chemical, plastics, construction, detergent, hygiene, automotive, packaging and textile industries; production of paints, coatings, cosmetics, oilfield and paper chemicals Use in the BASF Verbund
Intermediates	Basic products: butanediol and derivatives, alkylamines and alkanolamines, neopentyl glycol, formic and propionic acid Specialties: Specialty amines such as tertiary butylamine and polyetheramine, gas treatment chemicals, vinyl monomers, acid chlorides, chloroformates, chiral intermediates	Chemical, plastics, coatings, construction, automotive, wind energy, pharmaceutical and agricultural industries; production of detergents and cleaners as well as crop protection products and textile fibers Use in the BASF Verbund

Production capacities of selected products in the regions[a]

Product	Europe	North America	Asia Pacific	South America, Africa, Middle East	Annual capacity (metric tons)
Acrylic acid	■	■	■	■	1,510,000
Alkylamines	■	■	■		250,000
Formic acid	■	■	■		305,000
Benzene	■	■	■		910,000
Butadiene	■	■	■		680,000
Butanediol equivalents	■	■	■		550,000
Ethanolamines and derivatives	■		■		440,000
Ethylene	■	■	■		3,480,000
Ethylene oxide	■	■	■		1,445,000
Neopentylglycol	■	■	■		255,000
Oxo-C4 alcohols (calculated as butyraldehyde)	■	■	■		1,625,000
PolyTHF®	■	■	■		350,000
Propionic acid	■		■		180,000
Propylene	■	■	■		2,630,000
Styropor®/Neopor®	■		■		545,000
Superabsorbents	■	■	■	■	565,000
Plasticizers	■	■			595,000

a All capacities are included at 100%, including plants belonging to joint operations and joint ventures.

Haptex®

Haptex® is a more environmentally friendly, water-soluble polyurethane solution used in the production of synthetic leather. Among other things, Haptex®'s solvent-free production process cuts greenhouse gas emissions by around 50%. It also reduces energy consumption by more than 20% per kilo of chemicals in synthetic leather production. Moreover, Haptex® offers a wide range of applications and meets the demand for products that are eco-conscious, durable and high quality. BASF expects to grow faster than the market for solvent-based products with Haptex®. The company aims to achieve annual growth of more than 50% with the product by 2025.

Discover Haptex® at basf.com/haptex

Materials

The Materials segment comprises the Performance Materials and Monomers divisions. The segment's portfolio comprises advanced materials and their precursors for new applications and systems such as isocyanates, polyamides and inorganic basic products as well as specialties for the plastics and plastics processing industries. We aim to grow mainly organically, differentiate ourselves from our competitors through specific technology expertise, industry knowledge and customer proximity, and create maximum value in the isocyanate and polyamide value chains.

For more information on the Materials segment's business model, see page 33 onward

Sales

€15,214 million

2020: €10,736 million

EBIT before special items

€2,418 million

2020: €835 million

Business review

At a glance

- Sales growth of 41.7% to €15,214 million, mainly driven by higher prices
- EBIT before special items of €2,418 million; considerable increase as a result of higher earnings in both divisions

The Materials segment increased **sales to third parties** by €4,478 million year on year to €15,214 million in 2021. This was due to considerable sales growth in both divisions. The Monomers division increased sales by €2,821 million to €7,922 million. At €7,292 million, sales in the Performance Materials division were €1,657 million above the prior-year figure.

Factors influencing sales – Materials

	Materials	Performance Materials	Monomers
Volumes	12.0%	14.1%	9.6%
Prices	30.0%	16.2%	45.2%
Portfolio	0.7%	0.6%	0.9%
Currencies	–0.9%	–1.5%	–0.3%
Sales	**41.7%**	**29.4%**	**55.3%**

Sales growth was due mainly to significantly higher prices resulting from strong demand alongside low product availability and increased prices for raw materials. Production and supply chain disruptions associated with extreme weather conditions and raw material shortages negatively impacted product market availability. The Monomers division achieved higher prices primarily in isocyanates and polyamides, while the Performance Materials division raised price levels mainly in polyurethane systems and engineering plastics.

Segment data – Materials

Million €

		2021	2020	+/–
Sales to third parties		15,214	10,736	41.7%
of which Performance Materials		7,292	5,635	29.4%
Monomers		7,922	5,101	55.3%
Intersegment transfers		1,250	720	73.6%
Sales including transfers		16,464	11,456	43.7%
Income from operations before depreciation, amortization and special items		3,208	1,714	87.2%
Income from operations before depreciation and amortization (EBITDA)		3,162	1,556	103.2%
EBITDA margin	%	20.8	14.5	–
Depreciation and amortization[a]		817	1,665	–50.9%
Income from operations (EBIT)		2,345	–109	.
Special items		–73	–944	92.3%
EBIT before special items		2,418	835	189.6%
Return on capital employed (ROCE)	%	22.8	–1.1	–
Assets		11,286	9,118	23.8%
Investments including acquisitions[b]		709	1,957	–63.8%
Research and development expenses		193	182	6.1%

a Depreciation and amortization of property, plant and equipment and intangible assets (including impairments and reversals of impairments)
b Additions to property, plant and equipment and intangible assets

Volumes rose significantly as a result of strong demand and contributed to sales growth. The Performance Materials division recorded higher sales volumes in the transportation and consumer goods industries, especially in Asia Pacific and Europe. In the second half of 2021, volume development was however negatively impacted by the semiconductor shortage in the automotive market and the resulting production outages. Overall, sales volumes in the construction industry were slightly above the prior-year level. Higher volumes in Europe more than compensated for lower volumes in North America. The Monomers division increased volumes, especially of polyamide 6.6 following the slight recovery in automotive production in 2021 after the weak prior year due to the pandemic. Sales volumes of methylene diphenyl diisocyanate (MDI) were also higher.

Portfolio effects from the acquisition of the integrated polyamide business from Solvay, which closed as of January 31, 2020, had a slightly positive impact on sales.

Currency effects, primarily relating to the U.S. dollar, had a slightly negative impact on sales development in both divisions.

Materials – sales

By division

Income from operations (EBIT) before special items rose by €1,583 million compared with 2020 to €2,418 million. Both divisions considerably increased EBIT before special items. Earnings growth in the Monomers division was primarily due to higher margins in isocyanates and polyamides. In the Performance Materials division, EBIT before special items was above the prior-year level, mainly driven by positive volume development.

EBIT rose by €2,454 million year on year to €2,345 million. Special items amounted to –€73 million in 2021, after –€944 million in 2020. The special charges in the previous year were primarily attributable to impairments.

For the outlook for 2022, see page 148 onward

Division sales by region

(Location of customer)

Divisions	Europe	North America	Asia Pacific	South America, Africa, Middle East	Total (million €)
Performance Materials	36%	20%	39%	5%	7,292
Monomers	47%	19%	29%	5%	7,922

Division, products, applications

	Products	Customer industries and applications
Performance Materials	Engineering plastics, biodegradable plastics, foam specialties, polyurethanes	Automotive manufacture, electrical engineering, packaging, games, sports and leisure, household, mechanical engineering, construction, agriculture, medical technology, sanitation and water industry, solar thermal energy and photovoltaics
Monomers	Isocyanates (MDI, TDI), ammonia, caprolactam, adipic acid, chlorine, urea, glues and impregnating resins, caustic soda, polyamides 6 and 6.6, standard alcoholates, sulfuric and nitric acid	Industries such as plastics, woodworking, furniture, packaging, textile, construction and automotive Use in the BASF Verbund

Production capacities of selected products in the regions[a]

Product	Europe	North America	Asia Pacific	South America, Africa, Middle East	Annual capacity (metric tons)
Ammonia	■	■			1,765,000
Chlorine	■				595,000
Urea	■				545,000
Isocyanates	■	■	■		2,620,000
Polyamides 6 and 6.6	■	■	■		925,000
Polyamide precursors	■	■	■		1,420,000
Propylene	■				675,000
Sulfuric acid	■				920,000

a All capacities are included at 100%, including plants belonging to joint operations and joint ventures.

acResin® for more sustainable self-adhesives

acResin® is a high-performance UV-curable hotmelt made of 100% acrylic. We want to play a key role in making the self-adhesives market more sustainable with this product, which is why we have steadily expanded the range of applications for acResin® and plan to continue to do so in the future. An eco-efficiency analysis certified by TÜV, an independent testing services provider, showed that compared with traditional solvent-based adhesives, acResin® enables a significant reduction in CO_2 emissions of around 60%. Due to the consistent rise in market demand and range of applications, BASF expects to continue to grow by around 8% annually with acResin® until 2026.

Discover acResin® at basf.com/acresin

Industrial Solutions

The Industrial Solutions segment consists of the Dispersions & Resins and the Performance Chemicals divisions. It develops and markets ingredients and additives for industrial applications, such as fuel and lubricant solutions, polymer dispersions, resins, electronic materials, antioxidants, light stabilizers, oilfield chemicals, and mineral processing and hydrometallurgical chemicals. We aim to grow organically in key industries such as automotive, plastics, electronics, and energy and resources, and expand our position by leveraging our comprehensive industry expertise and application know-how.

For more information on the Industrial Solutions segment's business model, see page 33 onward

Sales

€8,876 million

2020: €7,644 million

EBIT before special items

€1,006 million

2020: €822 million

Business review

At a glance

- Sales of € 8,876 million; considerable growth mainly driven by higher volumes and prices
- Considerable increase in EBIT before special items to €1,006 million

Sales to third parties in the Industrial Solutions segment rose by €1,232 million year on year to €8,876 million in 2021. This was attributable to considerably higher sales in both divisions. The Dispersions & Resins division increased sales by €812 million to €5,681 million. Sales in the Performance Chemicals division amounted to €3,195 million, €420 million above the prior-year figure.

Sales influences – Industrial Solutions

	Industrial Solutions	Dispersions & Resins	Performance Chemicals
Volumes	11.4%	11.4%	11.5%
Prices	11.2%	14.5%	5.4%
Portfolio	–5.0%	–7.9%	0.0%
Currencies	–1.5%	–1.3%	–1.8%
Sales	**16.1%**	**16.7%**	**15.1%**

The positive sales performance was attributable to higher volumes and prices in both divisions. The increase in sales volumes mainly resulted from the global economic recovery from the coronavirus pandemic. Volume growth in the Dispersions & Resins division was mainly driven by the dispersions business. The Performance Chemicals division recorded higher sales volumes in all business areas.

The higher price level was driven primarily by increased raw materials prices. Both divisions raised prices in almost all business areas and all regions.

Segment data – Industrial Solutions

Million €

		2021	2020	+/–
Sales to third parties		8,876	7,644	16.1%
of which Dispersions & Resins		5,681	4,869	16.7%
Performance Chemicals		3,195	2,775	15.1%
Intersegment transfers		420	375	11.9%
Sales including transfers		9,296	8,019	15.9%
Income from operations before depreciation, amortization and special items		1,343	1,189	13.0%
Income from operations before depreciation and amortization (EBITDA)		1,344	1,099	22.3%
EBITDA margin	%	15.1	14.4	–
Depreciation and amortization[a]		380	469	–19.0%
Income from operations (EBIT)		965	630	53.1%
Special items		–42	–192	78.4%
EBIT before special items		1,006	822	22.4%
Return on capital employed (ROCE)	%	15.2	9.3	–
Assets		6,302	6,402	–1.6%
Investments including acquisitions[b]		361	331	9.1%
Research and development expenses		175	177	–1.1%

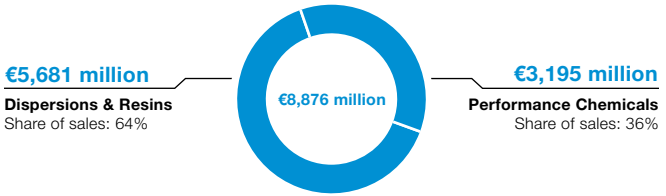
a Depreciation and amortization of property, plant and equipment and intangible assets (including impairments and reversals of impairments)
b Additions to property, plant and equipment and intangible assets

Portfolio effects in the Dispersions & Resins division following the disposal of the global pigments business as of June 30, 2021, had an offsetting impact.

Sales were also reduced by slightly negative currency effects in both divisions, mainly relating to the U.S. dollar.

Industrial Solutions – sales

By division



Income from operations (EBIT) before special items rose considerably compared with 2020. This was attributable to considerably higher EBIT before special items in the Dispersions & Resins division, mainly as a result of volume growth.

By contrast, EBIT before special items declined slightly in the Performance Chemicals division. This was primarily due to the increase in fixed costs mainly from higher bonus provisions, lower margins due to higher raw materials prices, and negative currency effects. This could not be offset by the division's positive volume performance.

At €965 million, **EBIT** was €335 million above the prior-year figure. Special items amounted to –€42 million in 2021 after –€192 million in 2020. Special charges in the previous year related mainly to the carve-out of the pigments business and impairments.

For the outlook for 2022, see page 148 onward

Division sales by region
(Location of customer)

Divisions	Europe	North America	Asia Pacific	South America, Africa, Middle East	Total (million €)
Dispersions & Resins	40%	24%	30%	6%	5,681
Performance Chemicals	40%	23%	27%	10%	3,195

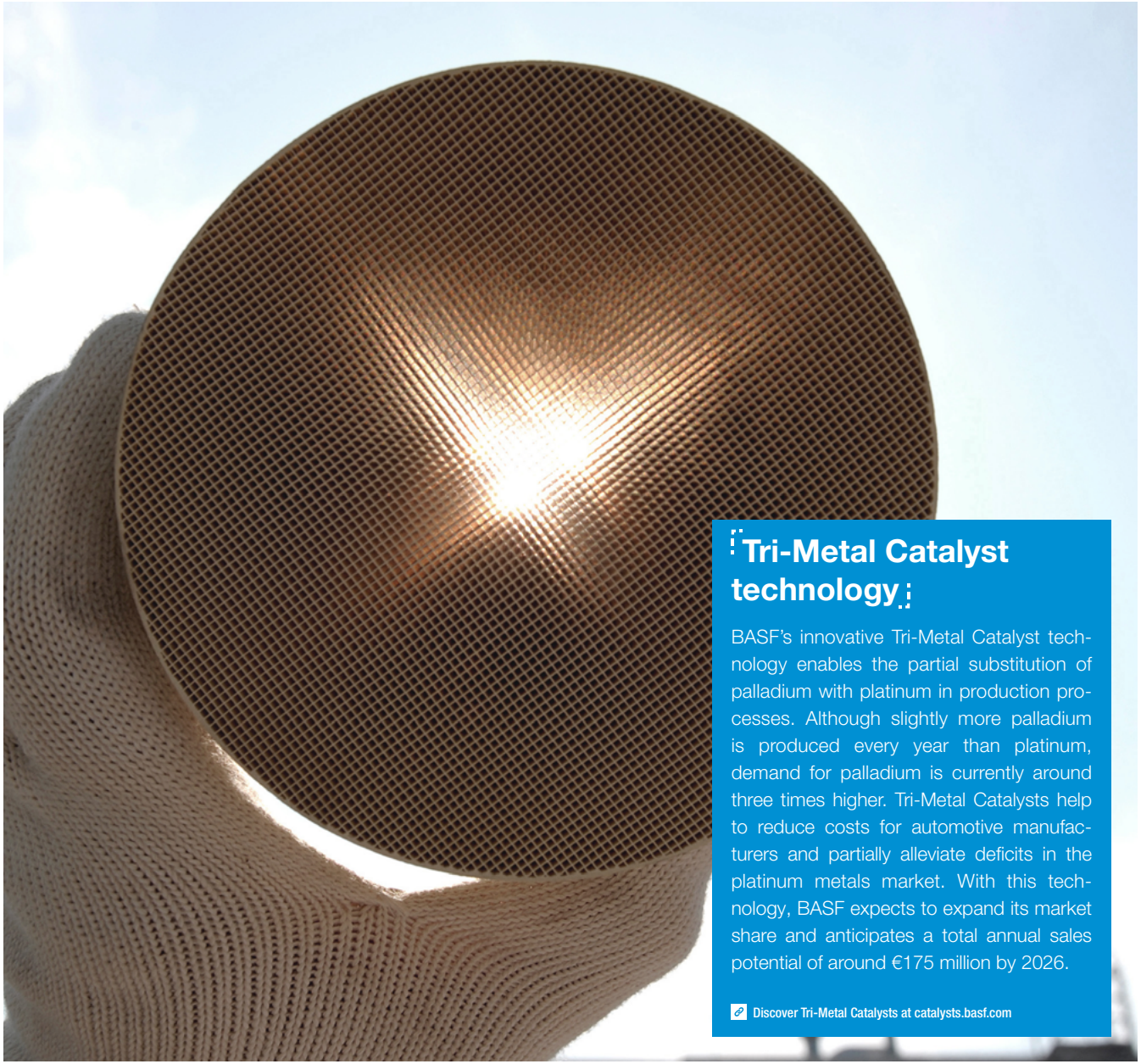
Division, products, applications

	Products	Customer industries and applications
Dispersions & Resins	Polymer dispersions, resins, additives, electronic materials	Coatings, construction, paper, printing and packaging, adhesives and electronics industries
Performance Chemicals	Antioxidants, light stabilizers and flame retardants for plastic applications Fuel and refinery additives, polyisobutene, brake fluids and engine coolants, lubricant additives and basestocks, components for metalworking fluids and compounded lubricants Process chemicals for the extraction of oil, gas, metals and minerals; chemicals for enhanced oil recovery Kaolin minerals	Chemicals, plastics, consumer goods, automotive and transportation industries, as well as energy and resources

Production capacities of selected products in the regions[a]

Product	Europe	North America	Asia Pacific	South America, Africa, Middle East	Annual capacity (metric tons)
Acrylics dispersions	■	■	■	■	1,783,000
Formulation additives	■	■	■		67,000
Polyisobutene	■		■		265,000

a All capacities are included at 100%, including plants belonging to joint operations and joint ventures.



Tri-Metal Catalyst technology

BASF's innovative Tri-Metal Catalyst technology enables the partial substitution of palladium with platinum in production processes. Although slightly more palladium is produced every year than platinum, demand for palladium is currently around three times higher. Tri-Metal Catalysts help to reduce costs for automotive manufacturers and partially alleviate deficits in the platinum metals market. With this technology, BASF expects to expand its market share and anticipates a total annual sales potential of around €175 million by 2026.

Discover Tri-Metal Catalysts at catalysts.basf.com

Surface Technologies

The Surface Technologies segment comprises the Catalysts and Coatings divisions, which offer chemical solutions for surfaces. Its portfolio serves industries such as the automotive and chemical sectors and includes automotive OEM and refinish coatings, surface treatment, catalysts, battery materials, and precious and base metal services. We improve our customers' applications and processes with tailored products, technologies and solutions, and support them through geographical proximity across all regions. The aim is to drive BASF's growth by leveraging our portfolio of technologies and expanding our position as a leading and innovative provider of battery materials and surface coatings solutions.

For more information on the Surface Technologies segment's business model, see page 33 onward

Sales
€22,659 million
2020: €16,659 million

EBIT before special items
€800 million
2020: €484 million

Business review

At a glance

- Sales growth of 36.0% to €22,659 million, mainly as a result of significantly higher precious metal prices
- EBIT before special items rises 65.3% to €800 million due to increase in the Catalysts division

Sales to third parties in the Surface Technologies segment rose by €6,000 million compared with the previous year to €22,659 million. Both divisions contributed to the increase. The Catalysts division recorded sales growth of €5,649 million to €19,219 million. The Coatings division increased sales by €351 million year on year to €3,440 million.

Factors influencing sales – Surface Technologies

	Surface Technologies	Catalysts	Coatings
Volumes	12.2%	12.5%	10.7%
Prices	25.3%	30.4%	3.2%
Portfolio	2.1%	2.6%	–0.1%
Currencies	–3.6%	–3.9%	–2.4%
Sales	**36.0%**	**41.6%**	**11.4%**

Sales growth was driven by the strong increase in precious metal prices in the Catalysts division. This also led to considerably higher sales in precious metal trading, at €10,376 million (2020: €7,612 million). The Coatings division recorded slightly higher prices in all business areas.

Considerably higher sales volumes on the back of the global economic recovery from the coronavirus pandemic and following stronger demand also contributed to the positive sales development. Both divisions increased volumes in all business areas. Volume development in the segment was dampened by the ongoing shortage of semiconductors in the automotive market and production and supply chain disruptions.

Portfolio effects in the Catalysts division following the acquisition of our majority shareholding in BASF Shanshan Battery Materials Co., Ltd. had a slightly positive impact on sales.

Sales performance was weighed down by negative currency effects, mainly relating to the U.S. dollar.

Segment data – Surface Technologies

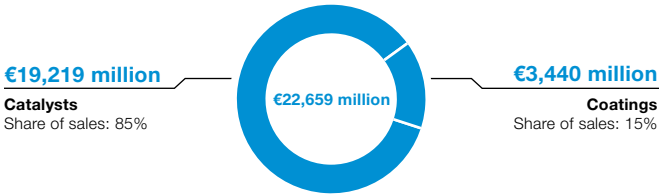
Million €

		2021	2020	+/–
Sales to third parties		22,659	16,659	36.0%
of which Catalysts		19,219	13,570	41.6%
Coatings		3,440	3,089	11.4%
Intersegment transfers		171	203	–15.7%
Sales including transfers		22,831	16,862	35.4%
Income from operations before depreciation, amortization and special items		1,277	966	32.2%
Income from operations before depreciation and amortization (EBITDA)		1,243	900	38.1%
EBITDA margin	%	5.5	5.4	–
Depreciation and amortization[a]		483	1,487	–67.6%
Income from operations (EBIT)		761	–587	.
Special items		–39	–1,071	96.3%
EBIT before special items		800	484	65.3%
Return on capital employed (ROCE)	%	5.6	–4.8	–
Assets		13,769	11,691	17.8%
Investments including acquisitions[b]		1,469	585	151.2%
Research and development expenses		296	246	20.4%

a Depreciation and amortization of property, plant and equipment and intangible assets (including impairments and reversals of impairments)
b Additions to property, plant and equipment and intangible assets

Surface Technologies – sales

By division



At €800 million, **income from operations (EBIT) before special items** was €316 million above the 2020 figure due to considerably higher earnings in the Catalysts division. This was driven by growth in sales volumes and the considerably higher earnings contribution from precious metal trading.

EBIT before special items in the Coatings division declined considerably compared with the previous year. The significant rise in volumes was unable to compensate for higher fixed costs, primarily from higher bonus provisions, and a weaker margin due to increased raw materials prices.

EBIT rose by €1,348 million to €761 million. In 2021, we recorded special items of –€39 million after –€1,071 million in 2020, mainly in connection with special charges for impairments.

For the outlook for 2022, see page 148 onward

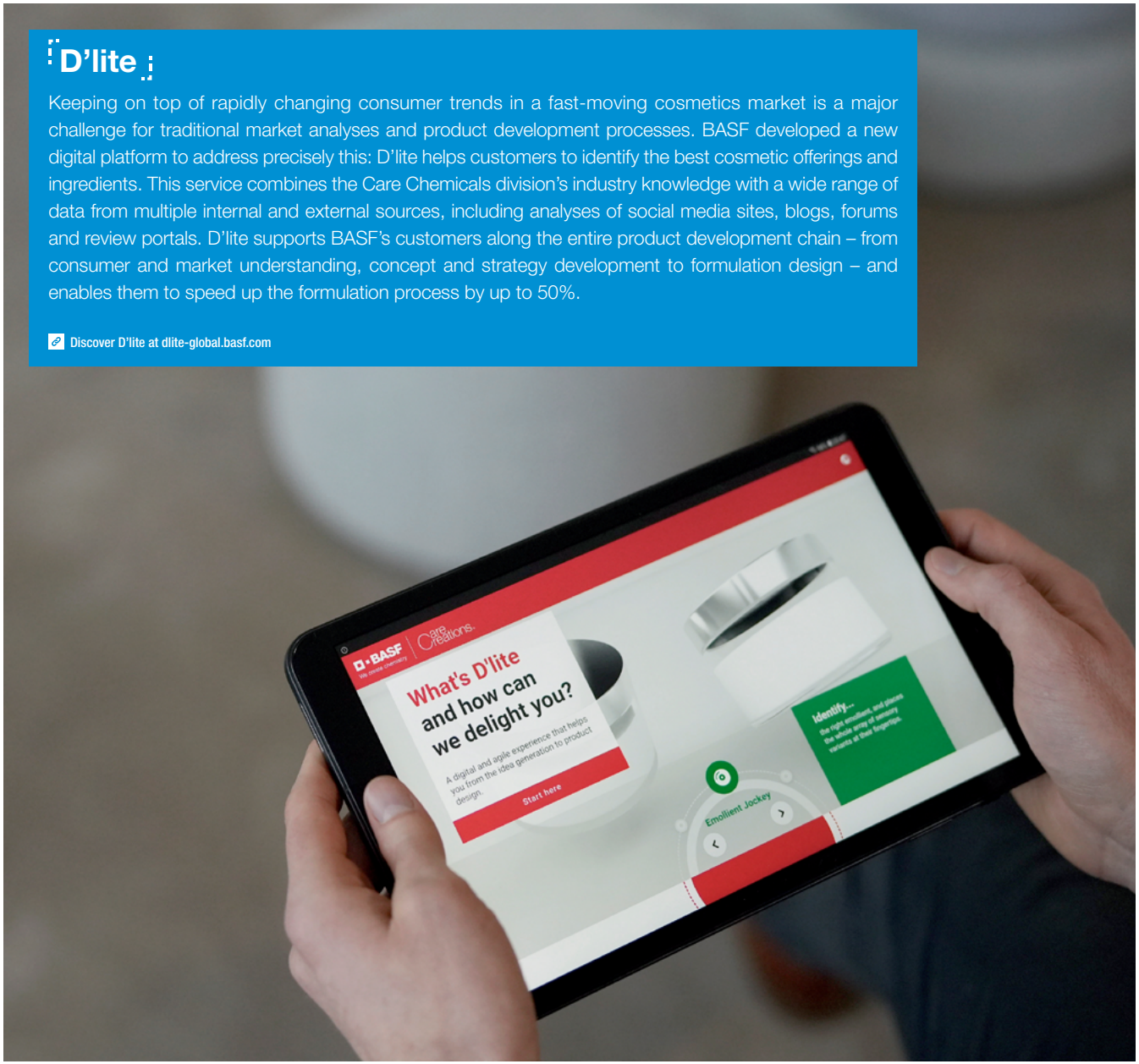
Division sales by region

(Location of customer)

Divisions	Europe	North America	Asia Pacific	South America, Africa, Middle East	Total (million €)
Catalysts	29%	34%	33%	4%	19,219
Coatings	33%	23%	29%	15%	3,440

Division, products, applications

	Products	Customer industries and applications
Catalysts	Automotive catalysts, process catalysts and technologies, battery materials, precious and base metal services	Automotive, chemical and pharmaceutical industries, refineries, battery manufacturers, solutions for the protection of air quality as well as the production of fuels, chemicals, plastics and battery materials, battery material recycling
Coatings	Coatings solutions for automotive applications, technology and system solutions for surface treatments, decorative paints	Automotive industry, body shops, steel industry, aviation, aluminum applications in the architecture and construction industries, household appliances, painting businesses and private consumers



D'lite

Keeping on top of rapidly changing consumer trends in a fast-moving cosmetics market is a major challenge for traditional market analyses and product development processes. BASF developed a new digital platform to address precisely this: D'lite helps customers to identify the best cosmetic offerings and ingredients. This service combines the Care Chemicals division's industry knowledge with a wide range of data from multiple internal and external sources, including analyses of social media sites, blogs, forums and review portals. D'lite supports BASF's customers along the entire product development chain – from consumer and market understanding, concept and strategy development to formulation design – and enables them to speed up the formulation process by up to 50%.

Discover D'lite at dlite-global.basf.com

Nutrition & Care

In the Nutrition & Care segment, consisting of the Care Chemicals and Nutrition & Health divisions, we serve the growing and increasingly sophisticated demands for fast-moving consumer goods. Our customers include food and feed producers as well as the pharmaceutical, cosmetics, detergent and cleaner industries. We also offer solutions for technical applications and for crop protection and nutrition. We strive to expand our position as a leading provider of ingredients and solutions for consumer goods in the areas of nutrition, home and personal care. Our goal is to drive organic growth. We focus on emerging markets, new business models and sustainability trends in consumer markets, supported by acquisitions.

For more information on the Nutrition & Care segment's business model, see page 33 onward

Sales
€6,442 million
2020: €6,019 million

EBIT before special items
€497 million
2020: €773 million

Business review

At a glance

- Sales growth of €423 million to €6,442 million due to higher volumes and raised prices
- EBIT before special items declines €276 million to €497 million as a result of lower contributions from both divisions

Sales to third parties in the Nutrition & Care segment rose by €423 million year on year to €6,442 million in 2021. This was attributable to the Care Chemicals division, which recorded sales growth of €450 million to €4,439 million. By contrast, in the Nutrition & Health division, sales declined by €27 million compared with 2020 to €2,003 million.

Factors influencing sales – Nutrition & Care

	Nutrition & Care	Care Chemicals	Nutrition & Health
Volumes	5.7%	6.9%	3.2%
Prices	4.5%	7.4%	–1.2%
Portfolio	–1.3%	–1.2%	–1.5%
Currencies	–1.9%	–1.9%	–1.8%
Sales	**7.0%**	**11.3%**	**–1.3%**

The sales increase at segment level was primarily due to higher volumes. The Care Chemicals division increased its volumes mainly in the home care, industrial and institutional cleaning and industrial formulators business and in the personal care solutions business. Volumes rose slightly in the Nutrition & Health division, especially in the pharmaceutical and aroma ingredients businesses. This more than compensated for reduced volumes due to the lower availability of vitamin A.

Sales were positively impacted by higher prices overall due to significantly higher price levels in the Care Chemicals division, especially in the oleo surfactants and fatty alcohols business as well as in the home care, industrial and institutional cleaning and industrial formulators business, mainly as a result of higher raw materials prices. This more than compensated for slightly lower prices in the Nutrition & Health division.

Slightly negative currency effects, mainly relating to the U.S. dollar, had an offsetting effect.

Portfolio effects from the sale of the production site in Kankakee, Illinois, had a negative impact on sales in both divisions.

Segment data – Nutrition & Care

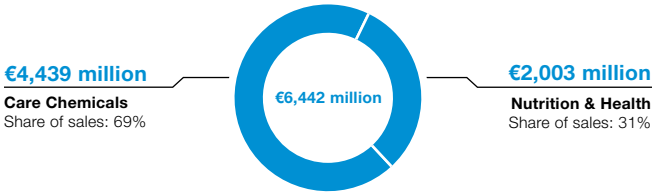
Million €

		2021	2020	+/–
Sales to third parties		6,442	6,019	7.0%
of which Care Chemicals		4,439	3,989	11.3%
Nutrition & Health		2,003	2,030	–1.3%
Intersegment transfers		491	429	14.4%
Sales including transfers		6,933	6,448	7.5%
Income from operations before depreciation, amortization and special items		909	1,190	–23.6%
Income from operations before depreciation and amortization (EBITDA)		967	1,152	–16.0%
EBITDA margin	%	15.0	19.1	–
Depreciation and amortization[a]		413	464	–10.9%
Income from operations (EBIT)		554	688	–19.5%
Special items		57	–85	.
EBIT before special items		497	773	–35.7%
Return on capital employed (ROCE)	%	8.2	10.6	–
Assets		7,231	6,214	16.4%
Investments including acquisitions[b]		654	510	28.3%
Research and development expenses		172	160	7.7%

a Depreciation and amortization of property, plant and equipment and intangible assets (including impairments and reversals of impairments)
b Additions to property, plant and equipment and intangible assets

Nutrition & Care – sales

By division



Compared with the prior-year figure, **income from operations (EBIT) before special items** declined by €276 million to €497 million due to lower earnings contributions from both divisions. The decline in earnings in the Nutrition & Health division resulted from lower margins, driven by higher prices for raw materials and energy, the lower availability of vitamin A, and higher fixed costs, primarily from higher bonus provisions. EBIT before special items in the Care Chemicals division decreased due mainly to higher fixed costs, largely as a result of higher bonus provisions.

EBIT declined by €134 million year on year to €554 million. It included special income from the sale of the production site in Kankakee, Illinois, in the second quarter of 2021. In the previous year, EBIT included special charges, mainly for impairments and provisions, primarily for the optimization of production structures in the Nutrition & Health division.

For the outlook for 2022, see page 148 onward

Division sales by region
(Location of customer)

Divisions	Europe	North America	Asia Pacific	South America, Africa, Middle East	Total (million €)
Care Chemicals	53%	18%	20%	9%	4,439
Nutrition & Health	37%	18%	35%	10%	2,003

Division, products, applications

	Products	Customer industries and applications
Care Chemicals	Ingredients for skin and hair cleansing and care products, such as emollients, cosmetic active ingredients, polymers and UV filters Ingredients for detergents and cleaners in household, institution or industry, such as surfactants, enzymes, chelating agents, water-soluble polymers, biocides and products for optical effects Chemical ingredients and processing additives, for example for crop protection, excipients for chemical processes such as emulsion polymerization, metal surface treatments or textile processing, as well as products for concrete additives, biofuels and other industrial applications	Cosmetics, detergent and cleaner industry, agrochemical industry, technical applications for various industries
Nutrition & Health	Additives for the food and feed industries, such as vitamins, carotenoids, sterols, enzymes, emulsifiers, omega-3 fatty acids Industrial enzymes for bioethanol and food production, natural and synthetic flavors and fragrances, such as citral, geraniol, citronellol, L-menthol and linalool, Isobionics® Santalol, valencene and nootkatone Excipients for the pharmaceutical industry and selected, high-volume active pharmaceutical ingredients, such as ibuprofen and omega-3 fatty acids	Food and feed industries, flavor and fragrance industry, pharmaceutical industry and bioethanol industry

Production capacities of selected products in the regions[a]

Product	Europe	North America	Asia Pacific	South America, Africa, Middle East	Annual capacity (metric tons)
Anionic surfactants	■	■	■	■	550,000
Citral	■		■		78,000
Chelating agents	■	■		■	170,000
Methane sulfonic acid	■				30,000
Nonionic surfactants	■	■	■		650,000

a All capacities are included at 100%, including plants belonging to joint operations and joint ventures.

Luximo®: novel herbicide active ingredient

Luximo® controls a broad range of resistant and difficult-to-control grass weeds in wheat and other cereal crops. It is the first herbicide since 1985 to receive a new mode of action classification from the global industry organization HRAC.* With more than 50% carbon content of the active ingredient coming from renewable sources and no known cross-resistance, Luximo® offers farmers in Australia and, in the future, in the E.U. and U.K. a new solution for sustainable weed resistance management. We anticipate a peak sales potential[1] for this product in the low three-digit million euro range.

Discover Luximo® at basf.com/luximo

Agricultural Solutions

In the Agricultural Solutions segment, we aim to further strengthen our market position as an integrated provider. Our offer comprises seeds and seed treatment products, as well as fungicides, herbicides, insecticides and biological solutions, complemented by digital products to help farmers achieve better yield. Our strategy is based on innovation-driven organic growth and targeted portfolio expansion through acquisitions. Customer needs, societal expectations and reducing environmental impacts are what motivate us to innovate.

For more information on the Agricultural Solutions segment's business model, see page 33 onward

Sales
€8,162 million
2020: €7,660 million

EBIT before special items
€715 million
2020: €970 million

* Herbicide Resistance Action Committee
1 Peak sales describes the highest sales value to be expected in one year. For more information, see the Glossary on page 289.

Business review

At a glance

- Sales above prior-year level at €8,162 million due to volume growth and higher prices
- EBIT before special items of €715 million, 26.3% below 2020 figure, mainly from higher costs and negative currency effects

At €8,162 million, **sales to third parties** in the Agricultural Solutions segment were €502 million above the prior-year level in 2021. The main drivers were higher volumes in all regions and higher prices. Negative currency effects had an offsetting impact.

Factors influencing sales – Agricultural Solutions

Volumes	8.1%
Prices	2.5%
Portfolio	–
Currencies	–4.0%
Sales	**6.6%**

In **Europe**, sales rose by €93 million year on year to €2,128 million. This was primarily attributable to higher volumes, especially in fungicides and herbicides. Slightly higher prices contributed to sales performance. Sales were reduced by negative currency effects, mainly in eastern Europe and Turkey.

Sales in **North America** rose by €81 million to €3,085 million. Higher sales volumes, especially for herbicides, more than compensated for negative currency effects and slightly lower prices.

In **Asia**, we increased sales by €114 million to €958 million. This was mainly due to higher sales volumes, especially in fungicides and insecticides, primarily in China. Slightly higher price levels contributed to the positive sales development, while negative currency effects had a dampening impact.

Segment data – Agricultural Solutions

Million €

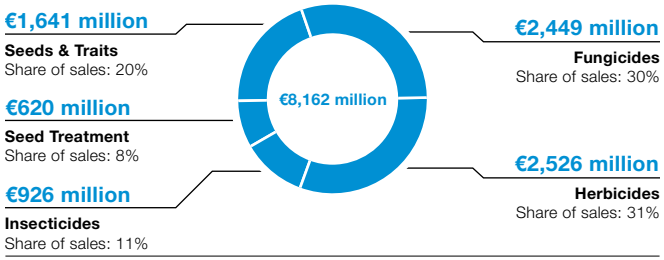
		2021	2020	+/–
Sales to third parties		8,162	7,660	6.6%
Intersegment transfers		40	91	–56.5%
Sales including transfers		8,202	7,751	5.8%
Income from operations before depreciation, amortization and special items		1,375	1,680	–18.2%
Income from operations before depreciation and amortization (EBITDA)		1,358	1,582	–14.2%
EBITDA margin	%	16.6	20.7	–
Depreciation and amortization[a]		662	1,000	–33.8%
Income from operations (EBIT)		696	582	19.6%
Special items		–19	–388	95.1%
EBIT before special items		715	970	–26.3%
Return on capital employed (ROCE)	%	4.5	3.6	–
Assets		15,305	14,840	3.1%
Investments including acquisitions[b]		347	459	–24.3%
Research and development expenses		904	840	7.7%

a Depreciation and amortization of property, plant and equipment and intangible assets (including impairments and reversals of impairments)
b Additions to property, plant and equipment and intangible assets

Sales in the region **South America, Africa, Middle East** amounted to €1,990 million, €213 million above the previous year, and were driven by significantly higher price levels and considerable volume growth in all sectors, especially in Brazil. This more than offset negative currency effects, especially in Argentina and Brazil.

Agricultural Solutions – sales

By indication and sector



At €715 million, **income from operations (EBIT) before special items** was €255 million below the 2020 figure. This was primarily attributable to significantly higher fixed costs, mainly from much higher bonus provisions, significantly higher raw materials prices and logistics costs, and a low-margin product mix. Earnings were also weighed down by negative currency effects.

EBIT amounted to €696 million, €114 million higher than in the previous year. This figure included special income from the sale of non-capitalized know-how. Special charges in connection with streamlining the global glufosinate-ammonium production network had an offsetting effect but were well below the special charges incurred in the previous year.

For the outlook for 2022, see page 148 onward

Agricultural Solutions sales by region

(Location of customer)

Division	Europe	North America	Asia Pacific	South America, Africa, Middle East	Total (million €)
Agricultural Solutions	26%	38%	12%	24%	8,162

Products and applications

Indications and sectors	Applications	Selected products
Fungicides	Protecting crops against harmful fungal diseases; improving plant health, securing yield and harvest quality with chemical and biological solutions	Boscalid, dimethomorph, F500®, Initium®, metiram, metrafenone, Revysol®, Serifel®, Xemium®
Herbicides	Reducing competition from weeds for nutrients, water and sunlight to secure yield and harvest quality	Basta®, dimethenamid-p, Engenia®, Finale®, imazamox, Kixor®, Liberty®, pendimethalin, Tirexor®, topramezone
Insecticides	Combating insect pests in agriculture and beyond with chemical and biological solutions, such as in the areas of public health, professional pest control and landscape maintenance	Alpha-cypermethrin, Broflanilide, chlorfenapyr, fipronil, Inscalis®, Interceptor®, Nealta®, teflubenzuron, Termidor®
Seed Treatment	Improving seeds' potential with chemical and biological protection as well as inoculants	Flo Rite®, ILEVO®, Integral®, Nodulator® PRO, Poncho®, Serifel®, Systiva®, Vault® HP, Velondis®
Seeds & Traits	Seeds and traits for key field crops such as canola (oilseed rape), cotton, soybean and wheat, as well as vegetable seeds	Credenz®, FiberMax®, InVigor®, LibertyLink®, Nunhems®, Stoneville®

Good to know

We are committed to sustainable farming and focus on four areas to help farmers not only produce more, but also better.

Climate-smart farming: We help farmers tackle pressing climate challenges with the right combination of technologies designed to increase yield, make farm management easier and more effective, and reduce the impact on the environment. Our technologies include nitrogen management products to improve fertilizer efficiency and lower greenhouse gas emissions, no-till herbicides, seeds and traits for more stress-resilient crops, digital solutions and bacteria that improve nitrogen availability to plants.

Sustainable solutions: We systematically steer our innovation pipeline according to sustainability criteria from an early stage on. This enables us to continually develop innovations that offer added value for farmers, the environment and society. We also assess each product in our existing portfolio with respect to its contribution to sustainability. In this way, we systematically steer our portfolio to annually increase the sales share from solutions that make a substantial sustainability contribution.

Digital farming: Digitalization has the power to transform agriculture and make it more efficient and sustainable. Our digital solutions help farmers to produce more with less and grow their business profitably while reducing their environmental footprint.

Smart stewardship: Our stewardship tools and services are tailored to farmers' daily work. Farmers get the support they need to use our products safely: access to tools and services, protective equipment, customized training, digital solutions and new and future-oriented application technologies such as drones.

In focus:

Research and Development for the Right Balance in Agriculture

For BASF, sustainability begins in research and development. Farmers in particular face major challenges: feeding a growing world population, changing weather conditions due to climate change, and limited natural resources and arable land.

Our research and development activities innovate for farmers' success in strategically relevant crops in major markets around the world. They range from seed, biological and chemistry innovations to digital solutions that protect plants against fungal diseases, insect pests and weeds, and improve soil management and plant health. In 2021, we spent €904 million on research and development in the Agricultural Solutions segment, representing around 11% of the segment's sales. By 2031, we will launch major pipeline projects across all business areas. Our well-stocked innovation pipeline has a peak sales potential totaling more than €7.5 billion with products to be launched between 2021 and 2031. BASF's solutions help farmers achieve better yield and promote healthy eating, balancing economic, environment and societal demands.

Our research and development facilities are a global network of research sites, seed production and breeding stations. Proximity to our customers and the crops they grow enables us to seize future market opportunities and increase our competitiveness.

Our biotechnology activities and our research and development capabilities comprise advanced breeding techniques, analytics, technology platforms and trait validation. To offer tailor-made, more sustainable crop solutions, our research platform on gene identification focuses on plant characteristics that enable higher yield and better quality, disease resistance and tolerance of environmental factors, such as drought. We apply state-of-the-art scientific methods such as genetic engineering and selective genome editing. These biotechnology activities are part of BASF's Bioscience Research division.[1]

At a glance

€904 million
Research and development expenses in the Agricultural Solutions segment in 2021

>€7.5 billion
Peak sales potential of our innovation pipeline with products to be launched between 2021 and 2031

1 Corporate research and development expenses, sales, earnings and all other data for BASF's Bioscience Research division are not reported in the Agricultural Solutions segment; they continue to be reported under Other.

Other

Sales in Other rose by €1,306 million compared with 2020 to €3,666 million. This was primarily the result of higher sales in commodity trading.

At –€643 million, **income from operations before special items** in Other was €126 million above the prior-year figure. This was largely attributable to lower miscellaneous income and expenses, as well as a higher contribution from other businesses.

EBIT rose by €562 million to –€641 million. This included special income, mainly from the partial release of provisions for the restructuring of the Global Business Services unit. In the previous year, special charges arose for their recognition.

Financial data – Other[a]

Million €

	2021	2020	+/–
Sales	3,666	2,360	55.3%
Income from operations before depreciation, amortization and special items	–489	–609	19.7%
Income from operations before depreciation and amortization (EBITDA)	–484	–1,032	53.1%
Depreciation and amortization[b]	157	171	–8.2%
Income from operations (EBIT)	–641	–1,203	46.8%
Special items	3	–434	.
EBIT before special items	–643	–769	16.4%
of which costs for cross-divisional corporate research	–355	–364	2.5%
costs of corporate headquarters	–255	–214	–19.2%
other businesses	180	143	25.9%
foreign currency results, hedging and other measurement effects	–62	–58	–6.9%
miscellaneous income and expenses	–151	–276	45.3%
Assets[c]	23,121	24,131	–4.2%
Investments including acquisitions[d]	183	156	17.0%
Research and development expenses	378	385	–1.8%

a Information on the composition of Other can be found in Note 5 to the Consolidated Financial Statements from page 213 onward.
b Depreciation and amortization of property, plant and equipment and intangible assets (including impairments and reversals of impairments)
c Contains assets of businesses recognized under Other as well as reconciliation to assets of the BASF Group
d Additions to property, plant and equipment and intangible assets

Non-Integral Oil and Gas Business

BASF holds 67% of the ordinary shares in Wintershall Dea AG; 33% are held by LetterOne. This reflects the value of the exploration and production businesses contributed by Wintershall and DEA. BASF additionally holds preference shares for the contribution of Wintershall's gas transportation business. Including preference shares, BASF has a shareholding of 72.7% in Wintershall Dea.

Macroeconomic environment

The price of a barrel of reference Brent crude oil averaged $71 in 2021 (2020: $42). Gas prices on European spot markets rose sharply and were at an all-time high at the end of 2021. The significant price increases in the second half of 2021 were driven by the very strong recovery in global macroeconomic demand.

Equity-accounted income of the oil and gas business

Wintershall Dea AG contributed –€344 million to net income from shareholdings in 2021 (2020: –€890 million). This included impairments and reversals of impairments totaling –€581 million, mainly in connection with the planned divestiture of assets in Argentina and due to adjusted price expectations. In the previous year, lower oil and gas price forecasts and changed reserve estimates led to impairments of €791 million.

Wintershall Dea conducts production, development[1] and exploration activities in the following countries:
- Egypt (production, development, exploration)
- Algeria (production)
- Argentina (production, development, exploration)
- Denmark (production, exploration)
- Germany (production, development, exploration)
- Libya (production)
- Mexico (production, development, exploration)
- Netherlands (production, development, exploration)
- Norway (production, development, exploration)
- Russia (production, development)
- United Arab Emirates (development)
- United Kingdom (production, development, exploration)

Wintershall Dea's activities in 2021

Wintershall Dea produced 231 million BOE (barrels of oil equivalent) in 2021 (2020: 227 million BOE), of which around 165 million BOE of gas (2020: 162 million BOE of gas). This corresponded to a daily production of 634 thousand BOE (2020: 623 thousand BOE).

Several development projects were successfully completed in 2021, including the Norwegian projects Ærfugl Phase 2, Gråsel, and the field development of Solveig. The Achim Development joint venture operated by Gazprom in Russia, in which Wintershall Dea holds a 25.01% interest, started production in the first quarter of 2021. In Egypt, production at the Raven field started at the beginning of the year.

The Norwegian Njord and Nova projects continued and are expected to come on stream in 2022. The start of production for the Dvalin project in Norway was postponed to the second half of 2022. At the beginning of 2022, Wintershall Dea reached an agreement on the sale of its 50% interest in the unconventional oil blocks it operates in Argentina and decided to terminate its operations in Brazil.

Wintershall Dea drilled 12 exploration wells in 2021. Of these, around 58% were successful.

Wintershall Dea is also active in gas transportation. This includes interests in GASCADE Gastransport GmbH and OPAL Gas transport GmbH & Co. KG held by WIGA Transport Beteiligungs-GmbH & Co. KG, and the interest in Nord Stream AG held directly by Wintershall Dea. Wintershall Dea is one of five financial investors for the Nord Stream 2 pipeline project. It is not a shareholder of Nord Stream 2 AG. The laying of Nord Stream 2 was successfully completed, the pipelines have been filled with gas and Nord Stream 2 AG has applied to the relevant authorities for certification to operate the pipeline.

As part of its climate strategy, which was communicated in November 2020, Wintershall Dea aims to achieve net zero emissions[2] from upstream activities by 2030 and reduce methane intensity[3] to 0.1% by 2025. Wintershall Dea is involved in the Greensand CCS project[4] in the Danish North Sea, which aims to store up to 8 million metric tons of CO_2 per year.

As planned, in 2021 Wintershall Dea completed the integration that began with the merger and was able to realize the intended synergies. The IPO targeted for 2021 was postponed due to the market environment.

1 Development activities include projects before and after the FID (final investment decision)
2 Scope 1 and 2 emissions from upstream activities operated and non-operated by Wintershall Dea at an equity basis
3 100% volume of methane emissions of Wintershall Dea's operated assets divided by the volume of the own operated gas marketed
4 Carbon capture and storage

Regional Results

Regions
Million €

	Sales by location of company			Sales by location of customer		
	2021	2020	+/–	2021	2020	+/–
Europe	31,594	24,223	30.4%	30,531	23,129	32.0%
North America	21,935	16,440	33.4%	20,867	15,709	32.8%
Asia Pacific	20,632	14,895	38.5%	21,234	15,406	37.8%
of which Greater China	12,018	8,433	42.5%	12,036	8,463	42.2%
South America, Africa, Middle East	4,437	3,591	23.5%	5,965	4,905	21.6%
BASF Group	**78,598**	**59,149**	**32.9%**	**78,598**	**59,149**	**32.9%**

Europe

Sales at companies located in Europe rose by 30.4% year on year to €31,594 million. This was primarily due to considerably higher sales in the Chemicals and Materials segments. The Surface Technologies segment, Other and the Industrial Solutions and Nutrition & Care segments also posted considerable sales growth, while the Agricultural Solutions segment saw a slight increase in sales.

Sales growth was driven by higher prices and volumes in all segments and in Other. Prices rose especially for steam cracker products in the Chemicals segment, for isocyanates in the Materials segment, and as a result of higher precious metal prices in the Surface Technologies segment. Sales volumes increased, especially in the Materials, Surface Technologies, Industrial Solutions and Chemicals segments. Volume development was however negatively impacted by raw materials shortages, the semiconductor deficit in the automotive market and the associated production and supply chain disruptions. Sales were reduced by negative currency effects, mainly in the Surface Technologies segment. Sales performance was also weighed down by portfolio effects, particularly in the Industrial Solutions segment following the divestiture of the global pigments business.

North America

Sales at companies located in North America rose by 33.4% to €21,935 million in 2021. In local currency terms, they were 38.5% above the prior-year figure. Sales growth was mainly driven by considerably higher sales in the Surface Technologies and Chemicals segments. The Materials segment, Other and the Industrial Solutions segment also achieved considerably higher sales. Sales rose slightly in the Agricultural Solutions and Nutrition & Care segments.

Sales growth was mainly due to significantly higher price levels, especially in the Surface Technologies segment due to a significant increase in precious metal prices, and in the Chemicals segment, particularly for propylene and butadiene. Higher volumes supported sales performance in all segments. Volume development was however negatively impacted by extreme weather conditions, the semiconductor shortage in the automotive market and the resulting production and supply chain disruptions. Negative currency effects had an offsetting effect. Sales were reduced by portfolio effects, mainly driven by the divestiture of the global pigments business in the Industrial Solutions segment.

Asia Pacific

Sales at companies headquartered in the Asia Pacific region were 38.5% above the 2020 figure, at €20,632 million. In local currency terms, sales likewise rose by 38.5%. The increase in sales was primarily driven by growth in Greater China, where sales rose by 42.5% in euros to €12,018 million. All segments improved sales in the region compared with the prior year, but especially the Surface Technologies, Materials and Chemicals segments.

The sales performance was primarily the result of higher prices, particularly in the Surface Technologies, Chemicals and Materials segments. Higher volumes in all segments contributed to the increase in sales. Raw material shortages, the semiconductor deficit in the automotive market and the associated production and supply chain disruptions also hampered sales performance in Asia Pacific. Overall, portfolio measures had a positive impact on sales development, especially in Greater China and in the Surface Technologies segment following the formation of BASF Shanshan Battery Materials Co., Ltd.

South America, Africa, Middle East

Sales at companies located in South America, Africa, Middle East rose by 23.5% to €4,437 million. In local currency terms, they were 31.0% above the prior-year level. Sales growth was primarily attributable to considerably higher sales in the Agricultural Solutions, Surface Technologies, Chemicals and Materials segments. The Industrial Solutions and Nutrition & Care segments also recorded higher sales.

The sales increase was mainly driven by higher prices, especially in the Surface Technologies, Agricultural Solutions and Chemicals segments. All segments significantly increased volumes despite supply chain disruptions caused by raw materials shortages. Negative currency effects had an offsetting impact in all segments.

E.U. Taxonomy

In accordance with the E.U. Taxonomy Regulation and the supplementary delegated acts, the Nonfinancial Statement includes, for the first time, the share of the Group's taxonomy-eligible sales, investments and operating expenses for the 2021 business year relating to the environmental objectives of "climate change mitigation" and "adaptation to climate change." BASF activities that are not currently covered by the E.U. taxonomy, and as such, are not relevant from a taxonomy perspective are generally reported as taxonomy-non-eligible in accordance with the delegated acts. These include large parts of BASF's activities that may nevertheless be in line with the E.U.'s environmental objectives.

To determine taxonomy eligibility, we first identified the activities relevant to BASF. The entire portfolio of products manufactured by BASF as well as production plants and investment projects were then reviewed to determine whether they belong to one of the following activities in the manufacturing sector that had been identified as relevant:

- Manufacture of hydrogen
- Manufacture of carbon black
- Manufacture of soda ash
- Manufacture of chlorine
- Manufacture of organic basic chemicals
- Manufacture of anhydrous ammonia
- Manufacture of nitric acid
- Manufacture of plastics in primary form

We additionally assessed the following enabling activities in the E.U. taxonomy to take into account solutions that contribute to climate change mitigation at our customers: "manufacture of batteries" and "manufacture of energy efficiency equipment for buildings." To avoid double counting, assignment to an enabling activitiy is only made if a taxonomy-eligible product or project had not already been included under another activity. BASF also contributes solutions used to produce technologies for renewable energy or low-carbon mobility. Since the E.U. taxonomy focuses on the manufacture of technologies and thus excludes precursors, we have classified these as taxonomy-non-eligible.

In addition to our core business, the production of chemical products, we have identified further BASF activities that can be allocated to the following activities presented in the E.U. taxonomy:

- Afforestation
- Electricity generation using solar photovoltaic technology
- Production of heat/cool from bioenergy
- Production of heat/cool using waste heat
- Close to market research, development and innovation

These activities made no material contribution to our overall taxonomy eligibility and were generally classified as taxonomy-non-eligible.[1]

Buildings constructed and operated by BASF, traffic facilities and central water supply and wastewater management systems, i.e., the infrastructure that supports our core activities, may also fall under the E.U. taxonomy's description of activities in the areas "Water supply, sewerage, waste management and remediation," "Transport," and "Construction and real estate activities." In assessing taxonomy eligibility, we focused in 2021 on activities in the manufacturing sector and closely related activities in the energy and research and development sectors. We generally classified potential contributions from infrastructure-related activities as taxonomy-non-eligible.

We assessed the taxonomy eligibility of our sales based on sales revenue as defined and reported in the Consolidated Financial Statements of the BASF Group. Taxonomy-eligible sales revenue accounted for 11% of total sales revenue in 2021. The largest contributions were from the activities "manufacture of plastics in primary form" and "manufacture of organic basic chemicals." Taxonomy-eligible investments (including acquisitions and excluding goodwill in accordance with the E.U. taxonomy) accounted for 29% of the total investments reported in the Consolidated Financial Statements. Investments in the "manufacture of organic basic chemicals" and in the "manufacture of batteries" made the greatest contribution. Operating expenses include non-capitalized costs that relate to research and development,[2] and maintenance and repair. They are not reported in the Consolidated Financial Statements in this form. All of the investments and operating expenses of a production facility with a taxonomy-eligible activity are counted as taxonomy-eligible. Taxonomy-eligible operating expenses accounted for 11% of total operating expenses. The largest contributions were from the activities "manufacture of organic basic chemicals" and "manufacture of plastics in primary form."

BASF entered into several partnerships to transform energy supply in 2021 (see page 128). The resulting investments are not included in the analysis of taxonomy eligibility, as investments in joint ventures and associated companies do not have to be reported under the taxonomy.

For more information on sales revenue, see Note 7 to the Consolidated Financial Statements from page 221 onward

For more information on investments, see Notes 14 and 15 to the Consolidated Financial Statements from page 236 onward

Sales, investments and operating expenses in 2021

Million €

	Total	Taxonomy-eligible	%	Taxonomy-non-eligible	%
Sales	78,598	8,881	11	69,717	89
Investments	4,627	1,340	29	3,287	71
Operating expenses	4,424	504	11	3,920	89

1 The production of heat/cool using waste heat was also partially covered by other activities.
2 The criteria for the activity "close to market research, development and innovation" (for example, a technology readiness level of at least six) were used to determine taxonomy-eligible research and development costs.

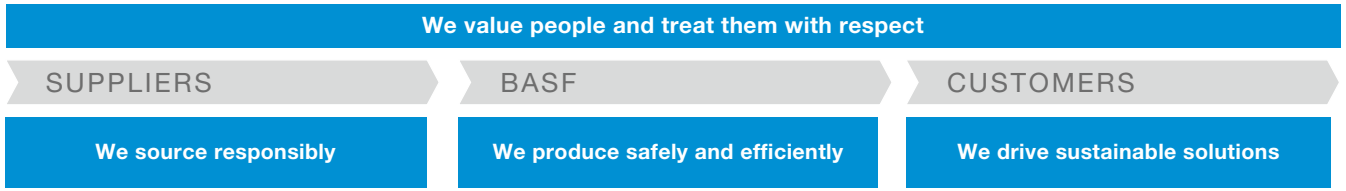
Sustainability Along the Value Chain

We want to contribute to a better world with enhanced quality of life for everyone. That is why the three pillars of sustainability are firmly anchored in our corporate purpose, our strategy, our targets and our operating business. They are at the core of what we do, a driver for growth and an element of our risk management. We pursue a holistic approach that covers the entire value chain.

We contribute to a sustainable development and to the **United Nations' Sustainable Development Goals** (SDGs) in many ways (see page 36). For instance, our innovations, products and technologies help to use natural resources more efficiently, meet the demand for food, enable climate-smart mobility, reduce emissions and waste, and increase the capabilities of renewable energy. Alongside these positive contributions, our business activities also have negative impacts. For example, we create CO_2 emissions, use water and procure raw materials from suppliers, which may involve a potential risk of human rights violations. This is why we are constantly working to broaden our positive contributions to key sustainability topics (see page 45) along our value chains and reduce the negative impacts.

We are committed to doing business in a **responsible, safe, resource-efficient and respectful** way. Our actions are guided by our corporate values and our global Code of Conduct. We comply with and in some cases exceed the applicable laws and regulations with voluntary commitments. We stipulate binding rules for our employees with standards and guidelines that apply throughout the Group. In doing so, we consider, respect and promote internationally recognized principles such as the 10 principles of the U.N. Global Compact and the Core Labor Standards of the International Labor Organization (ILO).

We want to ensure that we act in line with the applicable laws and uphold our responsibility to the environment and society with our comprehensive **management and monitoring systems**. Our Responsible Care Management System does this for environmental protection, health and safety (see page 117). We meet our responsibilities with respect to international labor and social standards chiefly through three elements: the Compliance Program, close dialog with our stakeholders and the guideline on compliance with international labor norms, which applies Group-wide.



Our **business partners** are also expected to comply with prevailing laws and regulations and to align their actions with internationally recognized principles. We have established appropriate management and control systems, for example, for working with our suppliers (see page 109).

We seek dialog with our **stakeholders** to discuss critical issues and, if necessary, develop solutions together. Through our societal engagement, we want to create a positive impact, particularly in the communities surrounding our sites and help solve global challenges.

We are involved in numerous **sustainability initiatives** to drive forward sustainability in general and, specifically, as this relates to our value chains. These include the World Business Council for Sustainable Development (WBCSD) as well as networks with thematic focus like the Alliance to End Plastic Waste (AEPW) or the Global Battery Alliance (GBA). In addition, we realize a wide range of projects – often together with partners – for example, to improve sustainability in the supply chain or to promote circularity in the economy.

For more information on how we value people and treat them with respect, see page 97 onward
For more information on responsible procurement, see page 109 onward
For more information on safe and efficient production, see page 117 onward
For more information on sustainable solutions, see page 141 onward

We Value People and Treat Them with Respect

Employee engagement and empowerment are key to our success. We build networks across our business and industry to establish good relationships with our partners and stakeholders. With our solutions, our responsible business conduct and our societal engagement, we want to contribute to a better quality of life for everyone.

In this section:

Employees
Responsibility for Human Rights
Stakeholder Engagement
Societal Engagement

Employees

GRI 102, 103, 201, 202, 203, 401, 402, 404, 405, 406, 407, 408, 409, 412, 413

SUPPLIERS › BASF › CUSTOMERS

Our employees make a significant contribution to BASF's success. We want to attract and retain talented people for our company and support them in their development. To do so, we cultivate a working environment that inspires and connects people. It is founded on inclusive leadership based on mutual trust, respect and dedication to top performance.

At a glance

111,047

Employees around the world

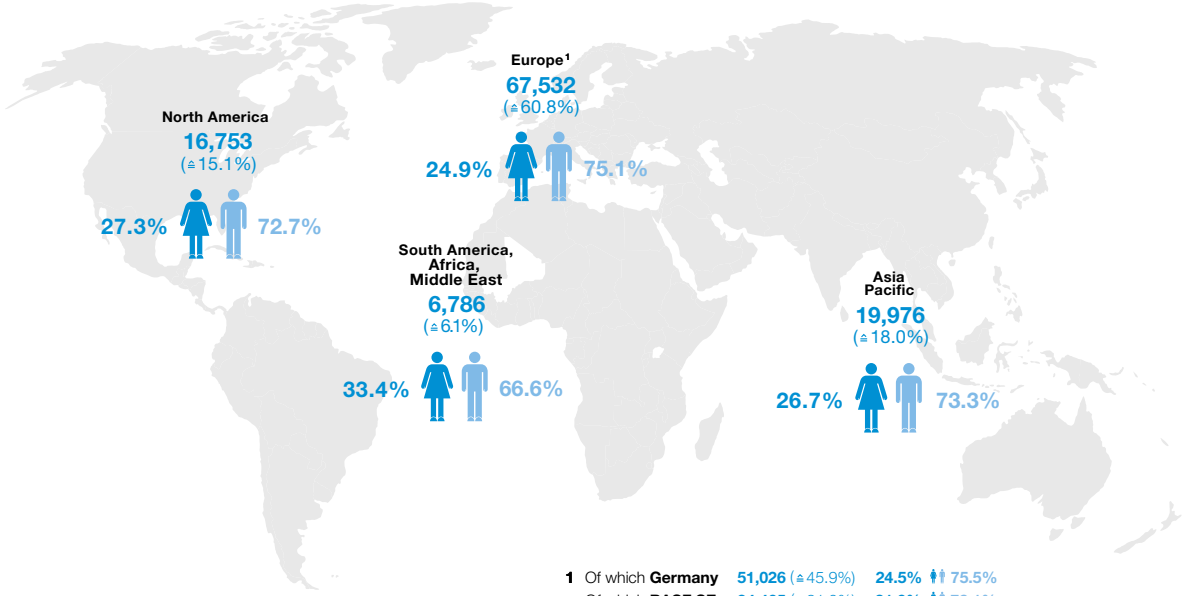
- Employee engagement and leadership impact on center stage
- Promoting diversity and mutual respect
- Further expansion of virtual learning and digitalization

Strategy

Our employees are key to the successful implementation of BASF's strategy. We are convinced of the value of excellent employees, leaders and working conditions, and strive to give our employees the tools and skills necessary to be able to offer our customers products and services with an even greater level of differentiation and customization. Our corporate strategy promotes a working atmosphere based on mutual trust, in which employees are given the space to optimally develop their individual skills and potential. This positions us to meet the challenges of an increasingly rapidly changing environment, demographic change and the digital workplace. In everything we do, we are committed to complying with internationally recognized labor and social standards. We want to further strengthen our innovative power with attractive working conditions and through the inclusion of diversity. Lifelong learning and individual employee development lay the foundation for this.

BASF Group employees by region

(Total: 111,047, of which 26.1% women, as of December 31, 2021)



1 Of which **Germany** **51,026** (▲45.9%) **24.5%** ♀ 75.5%
Of which **BASF SE** **34,405** (▲31.0%) **21.9%** ♀ 78.1%

Compensation and benefits as well as offerings to balance personal and professional life complete our diverse total offer package. In order to continue to attract talented people to our company in the future, we work continuously on BASF's attractiveness as an employer. Our employees play an important role here as ambassadors for BASF.

Number of employees

As of December 31, 2021, the number of employees increased to 111,047 employees compared with 110,302 employees as of December 31, 2020. The rise was primarily due to staff increases in Asia Pacific, especially in connection with the formation of BASF Shanshan Battery Materials Co., Ltd., as well as for our new Verbund site in Zhanjiang, China. The divestiture of the pigments business, which affected around 2,500 employees, had an offsetting impact. We employed 3,028 apprentices[1] (2020: 3,120). 2,329 employees were on temporary contracts (of which 47.6% were women).

Employee engagement

BASF can rely on the engagement of its employees. This is shown by a passion for the job, a dedication to top performance and a strong commitment to BASF. Global employee surveys and pulse checks are established **feedback tools** in the BASF Group and are used to actively involve employees in shaping their working environment. The results are communicated to employees, the Board of Executive Directors, the Supervisory Board and stakeholders. We have performed regular global employee surveys since 2008. We aim to keep the high level of employee engagement determined by these surveys and increase it even further as far as possible. As part of the BASF strategy, we therefore set ourselves the following goal in 2018: More than 80% of our employees feel that at BASF, they can thrive and perform at their best. We regularly calculate the employee engagement level as an index score based on five questions on set topics in our employee surveys. The most recent survey from 2020 revealed an engagement index of 82% (2019: 79%). Our aim is to keep this score above 80%. We support our leaders with a range of follow-up measures to decentrally address individual action areas and in this way, help to further strengthen employee engagement together with their employees.

Pulse checks were carried out to identify and address employees' specific needs in 2021. In North and South America, for example, surveys were conducted on the inclusion of diversity. These revealed a desire to further embed inclusive behavior in the working environment, among other things. Employees in Germany and Europe were surveyed about their current work situation, flexible working, stresses caused by the coronavirus pandemic and team sentiment. Among other things, the results showed that employees feel safe working at our sites and that employees who have been working flexibly since the start of the pandemic are coping well with it. Regular global employee surveys remain a focus, and we plan to conduct the next survey in spring 2022.

What we expect from our leaders

Our leaders and their teams should contribute to BASF's success. This is why we promote high-quality leadership and measure its impact. We understand impactful leadership as leaders that serve as role models by having a positive influence on the engagement and development of their employees, and developing and implementing business strategies in line with our corporate values. These expectations are part of the standard global nomination criteria for leadership positions. Our leadership culture is based on BASF's corporate values: creative, open, responsible and entrepreneurial – CORE.

Our specific expectations of leaders' conduct are derived from these: **The CORE Leadership Values** serve as the guiding principles for all leaders and set out BASF's expectations of leadership behavior. They are aligned with BASF's strategic goals and reflect our company's leadership vision (see also page 31).

We offer our leaders a wide variety of learning and development opportunities for each phase of their career as well as various formats that enable them to learn from one another and external experts. Global, regional and local offerings are optimally coordinated. We aim to develop leaders who lead their teams with optimism, empathy and trust, and in this way, create a competitive advantage for BASF.

In order to anchor the CORE Leadership Values in day-to-day life, an in-depth training course – CORE Leadership Upskilling – was offered in 2021. The virtual training comprised a series of modules that encouraged self-reflection and provided opportunities for global dialog. The training modules were initially completed by all senior executives worldwide. Work in small, mixed groups aimed to deepen participants' understanding of the CORE Leadership Values, enable in-depth discussion of these and expand global networks. Since the fall of 2021, additional leadership levels have undergone training and activities modeled on CORE Leadership Upskilling.

Regular feedback plays an important role in the development of leaders. We have therefore adapted our global feedback tool to enable leaders to, in the future, even better reflect on how these values are anchored in their leadership behavior.

Since 2020, various existing leadership development tools have been converted to virtual formats to optimally support our leaders – including during the challenging times of the coronavirus pandemic.

1 At BASF, the apprenticeship program trains students for technical, scientific and business vocations as well as for trade and craft professions.

Inclusion of diversity

The global character of our markets translates into different customer requirements. We want to reflect this diversity among our employees, too, because it enables them to better meet our customers' needs. For us, diversity means, among other things, having people from different backgrounds working at our company who can draw on their individual perspectives and skills to grow our business. By valuing and promoting employee diversity, we boost our teams' performance and power of innovation, and increase creativity, motivation and employees' identification with the company.

Promoting and valuing diversity across all hierarchical levels is an integral part of our strategy and is also embedded in our corporate values. BASF strives to foster a working environment based on mutual respect, trust and appreciation. We expect inclusive conduct from all employees and our leaders. By this, we mean creating an environment in which different aspects of diversity and individual strengths are valued.

Our leaders play an important role in promoting diversity and creating an inclusive work environment. We support them with various offerings, for example as part of leadership development. A toolbox with a wide range of content inspires a change of perspective and a podcast series from leaders shows the importance of appreciative, fair and inclusive leadership.

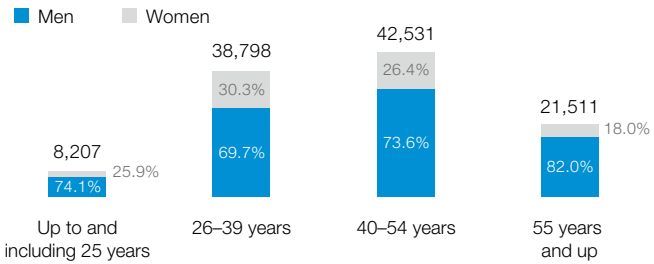
Integrating different perspectives is very important to BASF. There are a number of Employee Resource Groups around the world dedicated to different aspects of diversity. In addition, we want to create a greater awareness of diversity in our organization with various activities. BASF supports the German Diversity Charter and has participated in German Diversity Day and European Diversity Month with various virtual initiatives and offerings. At our Ludwigshafen site in Germany, we campaigned against racism and discrimination as part of the International Weeks Against Racism.

BASF is one of approximately 150 companies that support the United Nations Global LGBTI (lesbian, gay, bi, trans and intersex) Standards of Conduct for business and has done so since 2018. Employees again promoted openness, acceptance and tolerance with many activities to support the LGBTI movement at various sites around the world in 2021.

Diversity also relates to the company's demographic profile, which varies widely by region within the BASF Group. Our aim is to create a suitable framework to help maintain the employability of our personnel at all stages of life and ensure the availability of qualified employees over the long term.

BASF Group employee age structure

(Total: 111,047, of which 26.1% women, as of December 31, 2021)



We also promote diversity in the selection and development of our leaders. We have set a global target to promote female leadership and aim to increase the proportion of **women in leadership positions** to 30% by 2030. We have made important progress toward this and continuously review our target. In the BASF Group, the global proportion of female leaders with disciplinary responsibility was 25.6% at the end of 2021 (2020: 24.3%).

2030 target

Proportion of women in leadership positions with disciplinary responsibility **30%**

In order to continuously monitor our progress toward this target, we have developed a global dashboard, which is used to regularly review the implementation status. The systematic advancement of women is also an integral part of our process for selecting senior executives.

As a signatory to the United Nations' Women's Empowerment Principles (WEPs), we are committed to promoting gender equality. We are also involved in other external initiatives to promote inclusion of diversity at work, such as the Chefsache initiative and the European Round Table. Employees from all regions took International Women's Day 2021 as an opportunity to reflect on the current situation of women at BASF, celebrate successes and campaign for greater equality.

Leaders and professionals in the BASF Group

	December 31, 2021	Of which women (%)
(Senior) executives[a]	9,006	25.6
Professionals[b]	40,030	32.5

a Employees with disciplinary leadership responsibilities
b Specialists without disciplinary leadership responsibilities

For more information on diversity in the Board of Executive Directors and the Supervisory Board, see page 167 onward

For more information on diversity and inclusion, see basf.com/diversity

Competition for talent

Attracting and retaining the best employees is crucial to our success. Having an attractive and compelling total offer package for employees is becoming increasingly important given the strong global competition for the best qualified employees and leaders. This is why we are constantly working on measures to increase BASF's attractiveness in the global labor markets.

We are increasingly using digital platforms such as our country-specific career websites as well as global and regional social networks to reach potential candidates. This enables us to appropriately address different target groups.

In light of the coronavirus pandemic, we primarily used digital solutions for our **talent search activities** in 2021 and participated in a few in-person events. To also provide the best possible information on BASF as an employer virtually, we are continuously developing our digital presence. For example, we are represented at digital trade fairs and conferences, conduct digital excursions for students from various universities of sites in Germany, and organize expert lectures for future talent. This virtual contact enables a demand-oriented, flexible and location-independent approach. As a result, we were able to continue to attract and recruit talented employees.

In addition, we consistently take part in specific career events to directly reach and attract talent from various disciplines, especially female candidates. We focus in particular on our female employees as role models with various initiatives such as podcasts, career fairs and networking events aimed specifically at women, or on our social media channels.

In 2021, we established a digital onboarding process at some sites for new employees and their managers in the period up to the first day of work and beyond. The aim is to ensure a successful first day at work and to build an early bond between the new colleagues and their future team at BASF, for example by sending video messages and information about the division and team. We want to continue to drive forward global implementation in 2022.

To combat the shortage of skilled workers in production and technical areas, due among other factors to demographic-related declines in Ludwigshafen, Germany, we have strengthened our social media presence, for example, to alert qualified specialists to new career prospects at BASF. In addition, we cooperate with local radio stations and the German employment agency to target skilled workers at informational events.

We once again achieved high scores in a number of employer rankings in 2021. For example, in a study conducted by Universum, young scientists ranked BASF as the second most attractive employer in Germany (2020: fifth). In North America, DiversityInc named BASF as one of the top 50 companies for diversity in recruiting for the ninth consecutive year. In Asia, Top Employer recognized BASF China as one of the best employers for the twelfth time in succession. In South America, LinkedIn ranked BASF second in its list of top companies in Brazil.

The BASF Group hired 10,293 new employees in 2021. The percentage of employees who resigned during their first three years of employment – the early turnover rate – was 1.5% worldwide in 2021. This turnover rate was 0.6% in Europe, 2.4% in North America, 3.4% in Asia Pacific and 2.5% in South America, Africa, Middle East. Our early turnover rate is therefore at a desirable low level.

BASF Group new hires in 2021

	2021	Of which women (%)
Europe	4,045	30.4
North America	2,551	29.3
Asia Pacific	2,797	31.0
South America, Africa, Middle East	900	48.4
Total	**10,293**	**31.9**

As of December 31, 2021, the BASF Group was training 3,028 people in 12 countries and around 50 occupations. We spent a total of around €119 million on vocational training in 2021.

For more information on careers at BASF, see basf.com/careers

Learning and development

Learning and development are essential success factors for a strong company culture. The **skills and competencies** of our employees are critical for profitable growth and lasting success. For this reason, we want to further modernize our learning culture and step up our efforts to promote continuous, self-directed learning and learning from others. Employee development at BASF is guided by the belief that talent is in everyone. This means that development opportunities and support are open to all employees.

In our understanding, there is more to development than a promotion or a job change – it encompasses the development of personal experience and abilities. In regular development meetings, which are held as part of our annual employee dialogs, employees outline ideas for their individual development together with their leaders and determine specific measures for further training and development, which focus on personal and professional competencies. Our learning activities follow the "70-20-10" philosophy: We apply the elements "learning from experience" (70%), "learning from others" (20%) and "learning through courses and media" (10%). Our learning and development offerings cover a range of learning goals: Starting a career, expanding knowledge, personal growth and leadership development.

Digital learning formats play an important role in our development offerings. Even before the coronavirus pandemic, training for leaders and employees was updated to meet the challenges of the digital transformation and modern working life with appropriate learning formats and content. For example, platforms such as the Digital Campus, Digitalization & Me and the Ways of Working portal were enhanced and refined to support employees in all aspects of virtual collaboration and in building their digital skills. The continuous

Good to know

Future of Work @ BASF

The coronavirus pandemic has fundamentally changed how we work. That is why our Future of Work @ BASF initiative addresses the question of how our teams can find the right balance between on-site and remote working to continue to perform at their best in the future. Connectedness and close dialog remain our number one priorities – both are key to team spirit, creativity and innovation. The wide range of jobs, tasks and local conditions make different working models necessary. To reflect this, our local teams are developing tailored solutions within global guidelines that meet individual requirements. Workshop concepts and training support the process.

One example is the Flex Work @ LU project at the Ludwigshafen site in Germany. The focus is on the shift toward greater flexibility as well as practical solutions on how to maintain and strengthen connectedness in an increasingly hybrid working environment – from new office concepts to IT solutions and tips for teamwork. The ideas are tested together with pilot units. Successful concepts are made available to all units at the site in the form of a toolbox.

development of our employees' digital skills will remain crucial going forward. The portfolio includes offerings for self-directed learning, as well as individual consulting and support for teams and leaders around the digital transformation. Employees and leaders can also hold joint workshops in an avatar-based 3D working and learning environment. In addition, the many academies in the divisions and service units also offer training on specific professional content.

We enable our employees to take responsibility for their own professional development within the company with digital and novel offerings. To support multidisciplinary teams in the development of products, services or business models, workshops on design thinking empower participants to find creative and innovative solutions to complex problems. By providing interactive spaces, the concept also lends itself to hybrid working methods. This fosters an agile learning and working culture, which will ultimately also help us to master the digital transformation.

Against the backdrop of the digital transformation, we support our leaders in questions about shaping the **working world of the future**. For example, the #liveitleadit program provides insights into various areas of the organization and the opportunity to discuss topics such as hybrid working or living a failure culture.

Compensation and benefits

We want to attract and retain engaged and qualified employees, and motivate them to achieve top performance with a total offer package that includes market-oriented compensation, individual development opportunities and a good working environment so that they contribute to the company's long-term success. Our employees' compensation is based on **global compensation principles** according to position, market and performance. As a rule, compensation comprises fixed and variable components as well as benefits that often exceed legal requirements. In many countries, these benefits include company pension benefits, supplementary health insurance and share programs. We regularly review our compensation systems at the global and local levels.

We want our employees to contribute to the company's long-term success. This is why the compensation granted to the vast majority of our employees includes variable compensation components, with which they participate in the success of the BASF Group as a whole and are recognized for their individual performance. The same principles basically apply for all employees worldwide. The amount of the variable component is determined by economic success as well as the employee's individual performance. We use the BASF Group's return on capital employed (ROCE) to measure economic success for the purposes of **variable compensation**. This links variable compensation to our ROCE target.[1] Individual performance is assessed as part of a globally consistent performance management process. In numerous Group companies, our "plus" share program ensures employees' long-term participation in the company's success through incentive shares. In 2021, for example, around 23,600 employees worldwide (2020: around 27,600) participated in the "plus" share program.

Since 2020, BASF has offered senior executives the opportunity to participate in a **long-term incentive (LTI) program**[2] in the form of a performance share plan. The LTI program has a term of four years

1 In calculating ROCE, adjustments are made for negative and positive special items resulting from acquisitions and divestitures (for example, integration costs in connection with acquisitions and gains or losses from the divestiture of businesses) when these exceed a corridor of +/–1% of the average cost of capital basis. An adjustment of the ROCE (in the first 12 months after closing) therefore only occurs in cases of exceptionally high special items resulting from acquisitions and divestitures.
2 The LTI program referred to here is aimed at management levels 2 to 4 as well as individual employees who have attained senior executive status by virtue of special expertise. For more information on the compensation of the Board of Executive Directors and the Supervisory Board, see the Compensation Report at basf.com/compensationreport

and takes into account the development of the total shareholder return. It incentivizes the achievement of strategic growth, profitability and sustainability targets. To take part in this program, participants must hold BASF shares, the amount of which is based on their individual fixed compensation. In 2021, around 91% of the people eligible to participate in the LTI around the world did so, holding between 30% and 70% of their fixed annual compensation in BASF shares.

The share price-based compensation program (BASF Option Program, BOP), which had existed since 1999, was offered for the last time in 2020. Around 87% of the people eligible to participate in the program around the world did so, investing up to 30% of their actual variable compensation (for the 2019 business year) in BASF shares.

For more information on share-price based compensation programs and BASF's share programs, see the Notes to the Consolidated Financial Statements from page 280 onward

For more information on the compensation of the Board of Executive Directors and the Supervisory Board, see the Compensation Report at basf.com/compensationreport

Personnel expenses

The BASF Group's expenses for wages and salaries, social security contributions and assistance, as well as for pensions in 2021 totaled €11,097 million. In 2020, these expenses amounted to €10,576 million and included personnel expenses from the disposal group for the construction chemicals business in the amount of €291 million until the date of the divestiture. The rise in personnel expenses in 2021 was mainly due to higher bonus provisions. Particularly the lower average number of employees had an offsetting impact.

BASF Group personnel expenses
Million €

	2021	2020	+/–
Wages and salaries	8,847	8,416	+5.1%
Social security contributions and assistance expenses	1,519	1,424	+6.7%
Pension expenses	732	736	–0.5%
Total personnel expenses	**11,097**	**10,576**	**+4.9%**

Balancing personal and professional life

Our identity as an employer includes our belief in supporting our employees in balancing their personal and professional lives. We want to strengthen their identification with the company and our position in the global competition for qualified personnel. To achieve this, we have a **wide range of offerings** aimed at employees in different phases of life that accommodate the growing demand for flexibility in when and where they work. These include flexible working hours, part-time employment, remote working, and time off options that provide the necessary flexibility to care for children or family members. We are constantly working to expand these options and increasingly support the effective use of digital solutions here.

Our flexible tools proved helpful during the coronavirus pandemic. They help our employees to master the increased challenges around work and personal life during the pandemic and will continue to provide flexibility. To integrate the positive experiences from the surge in remote working into our working culture, we have developed global guiding principles and a framework for the future of work (see box on page 101).

Regional initiatives specifically address the needs of our employees at a local level. For example, flexible co-working spaces in the Rhine-Neckar region in Germany were tested in pilot projects and a framework for potential future uses was developed.

Our **Work-Life Management employee center** in Ludwigshafen, Germany, (LuMit) offers a number of services under one roof: childcare, fitness and health, and social counseling and coaching offered by BASF Stiftung. Services were adapted so they could continue during the coronavirus pandemic based on the current coronavirus laws and local restrictions. We also provide employee assistance programs at other sites in Germany and around the world to help employees overcome difficult life situations and maintain and restore their employability. Social counseling and coaching also enabled employees and their families to receive extensive support during the coronavirus pandemic, for example by expanding telephone services.

Dialog with employee representatives

Trust-based cooperation with employee representatives is an important component of our corporate culture. Our open and continual dialog lays the foundation for balancing the interests of the company and its employees, even in challenging situations. In the case of organizational changes or if restructuring leads to staff downsizing, for example, or in the case of codetermination-relevant topics, we involve employee representatives at an early stage to develop socially responsible implementation measures. In 2021, this happened in connection with the planned organizational realignment of research, for example. Our actions are aligned with the respective legal regulations and the agreements reached, as well as operational conditions. The organizational protective measures taken during the coronavirus pandemic to date are backed by our employee representatives.

By focusing our discussions on the local and regional situations, we aim to find tailored solutions to the different challenges and legal conditions for each site. The BASF Europa Betriebsrat (European Works Council) addresses cross-border matters in Europe. In South America, we foster dialog with the Diálogo Social. In China, we work together with trade unions that have been organized locally within the framework of legal possibilities.

For more information, see basf.com/employeerepresentation

International labor and social standards

We act responsibly toward our employees. Part of this is our voluntary commitment to respecting international labor and social standards, which we have embedded in our global Code of Conduct. This encompasses internationally recognized labor norms as stipulated in the United Nations' Universal Declaration of Human Rights, the OECD Guidelines for Multinational Enterprises, and the Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy of the International Labour Organization (ILO). BASF is committed to complying with these standards worldwide. We mainly approach our adherence to international labor and social standards using three elements: the Compliance Program (including compliance hotlines), close dialog with our stakeholders (such as with employee representatives or international organizations) and the BASF guideline on compliance with international labor norms, which applies Group-wide. This guideline makes concrete the topics in our global Code of Conduct under "Human rights, labor and social standards" as these relate to our employees.

It forms the basis for our global, risk-based management process: We regularly monitor changes to the national law of all the countries in which BASF operates and evaluate our adherence to international labor and social standards. If the national law contains no or lower requirements, action plans are drawn up to successively close these gaps in a reasonable time frame. If conflicts with national law or practices arise, we strive to act in accordance with our values and internationally recognized principles without violating the law of the country concerned. As part of the management process, we regularly follow up on and document the results of the comparison between national law and our guideline, as well as measures to implement the guideline. This is part of our central due diligence system. An additional component of our corporate due diligence is our training concept, which was enhanced and refined in 2021. It includes target group-specific training and e-learning modules as well as a global platform for internal dialog.

We monitor our voluntary commitment to international labor and social standards as part of our management process. As before, individual elements of the guideline are also reviewed as part of internal control processes such as Responsible Care audits at BASF Group companies. In addition to these quality assurance measures, compliance with international labor and social standards is an integral part of the standard questionnaire in the compliance management audits conducted by BASF's Corporate Audit department.

For more information on global standards, see page 31
For more information on our responsibility for human rights, see page 104
For more information on compliance, see page 171 onward
For more information on standards in our supply chain, see page 109 onward
For more information on labor and social standards, see basf.com/labor_social_standards

Responsibility for Human Rights

GRI 102, 103, 406, 410, 411, 412, 413

SUPPLIERS → BASF → CUSTOMERS

BASF acknowledges its responsibility to respect internationally recognized human rights. For many years now, we have engaged in constructive dialog on human rights with other companies, nongovernmental organizations, international organizations and multi-stakeholder initiatives to better understand different perspectives and address conflicting goals. BASF is a founding member of the U.N. Global Compact and a member of the Global Business Initiative on Human Rights (GBI), a group of globally operating companies from various sectors. The initiative aims to ensure implementation of the U.N. Guiding Principles on Business and Human Rights.

At a glance

- Human rights due diligence as a Group-wide task
- Systematic and extensive anchoring of human rights topics in company processes and culture

We see human rights due diligence as an important, **all-encompassing task** that we can only perform by working together as a team throughout the entire organization. That is why we have embedded our responsibility for human rights into our Code of Conduct and set this out in our human rights position. We uphold our standards worldwide, including where they exceed local legal requirements. All employees and leaders are responsible for ensuring that we act in accordance with our Code of Conduct and our human rights position.

We rely on a systematic, integrated, risk-based approach and **established monitoring and management systems**. BASF is also active in initiatives such as Together for Sustainability (TfS) and Responsible Care®, which promote sustainability in the supply chain. Our measures and criteria for monitoring and observing human rights are integrated into supplier assessment processes and our global monitoring systems for environmental protection, safety and security, health protection and product stewardship. They are also part of the evaluation of investment, acquisition and divestiture projects, assessments along the entire product life cycle, and systems to monitor labor and social standards. In addition, aspects of human rights topics are part of the global qualification requirements for our security personnel and are incorporated into agreements with contractors.

Our **compliance unit** is responsible for steering human rights topics and coordinates the work of the cross-unit Human Rights Expert Working Group, which we established in 2020. In it, employees from specialist units – procurement, legal, HR, environmental protection, health and safety, sustainability strategy, site security, supply chain, communications and government relations – and the operating divisions work closely together. The expert working group provides support and advice in challenging and critical situations, on the development of internal processes, and on the creation of information and training offerings, among other things. This is how we ensure that we approach our human rights responsibility holistically and that we can continually improve our performance.

In 2020, we conducted a comprehensive **review** of our human rights management system and the related processes. This showed that we have achieved important milestones regarding our due diligence obligations. However, the analysis, which was discussed by the Board of Executive Directors, also identified potential for improvement, for example with regard to awareness of human rights topics within our organization and relating to the integration of these topics in our guidelines and processes.

We therefore launched a global, internal campaign in April 2021 to raise awareness on the topic of human rights. Externally, we were involved in the U.N.'s International Year for the Elimination of Child Labour through two initiatives and together with other partners, and committed to specific joint measures in the fight against child labor. Together with other DAX-listed companies, we also participated in the study "Moving with responsibility toward success: practical implementation of human rights due diligence in 10 companies" commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) and the German Agency for International Cooperation (GIZ).

We strengthened awareness of our due diligence obligations in procurement by including additional information on human rights topics in training. In addition, the human rights risk assessment is more systematically incorporated into strategy development in our procurement segments (see page 109).

We also further improved our **grievance mechanisms** and introduced a standardized global external and internal hotline and reporting system in 2021. For example, we expanded the number of languages available. A new website provides information about the hotline and the grievance procedure, and now also offers the option of contacting the company anonymously online in addition to local telephone numbers. Employees can also contact specialists directly via an internal online platform or the corresponding app. The processing status of a submitted report can be tracked anonymously. Moreover, submitted cases will be able to be recorded and evaluated more systematically in the future (see page 171 onward). In 2021, 206 human rights-related complaints were received by phone as well as by post and e-mail. All complaints were reviewed and forwarded to the relevant departments for in-depth investigation. If justified, appropriate measures were taken.

We see assuming our human rights responsibilities as a continuous process. That is why we continuously review our policies and processes and update them whenever necessary. We are currently examining further development measures in various working groups against the backdrop of new regulations such as the German Act on Corporate Due Diligence Obligations in Supply Chains (LkSG) and the forthcoming E.U. legislation on due diligence in the supply chain.

We established a **Human Rights Advisory Council** in 2020 to systematically integrate external expertise. Its members include independent international human rights experts. The trust-based dialog on human rights topics helps us to better understand different

perspectives and to deal more openly with critical situations. At the same time, the renowned external experts show us where we have potential for improvement and help us to build on our strengths in how we handle human rights. The meetings, which are chaired by our Chief Compliance Officer, are also attended by employees from the sustainability strategy and compliance units. Other representatives, for example, from the operating divisions or procurement, are invited depending on the focus topics. In this way, the Human Rights Advisory Council provides an external perspective on establishing and improving our processes, and contributes this in discussions with the leadership team.

We maintained our dialog with the Human Rights Advisory Council throughout 2021, both with the body as a whole and in small groups, and with individual experts. The topics discussed included responsible supply chain management, for example in challenging supplier relationships or in high-risk regions. Our contribution to the responsible use of our solutions and products was also discussed.

In 2021, we stepped up our **commitment to action areas with increased risk potential**, such as battery materials (see box on the right). Where conflict minerals (tin, tantalum, tungsten, their ores and gold) are used, we pay attention to the implementation of the relevant E.U. regulation in our supply and value chains. We also set store on certified sustainable supply chains and fair working conditions in the procurement of raw materials such as palm oil, palm kernel oil and castor oil. We maintain dialog with national and international NGOs and are involved in numerous networks and partnerships (see page 113 onward). These include the Cobalt for Development initiative in the Democratic Republic of Congo, the Responsible Lithium Partnership in Chile, the Global Battery Alliance and the Roundtable on Sustainable Palm Oil (RSPO).

As an international company, we are a part of society in the countries in which we operate and have business relationships with partners around the world. We are confronted by the fact that there are states that do not honor their obligation to protect human rights. People are particularly at risk in such countries and companies' ability to act is often limited. We are committed to our values – including and especially there – and contribute to the respect of human rights.

We have trustful working relationships with our partners (customers, suppliers, joint venture partners, contractors), expect them to comply with internationally recognized human rights standards and to demand the same of their partners further along the value chain. We support our partners in their efforts to meet their respective responsibilities.

We can only meet our goal of eradicating human rights abuses along our value chains if we work together. We have defined our expectations in a binding **Supplier Code of Conduct**. We are in close contact with our business partners, especially in higher-risk areas and regions, and monitor the implementation of required standards and measures for improvement. We use recognized assessments and audits to verify this.

Good to know

Battery Minerals Task Force

In 2021, BASF established a Battery Minerals Task Force to meet the specific challenges associated with the growing demand for battery materials. It bundles the expertise of the Catalysts division and various functional units. The initiative was formed to address the risks and opportunities of our global raw material supply chains for battery materials from a sustainability viewpoint and steer the resulting activities. The aim is to ensure the responsible procurement of battery materials. The task force is also responsible for the ongoing development of our internal guidelines to ensure their continuous improvement and adaptation to new regulatory requirements, as well as to take account of developments in our business areas.

For more information on supplier management, see page 109 onward
For more information on mineral raw materials, see page 115 onward

We report on our global targets, monitoring systems and measures to integrate human rights topics into our business activities in publications such as this report and online.

For more information on standards in our supply chain, see page 109 onward
For more information on raw materials, see page 112 onward
For more information on our production standards, see page 119 onward
For more information on systems for monitoring labor and social standards, see page 103 onward
For more information on corporate governance and compliance, see page 161 onward
See basf.com/humanrights for more information on the human rights position and a comprehensive report on the implementation of due diligence in human rights in accordance with the requirements of the National Action Plan developed by the German government, and in accordance with the U.N. Guiding Principles on Business and Human Rights
For more information on the Human Rights Advisory Council, see basf.com/human-rights-council

Stakeholder Engagement

GRI 102, 103, 413, 415

At a glance

- Dialog with various stakeholder groups with a focus on the integration of the U.N. Sustainable Development Goals (SDGs)
- The Stakeholder Advisory Council's focus areas: climate protection, the energy transformation and food security

We leverage the expertise of global initiatives and networks and actively engage in dialog with various stakeholder groups, contributing our expertise

For instance, we have been a member of the U.N. Global Compact (UNGC) since its establishment in 2000. As a recognized **LEAD company**, we contribute to the implementation of the Agenda 2030 and the associated goals. For example, we support the UNGC action platforms, including the Sustainable Finance platform in the form of the CFO Taskforce for the SDGs, and the Decent Work in Global Supply Chains action platform, in which company representatives and experts discuss how respecting human and labor rights is crucial to achieving the SDGs. With the six-month SDG Ambition program, the UNGC and the German Global Compact Network (DGCN) support participating companies in aligning their sustainability targets more closely with the SDGs and deriving specific measures from them. BASF is also active in 13 local Global Compact networks.

In 2021, we again discussed relevant sustainability topics with the **Stakeholder Advisory Council**. Focus topics included climate protection, the energy transformation and food security. Topics discussed by the Human Rights Advisory Council, which is chaired by our Chief Compliance Officer, included particular challenges in the battery materials value chain.

We promote digital dialog on sustainability topics. In November 2021, we held the second hackathon as part of the Climathon initiative in North and South America, where employees developed digital solutions for sustainability topics.

For more information on stakeholder dialog, see basf.com/en/stakeholder-dialog

For more information on our guidelines for responsible lobbying, see basf.com/guidelines_political_communication

For more information on the Industry Associations Review, see basf.com/corporategovernance

Societal Engagement

GRI 203, 413

At a glance

- BASF a responsible neighbor at sites worldwide
- New business models improve local living conditions

Through our societal engagement, we want to address the needs of the communities surrounding our production sites worldwide, help achieve the SDGs, and have a positive long-term impact on the environment and society. This is why societal engagement is a cornerstone of our corporate social responsibility. It encompasses the focus areas of health, skills and resources.

We work with partners worldwide to **promote public health**, for example, to combat malaria. Through our New Nets project in cooperation with The Global Fund, Unitaid and other financial partners, approximately 25 million of our Interceptor® G2 mosquito nets had been distributed in African countries as of December 2021. These were specially developed to counter insecticide resistance in the fight against malaria and contain two different insecticides. The project goal is to distribute a total of around 35 million nets by the end of 2022.

At the U.N. Food Systems Summit 2021, BASF signed the Zero Hunger Private Sector Pledge and announced that it would invest $11 million in initiatives in Africa, Asia, Central and South America, such as for seed production, malaria prevention and food fortification as well as smallholder projects. The projects aim to help achieve SDG 2 by 2030 (Zero hunger). Forty-three companies signed the pledge, which is implemented by the Global Alliance for Improved Nutrition (GAIN) and other international organizations.

As a **responsible neighbor** and a partner in the Rhine-Neckar metropolitan region in Germany, our societal engagement strategy strengthens the participation and integration of disadvantaged groups, and promotes research and discovery.

With Wissensfabrik – Unternehmen für Deutschland e.V., we promote a network of around 130 companies and corporate foundations that sponsor educational institutions and start-ups to support children, young people, students and young entrepreneurs. The focus is on school projects that provide hands-on experience with STEM (science, technology, engineering and mathematics). Due to the coronavirus pandemic, the project's initiatives (such as IT2School – Gemeinsam IT entdecken and KiTec – Kinder entdecken Technik) were also offered in digital formats, allowing these educational programs to continue even as school operations were restricted. In the new City4Future project launched in early 2022, schoolchildren explore topics related to energy, climate change and sustainability through play and can develop ideas for the urban living space of the future.

In South America, BASF initiated the Connect to Transform open call and has so far supported 48 social and environmental projects, such as the Geração Futura Institute's Mão na Massa project near our local site in the São Bernardo do Campo region. The project trains women as bakers to promote their financial and personal autonomy.

We aim to create long-term value for BASF and society with new business models and cross-sector partnerships. Our **Starting Ventures program** helps people from low-income areas to improve their economic opportunities and their quality of life. The program also provides access to new markets and partners, and contributes to reaching the SDGs. A new internal application round for Starting Ventures projects was launched in October 2021. The projects,

which aim to help improve local living conditions, then enter the implementation phase. BASF contributes both technical expertise and resources to the projects to address local challenges and contribute to the SDGs. One project under our Starting Ventures program is the Waste-2-Chemicals project in Lagos, Nigeria. Under the project, plastic waste is collected by local residents, sorted and then converted into pyrolysis oil. This pyrolysis oil is used as feedstock in the production of high-quality chemical products. In cooperation with nonprofit organizations, this will enable local waste collectors and their families to earn a regular income.

BASF Group expenses for societal engagement activities[1]

~€30 million

In the area of **international development cooperation**, we support the independent charitable BASF Stiftung with donations for its projects in cooperation with various organizations. The 2021 year-end donation campaign in favor of BASF Stiftung supported the United Nations Children's Fund, UNICEF, which celebrated its 75th anniversary. Together with the Indian organization ChildLine and other partners, UNICEF is working to provide psychosocial care for children in India who have had difficulty accessing important services as a result of the pandemic. BASF doubled the donations made by employees of participating German Group companies to a total of around €600,000.

BASF also made donations to support those affected by natural disasters in 2021. In July, BASF donated €1 million to flood relief in Germany, which hit the states of North Rhine-Westphalia and Rhineland-Palatinate particularly hard. The donation went to the German Red Cross, which was active in these crisis regions. In August, BASF doubled the amount donated by employees at its German sites (€702,668 in total) to around €1.4 million. BASF Stiftung distributed the donations to affected private households and charitable institutions. In September, BASF donated $500,000 to disaster relief following Hurricane Ida and for long-term recovery efforts in Louisiana. Local nonprofit organizations used $300,000 of this amount for emergency relief and reconstruction. In addition, $200,000 went to supporting BASF employees who were directly impacted by the effects of the hurricane.

For more information on Starting Ventures, see basf.com/en/starting-ventures

For more information on societal engagement at our sites, see ludwigshafen.basf.de

For more information on our societal engagement around the world, see basf.com/en/engagement

1 As of 2020, we report a total figure for our societal engagement activities. The figure includes all consolidated companies with employees, including joint operations.

Dr. Sung Min Pyo, a pharmacist in the Nutrition & Health division and part of BASF's interdisciplinary team at the coronavirus vaccination center, is responsible for ensuring that the vaccines are used as required, among other things.

In focus:

Continuation of Global Aid Measures During the Coronavirus Pandemic

BASF launched the Helping Hands aid campaign in 2020 to help fight the coronavirus and its effects. In 2021, we continued to use our expertise in research, production, procurement and logistics to support people affected by the pandemic around the world.

In April 2021, BASF opened the **first accredited corporate coronavirus vaccination center in Germany** at its Ludwigshafen site. More than 22,000 primary vaccinations and more than 21,000 secondary vaccinations were administered there from April to August and more than 10,000 booster vaccinations were administered there in December to BASF employees, contractors and site partners. The coronavirus vaccination center was established and operated by an interdisciplinary team from various BASF units, coordinated by Corporate Health Management.

A global working group in our Pharma Solutions business unit has supported pharmaceutical companies in their research on vaccines and therapies to combat COVID-19 since March 2020. The task force reviews patent applications, clinical trials and scientific publications to identify potential collaborations with companies. BASF is currently supporting the global development of more than 80 therapies with its ingredients and expertise.

BASF products were used to **cool coronavirus vaccines**. For instance, Elastopir© insulation panels were produced in cooperation with a partner in Malaysia and used to equip refrigerated warehouses in Asia. In cooperation with various partners in Germany, Neopor® and Styropor®, BASF's expandable polystyrenes (EPS), were used to produce boxes to transport COVID-19 vaccines due to their good insulating and shock-absorbing properties.

In 2021, BASF also provided **in-kind support** around the world to overcome the challenges posed by the coronavirus pandemic. For example, BASF donated molecular sieves to the Indian government to facilitate the production of medical oxygen. Medical equipment, including ventilators, was also donated, and acute care units were set up in Mumbai together with partners. We donated medical equipment to Malaysian hospitals for the treatment of COVID-19 patients. In South America, BASF launched a food drive and donated food packages to communities around BASF sites. The food was distributed there to those in need with the help of employees who volunteered their time.

For more information on the Helping Hands aid campaign, see basf.com/en/helping-hands

We Source Responsibly

As a global business, we have a responsibility to manage our supply chain carefully. We connect with our suppliers to source responsibly. Our partnerships with suppliers are based on mutual value creation, as well as a reliable supply of raw materials, technical goods and services at competitive prices.

In this section:
Supplier Management
Raw Materials

Supplier Management

GRI 102, 103, 204, 308, 403, 407, 408, 409, 414

SUPPLIERS → BASF → CUSTOMERS

BASF sources a wide range of raw materials, precursors, technical goods and services. Our suppliers are an important part of our value chain. Our objective is to secure competitive advantages through our professional procurement structures, to establish stable and reliable supply chains, and at the same time, meet high ethical and environmental standards. Together with our suppliers, we want to improve sustainability in the supply chain and minimize risks.

At a glance

€43.5 billion
global procurement spend

85%
of relevant spend[1] covered by sustainability evaluations

- Sustainability-oriented supply chain management
- Global targets to increase sustainability in the supply chain
- Supplier Code of Conduct creates transparency
- Risk-based approach with clearly defined follow-up processes

Strategy

Our partnerships with suppliers are based on mutual value creation, as well as a reliable supply of raw materials, precursors, technical goods and services at competitive prices.[2] In doing so, we want to generate long-term benefits for both sides. Our **sustainability-oriented supply chain management** is an integral part of our risk management. We have defined our standards and processes in a global guideline. We are continually refining and optimizing this to respond to changes in the regulatory environment and new requirements resulting, for example, from new laws and initiatives at national and international level. Procurement management systems such as guidelines and targets are set centrally and are binding for all employees with procurement responsibility worldwide.

Our risk-based approach aims to identify and evaluate sustainability matters in our value chains as best possible to improve sustainability together with our suppliers. We regularly review and document progress based on the risk level. Employees with procurement responsibility receive ongoing training in sustainability-oriented supplier management and responsible procurement. In 2021, 250 BASF employees received such training.

Our expectations of our suppliers are laid down in the global Supplier Code of Conduct. This creates clarity around the standards to be met. We count on reliable supplier relationships and support our suppliers in implementing our requirements. In 2021, we also launched the Supplier CO_2 Management Program. With this program, we want to systematically gather data on upstream Scope 3 emissions to identify medium-term measures for optimization (see page 130). We make our suppliers' contribution to sustainable development transparent for us and for our stakeholders.

For more information on suppliers, see basf.com/suppliers

Global targets

We actively promote sustainability in the supply chain and have set ourselves ambitious targets for this: By 2025, we aim to have conducted sustainability evaluations for 90% of the BASF Group's relevant spend[2] and will develop action plans where improvement is necessary. In addition, we aim to have 80% of suppliers improve their sustainability performance upon re-evaluation by 2025. In 2021, 85% of the relevant spend had been evaluated. Of the suppliers re-evaluated in 2021, 74% had improved. Both global targets are embedded in the target agreements of persons responsible for procurement.

Worldwide procurement

Our more than 70,000 suppliers make an important contribution to our value creation. We work in long-term partnership with companies from different industries around the world. They supply us with raw materials, precursors, investment goods and consumables, perform a range of services and are innovation partners.

1 We understand relevant spend as procurement volumes with relevant suppliers. We define relevant suppliers as Tier 1 suppliers showing an elevated sustainability risk potential as identified by our risk matrices, our purchasers' assessments or other sources.
2 BASF considers all direct suppliers of the BASF Group in the business year concerned as Tier 1 suppliers. These are suppliers that provide us with raw materials, investment goods, consumables and services. Suppliers can be natural persons, companies or legal persons under public law.

2025 target

90%
Share of relevant spend covered by sustainability evaluations

80%
Percentage of suppliers with improved sustainability performance upon re-evaluation

We acquired raw materials, goods and services for our own production worth approximately €43.5 billion in 2021. Of this, around 90% was procured locally.[1] There were no substantial changes to our supplier structure.

What we expect from our suppliers

Together with our suppliers, we want to improve sustainability in the supply chain. Consequently, we expect our suppliers to comply with the applicable laws in full and to adhere to internationally recognized environmental, social and corporate governance (ESG) standards. We also expect our suppliers to make an effort to enforce these standards at their suppliers. In addition, we ask our suppliers to acknowledge, support and abide by our Supplier Code of Conduct – or to demonstrate and ensure their commitment to the principles specified in the Code of Conduct, for example in their own code of conduct.

Our global **Supplier Code of Conduct** is founded on internationally recognized guidelines, such as the principles of the United Nations' Global Compact, the U.N. Guiding Principles on Business and Human Rights, the International Labor Organization (ILO) conventions and the topic areas of the Responsible Care initiative. Topics covered by the Code of Conduct include compliance with human rights, the exclusion of child and forced labor, safeguarding labor and social standards, antidiscrimination and anticorruption policies, and protecting the environment. The Code of Conduct is available in the most relevant languages for our suppliers and integrated into electronic ordering systems and purchasing conditions across the Group. We revised our Supplier Code of Conduct in 2021 and added our expectations around the procurement of conflict minerals (tin, tantalum, tungsten, their ores and gold). Around 5,900 new suppliers committed to the Code of Conduct in 2021.

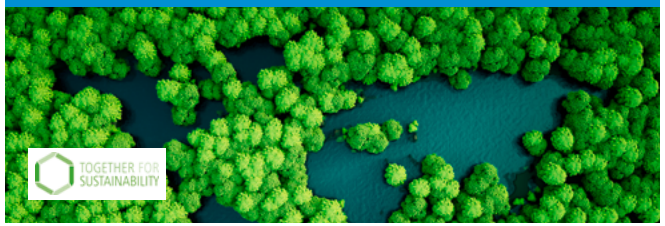
BASF conducts audits and assessments to ensure that suppliers comply with the applicable laws, rules and standards. BASF reserves the right to discontinue business relationships for non-adherence to international principles. The same applies to failure to correct violations, or for displaying patterns of non-compliance with these standards. Our Code of Conduct expressly points out that potential violations of laws, rules or standards can be reported – including anonymously – to our compliance hotlines. Each case is documented and investigated, and appropriate measures are taken as necessary.

Selection and evaluation of our suppliers

New suppliers are selected and existing suppliers are evaluated not only on the basis of economic criteria, but also ESG standards. As such, selection, evaluation and auditing is an important part of our sustainable supply chain management. Processes and responsibilities are defined in a global guideline. Due to the large number of suppliers, they are **evaluated based on risk**. We take into account the materiality of the supply relationship and country and industry-specific risks. We also use observations from our employees in procurement and information from internal and external databases, such as TfS assessments.

We have suppliers with a high potential sustainability risk evaluated by third parties, either through sustainability evaluations or on-site audits. The list of suppliers to be assessed is updated every year. Sustainability evaluations and on-site audits are mainly conducted according to the TfS framework. A total of 86 raw material supplier sites were audited on sustainability standards on our behalf in 2021.

Good to know



Together for Sustainability (TfS)

BASF is a founding member of Together for Sustainability (TfS). The initiative was established in 2011 to improve sustainability in the supply chain. The focus is on standardizing and simplifying supplier audits and evaluations globally. This increases transparency and creates synergies: Suppliers only have to complete an assessment process once. The results are then made available to all TfS members and are mutually recognized – saving time and money for both parties. Suppliers are evaluated by independent experts either in on-site audits or online assessments. The latter are conducted by EcoVadis, a ratings agency specialized in sustainability analyses.

A new program on Scope 3 emissions was launched in 2021. The aim is to develop a methodology for the chemical industry to calculate upstream greenhouse gas emissions in particular. TfS members can use this data to implement and manage emissions reduction programs.

At the end of 2021, TfS had 34 members with a combined procurement spend of around €267 billion. A total of 284 audits and 5,817 online assessments were performed. As a TfS member, BASF itself is assessed and in 2021 was ranked among the top 1% companies worldwide in the sustainable procurement category.

For more information on Together for Sustainability, see tfs-initiative.com

1 "Local" means that a supplier is located in the same region (according to BASF's definition) as the procuring company.

We received sustainability evaluations for 701 suppliers. We also take into account other certification systems and external audits, such as from the Roundtable on Sustainable Palm Oil, when assessing our suppliers. Depending on business requirements, we additionally conduct our own Responsible Care audits at selected suppliers (see page 117).

Audit results

We carefully analyze the results of our assessments and document them in a central database. The on-site supplier audits conducted over the past few years have identified some need for adjustment with respect to environmental, social and corporate governance standards, for example in waste management or deviations in occupational health and safety measures and standards under labor law. Follow-up audits in 2021 identified improvements, for example, a reduction in health and safety risks following the implementation of appropriate measures and compliance with labor law requirements. In 2021, none of our audits identified any instances of child labor or dangerous work and overtime performed by persons under 18.

We maintained close dialog with our South African platinum supplier Sibanye-Stillwater[1] in 2021 on the results of the audit from 2020, the implementation of the resulting action plan, and other relevant topics. This includes working with all stakeholders, including local authorities, to take a unified approach to community development. Almost all the needs for adjustment identified by the audit had been implemented by the end of 2021. BASF and Sibanye-Stillwater continue to discuss the progress made four times a year and also use this as a platform for dialog on other sustainability topics. Sibanye-Stillwater is a member and supporter of the International Platinum Group Metals Association (IPA) sustainability initiative that was co-founded by BASF. The initiative's measures include conducting comprehensive sustainability audits and sharing factors for success. BASF continued its regular dialog with local stakeholder groups in 2021. It also facilitated direct dialog between Sibanye-Stillwater and nongovernmental organizations active in this area.

We discuss sustainability matters with our supplier Nornickel and other aspects relevant to our cooperation on a monthly basis. These include current events and the findings from the mining-specific TfS audits. In 2021, TfS audits were carried out at Nornickel's site in Polar, Russia. Nornickel seeks to join various industry initiatives that provide third-party verification of mining and responsible procurement standards, such as the International Council on Mining and Metals (ICMM) or the Initiative for Responsible Mining Assurance (IRMA). In addition, topics relevant to stakeholders were discussed in meetings with interest groups. The dialogs continue in various forms.

Supplier development

We use TfS evaluations to pursue a risk-based approach with clearly defined, BASF-specific follow-up processes. If we identify deviations from standards, we ask suppliers to develop and implement **corrective measures** within a reasonable time frame. We support them in their efforts, for example by training employees from 31 suppliers in China on ESG topics in 2021 as part of a partnership with the East China University of Science and Technology. In South America, around 190 suppliers took part in a diversity talk on gender equality in the supply chain, and around 340 suppliers attended a webinar on ethical principles, legislation and human rights in the supply chain.

As part of TfS, training was also developed for suppliers undergoing a sustainability evaluation for the first time and for suppliers that already have a sustainability rating but have potential for improvement in ESG performance. In 2021, more than 1,800 participants attended online TfS training on this topic in different languages. TfS is also developing a global learning platform for buyers and suppliers, which will provide various (online) training opportunities on specific sustainability topics. It is scheduled for launch in 2022.

We review our suppliers' progress according to a defined timeframe based on the sustainability risk identified, or after five years at the latest. In the case of ongoing, serious violations of the standards defined in our Supplier Code of Conduct or international principles, we reserve the right to impose commercial sanctions. These can go as far as termination of the business relationship. In 2021, this happened in three cases.

1 In 2012, an extended strike at a platinum mine in Marikana, South Africa, culminated in a violent confrontation between mine workers and armed South African police. Employees of the former mine operator, Lonmin, were among the fatalities. Ownership of the Marikana mine was transferred to Sibanye-Stillwater in 2019. For more information on the supplier relationship with the Sibanye-Stillwater mine, see basf.com/en/marikana

Raw Materials

GRI 102, 103, 203, 301, 304, 308, 413, 414

SUPPLIERS › BASF › CUSTOMERS

In 2021, BASF purchased a total of around 35,000 different raw materials from more than 6,500 suppliers. Using resources as efficiently and responsibly as possible and the concept of the circular economy are firmly embedded in our strategy and our actions, for example, by our Verbund structure and the increased use of renewable and recycled feedstocks. We expect our suppliers to source and produce raw materials responsibly.

At a glance

35,000
different raw materials purchased

1.3 million metric tons
renewable raw materials purchased

- BASF's Verbund concept enables the efficient use of resources
- Recycled and renewable raw materials are gaining in importance
- Numerous projects to improve supply chain sustainability

Strategy

Our strategy covers the entire value chain – from responsible procurement and the efficient use and recycling of raw materials in our processes to developing resource-saving solutions for our customers. We want to decouple **growth from resource consumption** with process and product innovations to accelerate the shift toward closed-loop value creation systems. Alongside economic, environmental and social criteria, we also consider aspects such as product safety and supply security when selecting suppliers and raw materials.

Our expectations of our suppliers are laid down in our Supplier Code of Conduct (see page 109). We take a closer look at suppliers in critical supply chains, for example mineral raw materials, renewable resources such as palm kernel oil, a number of pigments and highly toxic substances. Upstream stages of the value chain are assessed for serious sustainability risks and, if necessary, suitable remedial measures are identified. In addition, we develop and test approaches to make the supply of raw materials more sustainable in joint initiatives with suppliers and other partners. Examples include our cooperative ventures and investments to recycle batteries (see page 30) and our joint activities on certified sustainable supply chains for renewable raw materials such as palm, palm kernel and castor oil.

BASF's Verbund concept is key to making the use of raw materials in our own processes as efficient as possible: Intelligently linking and steering our plants and processes creates efficient value chains. By-products from one facility are used as feedstocks elsewhere. This saves raw materials and energy (see page 128). At the same time, the Verbund offers many opportunities to use renewable and recycled raw materials. We want to better leverage this potential going forward. For example, we are driving forward chemical recycling of mixed plastic waste and used tires in our ChemCycling™ project (see page 115).

Resource efficiency and stewardship are also becoming increasingly important topics for our customers. That is why we are constantly working to reduce the resources consumed in the manufacturing of our products, for example through more efficient processes, innovative technologies and the use of renewable and recycled raw materials. This enables us to offer our customers solutions that make a greater contribution to sustainability, like a smaller carbon footprint and better biodegradability. Our products also improve our customers' resource efficiency and sustainability in many areas. For example, BASF additives increase the service life and mechanical recyclability of plastics, which saves fossil resources and avoids CO_2 emissions.

For more information on our supplier management, see page 109 onward
For more information on the circular economy, see page 44

Fossil and petrochemical resources

BASF's most important raw materials (based on volume) include gas and crude oil-based petrochemical products such as naphtha and benzene. We mainly use liquid gas and natural gas to generate energy and steam, and to produce key basic chemicals such as ammonia or acetylene. Naphtha is mainly fed into our steam cracker, where it is split into products such as ethylene and propylene – both important feedstocks for numerous value chains. We use aromatics such as benzene or toluene to manufacture engineering plastics, among other products. Thanks to a high degree of forward and backward integration, we can produce many feedstocks for our value chains efficiently while conserving resources within the BASF Verbund. This increases supply security and reduces dependence on external supply sources to just a few key raw materials. We source these from different suppliers to minimize supply risks.

As part of our efforts to improve sustainability, we are continuously investigating whether fossil and petrochemical resources can be replaced with **non-fossil alternatives**. We carefully consider economic, environmental and social aspects, as well as other important criteria like supply security and product safety. Our aim is to increase the share of renewable and recycled feedstocks in our value chains. This brings with it challenges and compromises in the supply of both energy and resources for carbon-based organic chemistry. For example, the use of renewable energy can involve additional costs, which can have an impact on competitiveness. Another area of conflict arises, for example, when the increased consumption of renewable raw materials leads to greater land use. We raise awareness of these trade-offs through close dialog with our stakeholders. We are also involved in sustainability initiatives to develop and implement solutions in cooperation with partners.

Good to know

The mass balance approach

Many BASF value chains start in syngas plants or steam crackers, where fossil resources, mostly natural gas and naphtha, are converted into hydrogen and carbon monoxide or important basic chemicals such as ethylene and propylene. These are used to create thousands of products in the BASF Verbund. Alongside fossil resources, bio-based and recycled raw materials such as biomethane, bio-naphtha or pyrolysis oil can be used as feedstocks in our plants. Due to the simultaneous processing of fossil, bio-based and recycled feedstocks, the raw materials cannot be directly assigned to resulting derivatives. The share of bio-based or recycled raw materials can however be allocated to derivatives using the mass balance approach, which is audited by a third party, and certification (such as the REDcert² standard for the chemical industry). It is similar in principle to green power, which has been established for many years: Energy from renewable sources is fed into the grid and then charged to individual customers.

Mass balance products are identical in quality to conventionally produced products but have a better sustainability balance due to the use of bio-based or recycled raw materials. This method has already been applied to over 700 BASF products (2020: ~200 products), for example, engineering plastics such as polyamide, superabsorbents, dispersions and intermediates. We share our expertise in numerous stakeholder platforms, such as the European Commission's Circular Plastics Alliance, to harmonize and standardize different allocation methods and certification schemes for mass balance products.

For more information, see basf.com/massbalance

Renewable resources

In addition to fossil resources, we employ renewable raw materials, mainly based on vegetable oils, fats, grains, sugar and wood. In 2021, we purchased around 1.3 million metric tons of renewable raw materials. For instance, we use renewable resources to produce ingredients for the detergent and cleaner industry, or to source natural active ingredients for the cosmetics industry. We also use renewable feedstocks such as biomethane and bio-naphtha in our Verbund as an alternative to fossil resources. The mass balance approach allows us to allocate the amount of renewable resources used to a wide variety of end products (see box at left). Examples include the Acronal® Eco and Joncryl® MB biomass balance binders for solvent-free paints and coatings, the HySorb® Biomass Balanced superabsorbent, various biomass balance versions from the Trilon®, Sokalan® and Protectol® product lines for the detergent and cleaner industry, and the biomass balance versions of our Styropor®, Neopor® and Styrodur® insulation materials.

As for fossil raw materials, we also consider how renewable resources **impact sustainability topics** along the value chain. Alongside positive effects like saving greenhouse gas emissions, these can also have negative effects on areas such as biodiversity, land use or working conditions, depending on the raw material. This is why we carefully weigh the advantages and disadvantages of using renewable resources, for example using Eco-Efficiency Analyses. We also take recognized certification standards such as the Roundtable on Sustainable Palm Oil into account in our decisions.

We want to minimize raw material-specific risks and increase sustainability in our supply chains with measures, projects and targeted involvement in initiatives. Our activities here concentrate on value chains that are relevant quantitatively or that do not yet have certification standards. We are also working on product innovations and on enhancing our production processes to improve the profitability and competitiveness of renewable resources. For example, we are developing innovative processes such as biocatalysis and fermentation for the production of vitamins and enzymes; and we are

driving forward white biotechnology for the production of chemical components from renewable resources.

Palm oil, palm kernel oil and their derivatives are some of our most important renewable raw materials. We mainly use these raw materials to produce ingredients for the cosmetics, detergent, cleaner and food industries. We aim to ensure that palm-based raw materials come from certified sustainable sources. To this end, we have endorsed the Roundtable on Sustainable Palm Oil (RSPO) since 2004 and are engaged in other national and international initiatives, such as the German Forum for Sustainable Palm Oil, the Polish coalition Polska Koalicja ds. Zrównowazonego Oleju Palmowego and the High Carbon Stock Approach organization. Based on our Group-wide Supplier Code of Conduct (see page 109), we have outlined our expectations of suppliers in the palm-based value chain in an additional sourcing policy (BASF Palm Sourcing Policy). This addresses aspects such as forest and peat conservation, respect of human and labor rights, smallholder inclusion, and certification and traceability standards. The annual BASF Palm Progress Report reports on our measures and progress toward more sustainability and transparency in the value chain.

We purchased 242,946 metric tons of palm oil and palm kernel oil in 2021 (2020: 227,213 metric tons). We again met our own voluntary commitment to source only RSPO-certified palm oil and palm kernel oil. This avoided more than 330,000 metric tons of CO_2 emissions compared with the procurement of conventional palm oil and palm kernel oil. By 2025, we aim to extend our voluntary commitment to sustainable procurement to the main intermediate products[1] based on palm oil and palm kernel oil. We were able to trace 96% of our global palm footprint to oil mill level as of the end of 2021 (2020: 95%[2]). In addition, we continued to drive forward the RSPO supply chain certification of our sites for cosmetic ingredients. At the end of 2021, 26 production sites worldwide were certified by the RSPO (2020: 25). In line with raised awareness for sustainability, we continue to see growing demand for certified palm-based products from our customers. We are expanding our range of certified sustainable products in accordance with the RSPO's mass balance supply chain model. This helps our customers meet their obligations to customers, consumers and stakeholders.

We source most of our palm-based raw materials from Malaysia and Indonesia. Smallholders account for around one-third of the total volumes produced there. We have worked together with The Estée Lauder Companies, the RSPO and Solidaridad in Indonesia since 2019 to expand our supplier base for RSPO-certified palm oil products while strengthening smallholder structures and sustainable production methods at local level. The project in the province of Lampung supports around 1,000 independent smallholders in improving their livelihoods and the sustainable production of palm oil and palm kernel oil. The focus is on efficient and sustainable farming practices and health and safety standards. The goal is for at least one-third of program participants to become certified according to the RSPO Smallholder Standard in three years.

Also important for BASF, albeit at a much smaller scale, is **castor oil**. We use castor oil to manufacture products such as plastics and ingredients for paints and coatings, as well as products for the cosmetics and pharmaceutical industries. With the aim of establishing a certified sustainable supply chain for castor oil, we launched the Sustainable Castor Initiative – Pragati in 2016 together with the companies Arkema and Jayant Agro and the NGO Solidaridad. The initiative is intended to improve the economic situation of castor bean farmers in India and, at the same time, raise awareness of sustainable farming methods. Around 80% of the world's castor beans are produced in India, mainly by smallholders. As part of Pragati, smallholder farmers receive training on topics such as cultivation methods, efficient water use, health and the safe use of crop protection products based on a specially developed sustainability code, SuCCESS. Since the project was initiated, more than 5,800 smallholders and over 13,300 hectares of land have been certified for sustainable castor cultivation. Yields from this land were 35% higher than average amounts for the region published by the local government for the 2020/2021 harvest cycle. In addition to SuCCESS, the Sustainable Castor Association (SCA), which was launched in 2019 by the founders of the Pragati initiative, has also developed a sustainability code for the wider supply chain. This will allow castor beans obtained from the program to be further processed into certified castor oil and derivatives and to be introduced into the downstream supply chain. We were able to source the first certified sustainable castor oil from the program in 2021 following the successful audit of our supply chain by an independent certification body. In the coming years, we want to increase the share of this oil in our total demand.

Our **bioactives for cosmetics** are based on plants. Through sustainable sourcing practices, we aim to preserve ecosystems and enable sustainable management for those who depend on them. To this end, we have set up various programs that unite economic, ecological and social aspects in holistic approaches. One example is our rambutan program in Vietnam's Dong Nai province. We have been collaborating since 2014 with two local small plantations which supply us with sustainably produced, organically certified raw materials. Upcycling the rambutan tree's shells, leaves and seeds, previously disposed of as waste, creates new income streams for farmers and expands our portfolio of natural active ingredients. The partnership focuses in particular on responsible farming practices and social inclusion, including gender equality, safe working conditions and fair incomes.

Another example of sustainable supply chains and responsible innovation is our Castaline™ product, derived from the leaves of chestnut trees. These are harvested in late summer by forest owners in France. The chestnut forests are organically certified and are mainly used for the cultivation of chestnuts. By upcycling the leaves as a by-product of chestnut extraction, we generate additional income opportunities for forest owners and provide our customers with a product of completely natural origin. We are pursuing other similar

1 Fractions and primary oleochemical derivatives as well as vegetable oil esters
2 The figure for 2020 was adjusted from 96% to 95% due to a data correction.

initiatives, for example, in Morocco for our argan-based products, and in India for our active ingredients based on the moringa tree.

For more information on biodiversity, see page 138 onward

For more information on our voluntary commitment to palm oil products and the Palm Progress Report, see basf.com/en/palm-dialog

Recycled feedstocks

Recycling is becoming increasingly important due to limited resources, growing sustainability requirements in the markets and regulatory developments. We want to increase the use of recycled feedstocks with our Circular Economy Program: From 2025 onward, we aim to process around 250,000 metric tons of recycled and waste-based raw materials every year worldwide, replacing fossil raw materials (see page 44).

A focal point of our activities here is **chemically recycling** plastic waste. This technology complements mechanical recycling and can help to reduce the amount of plastic waste that is disposed of in landfill or thermally recovered. Chemical recycling breaks down plastics into their building blocks or converts them into basic chemicals. Different methods are used to achieve this.

In our ChemCycling™ project, our technology partners use the pyrolysis process to extract pyrolysis oil from mixed plastic waste or used tires, which were not previously recycled. We can feed this pyrolysis oil into our Verbund as an alternative to fossil raw materials and use it to make new products. These have exactly the same properties as products manufactured from fossil feedstocks. We use a certified mass balance approach to allocate the percentage of recycled content to the end product (see page 113). In 2021, we were able to further expand our portfolio of these Ccycled™ products. It now comprises around 50 products that our customers use, for example to manufacture transport cases for medicine, high-performance plastics for the automotive industry, packaging materials and functional textiles. We also signed a memorandum of understanding in 2021 with our technology partner Quantafuel and Remondis, a global leader in waste and water management. Its subject matter is the assessment of a joint investment in a pyrolysis plant for plastic waste.

We have also made further progress with the chemical recycling of used mattresses made of flexible polyurethane. It is based on a wet chemical process developed by BASF. After initial successful trials, our teams continued developing the process in 2021. Precursors recovered from old mattresses can now be used to produce new mattress-sized blocks of flexible polyurethane foam. The new process is currently being optimized and tested on a larger scale.

We have many years of experience and a high degree of specialization in **recycling precious metals** such as platinum, palladium and rhodium. They are used in automotive catalysts as well as in process and chemical catalysts. We primarily use the precious metals recovered in this way as feedstocks in catalyst production. With the expansion of our refinery plant in Seneca, South Carolina, and the acquisition of assets from Zodiac Enterprises in Caldwell, Texas, we are further expanding our leading position in platinum group metal recycling.

The growing demand for electromobility is also increasing the need for **lithium-ion battery recycling**. As a leading producer of battery materials with future local production capacities in the three main markets – Asia, Europe and North America – BASF has in-depth expertise in battery chemistry and process technology. We are utilizing these competencies to address battery recycling as an additional growth market in cooperation with partners along the value chain (see page 30). In this way, we want to ensure that valuable metals remain in the production cycle for as long as possible. This conserves resources while enabling production of cathode active materials in Europe with a significantly lower carbon footprint compared with the industrial standard. At the Schwarzheide site in Germany, where a cathode active materials plant is already under construction, we will also build a prototype plant for battery recycling by 2023. The prototype plant will allow for the development of new operating procedures and optimization of technology to deliver superior recovery rates of lithium, nickel, cobalt and manganese from end-of-life lithium-ion batteries. The plant will also recycle metals from scrap of cell manufacturers and battery material producers that do not meet product specifications.

For more information on the circular economy, see page 44

Mineral raw materials

We procure a number of mineral raw materials, which we use to produce automotive and process catalysts or battery materials, among other products. We are continually improving our products and processes to minimize the use of primary mineral raw materials. At the same time, we are driving forward the recycling of mineral raw materials, for example, by recovering platinum metals from automotive and process catalysts and using these as secondary resources (see "Recycled feedstocks").

Sourcing mineral raw materials responsibly is important to BASF. We implemented measures to meet the requirements of the E.U. Conflict Minerals Regulation by the January 1, 2021 deadline. This defines supply chain due diligence for tin, tantalum, tungsten, their ores and gold (3TG) imported into the E.U. from conflict-affected and high-risk areas (CAHRAs). To supplement our Supplier Code of Conduct (see page 109), we introduced a Group-wide **Supply Chain Policy for Conflict Minerals** in 2021. It contains expectations for our suppliers from CAHRAs and outlines voluntary commitments.

In addition to responsible procurement of the 3TG minerals, BASF is committed to responsible and sustainable global supply chains for other mineral raw materials as well. These include **cobalt**, a key component in the production of battery materials for electric vehicles, among other applications. Our cobalt supply chain is organized according to special sustainability criteria. Our goal is to not purchase cobalt from artisanal mines and to exclude this in supply chains as long as responsible artisanal production cannot be verified.

Together with BMW, Samsung SDI, Samsung Electronics, Volkswagen and the German Agency for International Cooperation (GIZ), we have been involved in the cross-industry **Cobalt for Development initiative** since 2018. It aims to improve working and living

conditions for artisanal miners in the Democratic Republic of Congo. To achieve this, the initiative offers programs such as training on important environmental, social and governance aspects of responsible mining practices. Since October 2020, 14 mining cooperatives in Kolwezi have participated in training on topics such as occupational safety and environmental management. Cobalt for Development also works closely with local NGOs and the Good Shepherd International Foundation to create additional income opportunities for families and improve access to education. The joint activities are beginning to show results according to an evaluation of the initiative: Participants of the program since its launch have seen an increase in average income and savings. Since construction of the new public primary and secondary schools in Kisote, the majority of children have enrolled in school. Overall, several thousand members of the participating communities are already benefiting. In 2021, the initiative also made an action pledge to eliminate child labor as part of a global campaign by the International Labor Organization (ILO). Three mining cooperatives around Kolwezi are receiving assistance to implement occupational safety measures and a zero-tolerance policy against child labor.

We signed a long-term supply agreement with Nornickel for nickel and cobalt from a metal refinery in Finland. The agreement ensures locally sourced and secure supply of raw materials for battery material production in Europe. In cooperation with Eramet, we are also assessing the development of a state-of-the-art hydrometallurgical refining complex in Indonesia, which is expected to secure access to more sustainably sourced nickel and cobalt as of the mid-2020s.

We are also involved in various international initiatives to strengthen sustainability and innovation in the value chain for batteries. These include the **Global Battery Alliance** (GBA), which we co-founded in 2017. It promotes dialog between business, government and civil society and develops standards and tools to create a socially responsible, ecological and economically sustainable, and innovative value chain for batteries. For instance, BASF is working with the GBA on the GBA Battery Passport. In the future, this "digital twin" will contain information on the sustainability of a battery to increase transparency in the value chain. The GBA, as well, made an action pledge with the ILO campaign against child labor, also focusing on the Democratic Republic of Congo. BASF is also an active member of the Responsible Minerals Initiative.

Furthermore, together with Daimler, Fairphone, and Volkswagen, we launched the **Responsible Lithium Partnership** in 2021. It advocates for the responsible use of natural resources in Chile's Salar de Atacama, home to the world's largest lithium reserves and a significant portion of global production. As a first step, the German Agency for International Cooperation (GIZ) was commissioned to organize a local multi-stakeholder platform on the opportunities and risks of lithium mining and other economic activities such as copper mining and tourism. The goal of the platform is to reach a common understanding on the status quo and to jointly develop a vision for the future of the Salar de Atacama watershed. In addition, potential risks are to be mitigated and opportunities promoted through the development and implementation of joint action plans.

Another mineral raw material that BASF processes is **mica**. We use both raw mica and effect pigments derived from mica, mainly in the production of coatings. BASF is conscious of its social responsibility with regard to mica sourcing and applies high standards which, among other things, exclude child labor. Suppliers are asked to source mica in accordance with our Supplier Code of Conduct. As a member of the Responsible Mica Initiative (RMI), we advocate for the eradication of child labor and unacceptable working conditions, specifically in India's mica supply chain. The initiative focuses on labor standards, strengthening local communities and legal frameworks. According to an RMI study, activities in the relevant regions of India have already led to improved income and living conditions. These include improved access to clean drinking water through the installation of pumps and filtration systems and improved access to health care through doctors' visits in villages and enrollment in public health insurance plans.

For more information on the Cobalt for Development project, see basf.com/cobalt-initiative and cobalt4development.com/

For more information on the Global Battery Alliance, see globalbattery.org

For more information on the Responsible Mica Initiative, see responsible-mica-initiative.com

We Produce Safely and Efficiently

Protecting people and the environment is our top priority. Our core business – the development, production, processing and transportation of chemicals – demands a responsible approach. We address environmental, health and safety risks with a comprehensive Responsible Care Management System. We expect our employees and partners to know the risks of working with our products, substances and plants and to handle these responsibly.

In this section:

EHSQ Management Systems
Health and Safety, Emergency Response
Product Safety
Transportation Safety
Energy and Climate Protection
Emissions to Air, Waste and Remediation
Water
Biodiversity

Our Management Systems

GRI 102, 103, 303, 305, 306, 307, 403, 410, 418

SUPPLIERS → BASF → CUSTOMERS

BASF is actively involved in the International Council of Chemical Associations' global Responsible Care® initiative. We reaffirmed our commitment to the guiding principles of the initiative and the Responsible Care® Global Charter in 2021. Our Responsible Care Management System comprises the global directives, standards and procedures for environmental protection, health and safety (EHS). At the same time, our Quality Management System ensures the high quality of our products, processes and services, and enables our employees to best meet our customers' needs.

At a glance

143 audits
to monitor performance and progress

€239 million
invested in environmental protection plants and facilities

- Global EHS guidelines and standards
- Quality management with a focus on customer satisfaction
- Risk-based site audits

Responsible Care Management System

Our EHS management approach covers the different stages of our value chain – from the transportation of raw materials to production at our plants, activities at our sites and warehouses, and distribution of our products down to our customers' application of our products. The Environmental Protection, Health & Safety unit in the Corporate Center defines Group-wide management and control systems and monitors compliance with internal requirements and legal regulations, while the sites and legal entities implement these requirements locally. Our global network ensures that information and insights are shared across the BASF Group on an ongoing basis. Our policies and requirements are continuously updated. We also maintain dialog with government institutions, associations and international organizations for this reason. We set ourselves ambitious goals for environmental protection, health and safety (see page 36) and regularly review our performance and progress with audits. We assess the potential risks and weaknesses of all our activities – from research and production to logistics – and the potential effects of these on the safety and security of our employees, the environment or our surroundings. We use databases to document accidents, near misses and safety-related incidents at our sites as well as along our transportation routes to learn from these; appropriate measures are derived according to specific cause analyses.

Quality Management System

Our Quality Management System comprises our EHSQ policy as well as further standards, guidelines and processes for quality management along the value chain. Our Quality Management System is risk-based, process-oriented and focused on customer satisfaction. Its mandatory elements are set out in a Corporate Requirement. These include core processes such as nonconformance management, change management and the performance of internal audits. Local implementation of the requirements is the responsibility of our business units and sites.

Responsible Care audits

Regular audits help ensure that our safety, security, health and environmental protection standards are met. We conduct regular audits every three to six years at all BASF sites and at companies in which BASF is a majority shareholder. We take a **risk-based approach** and use an audit database to ensure that all sites and plants worldwide are regularly audited. We have defined our regulations for Responsible Care audits in a global Corporate Requirement.

Newly acquired sites and companies are audited after the integration phase is complete, generally within one to two years depending on complexity and size.

During our audits, we create a **safety and environmental profile** that shows if we are properly addressing the existing hazard potential. If this is not the case, we agree on measures and monitor their implementation, for example, with follow-up audits.

In the BASF Group in 2021, 143 environmental and safety audits were conducted at 71 sites (2020: 112 audits at 60 sites). The sites were audited based on their individual risk profile. Auditing of the sites acquired from Solvay could not start in late 2021 as planned due to the coronavirus pandemic. These audits will be performed in 2022.

In 2021, 13 sites were audited on **occupational medicine and health protection** (2020: 1). Online audits were conducted for 10 of these sites. These remote audits focused on documented processes and management systems.

For more information on occupational health and safety, see page 119 onward

For more information on Responsible Care®, see basf.com/en/responsible-care

External certification

We pursue a decentralized **certification approach** for our business units and subsidiaries. This takes into account local needs, internal and legal requirements, and our customers' requirements.

Our Responsible Care audit system complies with the ISO 19011 standard and is certified according to ISO 9001. Worldwide, 130 BASF production sites are certified in accordance with ISO 14001 and EMAS (Eco-Management and Audit Scheme) (2020: 128). In addition, 54 sites worldwide are certified in accordance with OHSAS 18001 or ISO 45001 (2020: 51). Several BASF sites also have an ISO 17020 accredited inspection body for user inspection or an ISO 17025 accredited analytical laboratory for environmental emissions analyses.

Based on our customers' requirements, quality management at our production sites is generally certified according to external international standards such as ISO 9001, GMP, FAMI QS or IATF 16949.

Costs and provisions

We continuously invest in reducing the impact of our actions on the environment. We also establish appropriate provisions for environmental protection measures and the remediation of active and former sites.

Costs and provisions for environmental protection in the BASF Group

Million €

	2021	2020
Operating costs for environmental protection	1,133	1,125
Investments in new and improved environmental protection plants and facilities[a]	239	231
Provisions for environmental protection measures and remediation[b]	926	693

a Investments comprise end-of-pipe measures as well as integrated environmental protection measures.
b Values shown refer to December 31 of the respective year.

For more information, see Notes 9 and 23 on pages 224 and 260

Health and Safety, Emergency Response

GRI 102, 103, 403, 410, 413, 418

SUPPLIERS | BASF | CUSTOMERS

For occupational and process safety as well as corporate security and health and environmental protection, we rely on comprehensive preventive measures and expect the cooperation of all employees and contractors. Our safety and security concepts serve to protect our employees, contractors and neighbors, to prevent property and environmental damage, and to protect information and company assets.

At a glance

0.3
Lost-time injuries per 200,000 working hours

0.3
Process safety incidents per 200,000 working hours

- Global health and safety standards
- Strengthening risk awareness and mindful behavior
- Intensive dialog on safety topics
- Regular review of safety concepts, emergency systems and crisis management structures
- Comprehensive protection measures against third-party interference

Strategy

The safety of our employees, contractors and neighbors, and protecting the environment is our top priority. This is why we have set ourselves ambitious goals for occupational and process safety as well as health protection. We stipulate mandatory global standards for occupational and process safety, emergency response and health protection. Our sites and subsidiaries are responsible for implementing and complying with internal guidelines and legal requirements. The Environmental Protection, Health & Safety unit in the Corporate Center conducts regular audits to monitor this. As part of our continuous improvement process, we regularly monitor progress toward our goals. We have defined our reporting indicators in accordance with the reporting standard developed by the International Council of Chemical Associations.

We promote **risk awareness** for every individual with measures such as systematic hazard assessments, specific and ongoing qualification measures and a wide range of safety initiatives. We analyze accidents and incidents as well as their causes and consequences in detail at a global level to learn from these. Hazard assessments and the risk minimization measures derived from them are an important prevention tool. We also promote regular dialog across different sites to strengthen risk awareness among our employees and contractors, to learn from examples of good practice and in this way, continually develop our safety culture.

Leaders are important role models for employees, which is why environmental protection, health, safety and security are discussed with newly appointed senior executives. Senior executives with a particular responsibility for such topics, for example, in production, also receive specific further training to be able to meet their responsibilities. Due to the restrictions caused by the coronavirus pandemic, the seminars for senior executives were held virtually in 2021. Other events and initiatives in 2021 also focused on the high relevance of safety topics and dialog among our leaders. These included regular town halls for senior executives, the Lead with Safety initiative in North America and the Visible Leadership in EHS @ CP initiative in the Petrochemicals division.

Numerous digital solutions and applications are used in BASF's production plants to further increase safety, security, planning capability and availability. For example, we had introduced augmented reality solutions at around 340 plants worldwide as of the end of 2021. We plan to implement these at more than 80 other plants by the end of 2022. At many sites, our employees already use mobile end devices and special apps for day-to-day tasks such as safety inspections, which continuously improves the efficiency and quality of our processes. Other areas of application for digital solutions include efficiently simulating maintenance and production processes in digital plant models and predictive maintenance. At the Ludwigshafen site in Germany, for example, over 40 plants already use predictive maintenance models to monitor plant components such as compressors, pumps and heat exchangers.

Occupational safety

Our aim is to reduce the worldwide lost-time injury rate to no more than 0.1 per 200,00 working hours[1] by 2025. To prevent work-related accidents, we encourage and promote risk-conscious behavior and safe working practices, learning from incidents and regular dialog. We are constantly refining and enhancing our requirements and training.

2025 target

Reduce the worldwide lost-time injury rate per 200,000 working hours **≤ 0.1**

In addition to the legally required briefings, BASF requires new employees and contractors to complete compulsory **health and safety training**, as well as regular training on the safe handling of chemicals and the correct use of personal protective equipment for employees at our production sites. Due to the coronavirus pandemic, there was a greater focus on the safety aspects of remote working in 2021.

In 2021, 0.3 work-related accidents per 200,000 working hours[1] occurred at BASF sites worldwide (2020: 0.3). The share of chemical-related accidents declined slightly to 4% (2020: 6%).

1 Hours worked by BASF employees, temporary employees and contractors

Unfortunately, there was one fatal work-related accident in 2021 (2020: 1). At the Geismar site in Louisiana, an employee of a contractor died while performing maintenance work. The accident is still being investigated by the local authorities. BASF is assisting the inquiry into the circumstances and cause of the accident. We use the findings to take appropriate measures to prevent this from happening again. Such measures include regular informational events and awareness-raising campaigns.

We actively share insights to further increase occupational safety and continually improve our processes and methods. For example, we evaluate trends in data, analyze accidents and potential incidents, and share knowledge and best practices within our global network of experts and as part of safety initiatives. We also seek dialog with government institutions and are actively involved in external occupational safety initiatives and networks around the world led, for example, by the European Chemical Industry Council (CEFIC) or national associations such as the German Chemical Industry Association or the American Chemistry Council.

For more information on occupational safety, see basf.com/occupational_safety

Process safety

Process safety is a core part of safe, effective and thus sustainable production. We meet high safety standards in the planning, construction and operation of our plants around the world. These meet and, in some cases, go beyond local legal requirements.

Our global guidelines provide the framework for the safe construction and operation of our plants as well as the protection of people and the environment. Our experts have developed a safety concept for every plant that considers the key aspects of safety, health and environmental protection – from plant design to the end of the production phase – and that sets out specific safety measures. Regular implementation checks ensure that all aspects of process safety comply with the safety concept and are always up to date.

2025 target

Reduction of worldwide process safety incidents per 200,000 working hours **≤ 0.1**

In order to maintain the highest level of safety at our plants across their entire life cycles, we verify that our protection concepts, safety reviews and resulting safety measures have been carried out in all our plants at timely intervals based on risk potential. We regularly update our plants' safety and security concepts, taking into particular account new technological opportunities and regulatory developments.

We use the **number of process safety incidents** (PSI) per 200,000 working hours[1] as a reporting indicator. We have set ourselves the goal of reducing process safety incidents to a rate of no more than 0.1 per 200,000 working hours by 2025. In 2021, we recorded 0.3 process safety incidents per 200,000 working hours worldwide (2020: 0.3). We investigate every incident in detail, even under the constraints of the coronavirus pandemic, analyze causes and use the findings to derive suitable measures. We share the findings in our global network in the interest of continuous improvement.

Around the world, we promote the reduction of process safety incidents and improve risk awareness with a culture of dealing openly with mistakes and initiatives to foster dialog around safety risks. To reduce process safety incidents, we focus in particular on technical measures and on a leadership culture that places even greater emphasis on process safety, such as in the PM Global Safety Relay Race initiative in the Performance Materials division. Avoiding and detecting all leaks was again a key priority in 2021 with the Zero Loss of Containment Mindset initiative in North America and the Zero Leakage initiative in South America.

In addition, we are continually refining and expanding our training methods and offerings to **increase risk awareness**. Due to the restrictions associated with the coronavirus pandemic, in-person seminars were again held as virtual meetings or taught using web-based applications in 2021.

We play an active role in improving process safety around the world in internal and external networks, through our involvement in organizations such as the International Council of Chemical Associations (ICCA), the European Process Safety Centre (EPSC) or the Center for Chemical Process Safety (CCPS), and by fostering dialog with government institutions.

For more information on process safety, see basf.com/process_safety

Health protection

Our global corporate health management serves to promote and maintain the health and productivity of our employees. Our occupational health standards are specified in a binding global requirement, the implementation of which is the responsibility of our sites and subsidiaries. They are supported in this task by a global network of experts. The Environmental Protection, Health & Safety unit in the Corporate Center conducts regular audits to monitor compliance with the standards.

We raise employee awareness of health topics with offerings tailored to specific target groups. The BASF health checks form the foundation of our global health promotion program and are offered to employees at regular intervals.

We measure our **performance in health protection** using the Health Performance Index (HPI). This has five components: recognized occupational diseases, medical emergency drills, first aid, preventive medicine and health promotion. Each component contributes a maximum of 0.2 to the total score, meaning that the highest possible score is 1.0. We aim to reach a value of more than 0.9 every year. With an HPI of 0.96, we once again reached this target in 2021 (2020: 0.92). As in 2020, the figure is slightly lower

1 Hours worked by BASF employees, temporary employees and contractors

than in previous years due to the coronavirus pandemic. Consequently, a number of criteria crucial to the HPI could not be fully met or measures could not be performed as usual in the reporting year. These included activities that required physical participation such as emergency drills, examinations or first aider training.

In 2021, 36 work-related illnesses among BASF employees worldwide were documented as recognized occupational diseases (2020: 26). The main recognized occupational diseases are occupational asthma, hearing loss, skin diseases, musculoskeletal disorders and cancer.

In 2021, we continued the **measures to fight the coronavirus pandemic** developed and successfully implemented at our sites in 2020, adapted to the local infection situation in each case. By sharing information in our BASF medical network and working closely together with the authorities, employee representatives and our partners at BASF sites, we were able to make and implement sound and timely decisions according to the situation. Our actions focused on the health of all of our employees, contractors and third parties. Measures included providing information to and raising awareness among employees, tracing and breaking infection chains, and vaccination services. For example, we set up our own coronavirus vaccination center at our largest site in Ludwigshafen, Germany. More than 22,000 primary vaccinations and more than 21,000 secondary vaccinations were administered there from April to August 2021, and more than 10,000 booster vaccinations were administered in December to BASF employees, contractors and site partners. Another focus in 2021 was on influenza prevention. BASF employees could be vaccinated against the seasonal flu at many sites around the world, an offer that was very well received. At the Ludwigshafen site in Germany, for example, around 6,800 employees participated in the influenza vaccination campaign.

In light of the coronavirus pandemic, the **Global Health Campaign 2021** was again devoted to the personal health of our employees. The program included a wide range of in-person and virtual seminars and interactive events on regeneration under the banner of "Recharge yourself." Focus topics were physical activity, nutrition and relaxation. Over 444 sites worldwide took part, offering events such as workshops, courses, lectures or exercises.

In October 2021, BASF SE's Corporate Health Management unit received the European Responsible Care® Award from the European Chemical Industry Council (CEFIC) in the category "Supporting health in COVID-19 times" for its wide-ranging activities and innovative approaches to fight the coronavirus pandemic – bundled under the motto of "Protect yourself and others."

For more information on occupational medicine, health campaigns and the HPI, see basf.com/health

Emergency response, corporate and cyber security

We create working conditions and an environment in which our employees can work safely. The focus of our **emergency and crisis management** is therefore on the safety of our employees, plants and sites as well as our communities. We are well prepared at global, regional and local level for exceptional situations such as major incidents or pandemics thanks to our extensive regulations and measures for emergency preparedness, emergency response and crisis management. All incidents are carefully followed up on to identify potential for improvement, which is integrated into existing concepts as needed. Unusual incidents are recorded and reported centrally in accordance with a standard Group-wide procedure (e-Rapid Incident Report). This enables us to identify risks at an early stage and, if necessary, initiate appropriate relief and communication measures.

Incidents are initially handled by the local crisis organization or local emergency response team. We have implemented precautionary organizational measures with clearly defined responsibilities and procedures at all sites for this purpose. The responsible persons receive regular training. Depending on the situation, we also involve business partners and our sites' communities, such as local authorities or neighboring companies. Additional teams may be called in depending on the extent of the damage and how it develops.

For example, the Global Crisis Management Support Team (GCMS), led by a member of the Board of Executive Directors, was activated in connection with the coronavirus pandemic. It provides the strategic direction for crisis management and is supported by issue-specific and specialist working groups.

Safety and emergency drills are also conducted regularly at site and Group level. The number of employees and partners involved varies depending on the type of exercise.

We are actively involved in external networks, which quickly provide information and assistance in emergencies. These include the International Chemical and Environmental (ICE) initiative and the German Transport Accident Information and Emergency Response System (TUIS), in which BASF plays a coordinating role. In 2021, we provided assistance to public emergency response agencies and other companies in 138 cases (2020: 112). This included information on chemicals and their proper disposal, on-site operational support for transportation accidents involving hazardous goods, or information on human biomonitoring. We apply the experience we have gathered to improve our own processes and set up similar systems in other countries.

The **corporate security** requirements for site security are set out in a global guideline. Local implementation by our sites and subsidiaries is regularly audited and continuously improved. Respect for human rights is a mandatory element of our requirements. Aspects of human rights relevant to site security are a component of the global code of conduct and qualification requirements for our internal and external security personnel. We analyze the potential safety and security risks associated with investment projects and strategic plans, and define appropriate safety and security concepts. Our

guiding principle is to identify risks for the company at an early stage, assess them properly and derive appropriate safeguards.

We inform business travelers and transferees about appropriate protection measures prior to and during travel in countries with elevated security risks. We updated our travel recommendations in line with the coronavirus pandemic. After any major incident, we can use a standardized global travel system to locate and contact employees in the affected regions.

We protect our employees, sites, plants and company know-how against third-party interference. This includes addressing in depth the issue of **cybersecurity and information security**. BASF applies the "security by design" principle to critically review and optimize IT applications from a cybersecurity perspective as early as the design phase. We are continually improving our ability to prevent, detect and react to security incidents with various measures and training programs. Our global cybersecurity team monitors and protects our IT systems against hacker attacks. We cooperate with experts and partners in a global network to ensure that we can protect ourselves against cyberattacks as far as possible. Our IT security management system is certified according to DIN EN ISO/IEC 27001:2017. It also supports, in particular, our critical infrastructures in meeting additional compliance requirements such as DIN EN ISO/IEC 27019:2020, IT security catalog and corresponding industry-specific standards (B3S).

Around the world, we work to sensitize our employees about protecting information and know-how. We further strengthened our employees' awareness of risks in 2021 with mandatory, regular online training for all employees and complementary offerings such as seminars, case studies and interactive training. These increasingly addressed aspects of working practices that have changed as a result of the coronavirus pandemic, such as cybersecurity when working from home.

Our worldwide network of information protection officers comprises around 650 employees. They support the implementation of our uniform requirements and hold events and seminars on secure behaviors. Around 100,000 employees had been trained on the basics of cybersecurity and information protection in 2021. Our standardized Group-wide recommendations for the protection of information and knowledge were expanded to include additional guidance for employees and updated in line with current developments.

For more information on emergency response, see basf.com/emergency_response

Good to know

Automation Security Roadmap

The advance of digitalization increases the risk of cyberattacks on IT systems such as online stores or servers. At the same time, automation technology (operational technology) is increasingly being used in production plants, buildings, laboratories and in logistics, which is also connected to the internet via various protection levels. An interdisciplinary team with experts from information and automation technology developed the Automation Security Roadmap to reduce risk in these areas. It serves as a guide for facilities to protect themselves against cyberattacks. Part of the concept is training Officers for Automation Security (OAS). BASF now has over 300 OASs. They provide advice and support on cybersecurity in automation technology at all BASF sites worldwide – for example, on risk analysis, protecting sensitive data and access control.

Product Safety

GRI 102, 103, 416, 417

SUPPLIERS → BASF → CUSTOMERS

We see product safety as an integral part of all business processes, as an element of our risk management, and as an important pillar of our commitment to Responsible Care®. We continuously work to ensure that our products pose no risk to people or the environment when they are used responsibly and in the manner intended. We aim to comply with all relevant national and international laws and regulations.

Strategy

We are committed to continuously minimizing the negative effects of our products on the environment, health and safety and to the ongoing optimization of our products. This commitment to product safety is enshrined in our Responsible Care® charter and the initiatives of the International Council of Chemical Associations (ICCA). Our products should not pose any risk to humans or the environment when used responsibly and in the manner intended. We aim to comply with all relevant national and international laws and regulations. Our **global requirements** define rules, processes and responsibilities, for example, to ensure uniformly high product safety standards worldwide. Our sites and subsidiaries are responsible for implementing and complying with internal guidelines and legal requirements. The Environmental Protection, Health & Safety unit in the Corporate Center conducts regular audits to monitor this. BASF's global network of experts shares information, insights and best practices around product safety on an ongoing basis.

We maintain and evaluate environmental, health and safety data for all of our substances and products in a **global database**. This information is continuously updated. The database forms the basis for substance and product assessments and for our safety data sheets, which we make available to our customers in around 40 languages. These include information on the physical/chemical, toxicological and ecotoxicological properties of products, potential hazards, first aid measures, measures to be taken in the case of accidental release, and disposal. Our global emergency hotline network enables us to provide information around the clock. In order to help users to quickly find out about our products and the risks associated with them, we use the Globally Harmonized System (GHS) to classify and label our products around the world, provided this is legally permissible in the country concerned. We take into account any national or regional modifications within the GHS framework, such as the E.U.'s CLP Regulation.

We train our employees, customers and logistics partners worldwide on the proper handling and optimal use of selected products with particular hazard potential. Furthermore, in associations and together with other manufacturers, BASF is pushing for the establishment of voluntary global commitments to prevent the misuse of chemicals.

Global chemicals regulations

Most of the products we manufacture are subject to statutory chemicals regulations. We want to ensure compliance with these. We are bound by the relevant regional and national chemicals regulations, which continue to grow in number worldwide. Examples include REACH in the E.U., TSCA in the United States and KKDIK in Turkey. BASF Group companies work closely together with a global network of experts to ensure that BASF complies with the applicable regulations.

Environmental and toxicological testing

Before launching products on the market, we subject them to a variety of environmental and toxicological tests using state-of-the-art knowledge and technology. If we employ animal studies, we adhere to the specifications laid down by the German Animal Welfare Act as well as the requirements of the Association for Assessment and Accreditation of Laboratory Animal Care – the highest standard for laboratory animals in the world. We develop and are continuously optimizing **alternative methods** to experimentally assess the safety and tolerance of our products without animal studies. Our aim is to replace, reduce and refine animal studies to minimize the impact on them. We made great progress toward this goal in 2021. For example, an animal-free toxicological testing strategy jointly developed by BASF and Givaudan was approved by the OECD – the first of its kind worldwide. The strategy comprises three individual alternative methods. By combining these methods, it is possible to test more precisely than in animal studies whether a substance causes allergic skin reactions.

Management of nano- and biotechnology

Nanotechnology and biotechnology offer solutions for key societal challenges – such as environmental and climate protection or health and nutrition. For example, nanomaterials can improve battery performance and biocatalytic methods can improve process resource efficiency. We want to harness the potential of both technologies. Using them safely and responsibly is our top priority. Safe handling of nanomaterials is stipulated in our Nanotechnology Code of Conduct, for instance. We produce a range of products with the help of biotechnological methods, including natural fragrances and flavors, enzymes, vitamins or seeds for agriculture. This provides us with extensive experience in their safe use in research, development and production. We are guided by the code of conduct set out by EuropaBio, the European biotechnology association, and want to adhere to all relevant standards and legal regulations governing production and marketing in our use of biotechnology.

Product Stewardship for Crop Protection Products and Seeds

GRI 102, 103, 416, 417

SUPPLIERS → BASF → CUSTOMERS

Crop protection products and seeds are highly regulated at national and international level, which brings with it strict requirements for registering and re-registering active ingredients and crop systems. Regulatory approval is only granted when extensive documentation can be provided showing that our products are safe for people, animals and the environment when used in the manner intended.

At a glance

- High regulatory requirements and safety standards for crop protection products and seeds
- Wide range of training on the safe and proper handling of our products

Potential risks are assessed and minimized throughout the research, development and registration process, and on an ongoing basis following market registration. We regularly perform a large number of scientific studies and tests to ensure that, as far as possible, our registration dossiers address all questions on potential environmental and health effects.

We adapt our portfolio to the specific requirements of regional markets as crops, soils, climate conditions, plant diseases and farming practices vary around the world. Consequently, product approvals differ from country to country.

Crop protection

BASF adheres to the International Code of Conduct issued by the World Health Organization (WHO) and the Food and Agriculture Organization (FAO) for the distribution of crop protection products. These are only marketed once they have been approved by the relevant authorities. We no longer sell WHO Class 1A or 1B products (high acute oral and dermal toxicity). Depending on availability, we offer our customers alternatives.

All of BASF's crop protection products can be used safely under local farming conditions if the information and directions on the label are followed. Customers can contact us directly if they have any questions, complaints or issues, for example, by calling the telephone number printed on product labels, using the contact forms on our websites or by approaching our sales employees directly. We record all products incidents relating to health or the environment that come to our attention in a global database. If necessary, we take appropriate measures on the basis of this information, such as updating the instructions for use on the product label to minimize preventable incidents in the future. We communicate changes to instructions for use and general recommendations on the safe use of our products through channels such as our Farmer Field School initiatives in Asia and in training programs such as the On Target Application Academy in the United States.

One of the ways we meet our commitment to product stewardship is by offering a wide range of courses and training on the safe storage and safe use of our products. In India, for example, BASF launched the Suraksha Hamesha program. Suraksha Hamesha means "safety all the time." The program creates a platform for educating farmers and agricultural workers about the nine steps of responsible use of crop protection products and personal protection. Through Suraksha Hamesha, BASF has engaged with over 162,600 agricultural workers and around 33,200 users across India since 2016. BASF also involves government agencies and the central government's farm extension teams in these meetings to support and promote farm safety.

We also work closely together with associations such as CropLife International and CropLife Europe to promote the safe and proper use of crop protection products. For example, we support stewardship initiatives of both associations and various programs on the proper disposal and recycling of product containers. Technological innovations developed together with industry partners such as the easyconnect closed transfer system in Europe or the Wisdom system in South America also help to make using crop protection products easier and safer.

Seeds

BASF is a member of Excellence Through Stewardship, a global industry initiative for seeds. This initiative promotes the adoption of quality management systems for seeds and product stewardship programs covering the entire life cycle. It also has independent ETS-certified auditors verify members' compliance with its guidelines. In 2021, BASF successfully passed ETS audits in the areas of laboratory operations, contained biotech plants, general stewardship, incident response management and product handling at our Ghent and Astene sites in Belgium.

For more information on our Agricultural Solutions segment, see page 88 onward

For more information on biodiversity, see page 138 onward

For more information on risks from litigation and claims, see the Notes to the Consolidated Financial Statements on page 262

Transportation Safety

GRI 102, 103, 306

SUPPLIERS → BASF → CUSTOMERS

Our regulations and measures for transportation safety cover the delivery of raw materials, the handling and distribution of chemical products between BASF sites, warehouses and customers, and the transportation of waste.

At a glance

Zero
transportation incidents with significant impact on the environment

- Risk minimization along the entire transportation chain
- Risk assessment based on national and international dangerous goods regulations
- Regular review of logistics service providers

Strategy

We want our products to be loaded, transported and handled safely. This is why we depend on global standards, an effective organization and reliable logistics partners. Our goal is to **minimize risks** along the entire transportation chain – from loading and transportation to unloading. The transportation of dangerous goods is subject to mandatory national and international dangerous goods regulations as well as our global guidelines. The sites and subsidiaries are responsible for implementing transportation safety regulations and guidelines. Compliance is regularly monitored by the Environmental Protection, Health & Safety unit in the Corporate Center using globally standardized transportation safety reviews. External logistics partners are evaluated based risk either through assessments or on-site audits. BASF's global network of experts ensures that information, insights and best practices are shared on an ongoing basis.

Preventive safety measures

National and international dangerous goods regulations are based on an assessment of transportation risks and set out rules and measures for safely transporting dangerous goods. We use various tools to minimize transportation risks. For example, for every dangerous good to be transported, we check in each case whether the packaging is suitable for the type of transport. We conduct digital dangerous goods checks before shipping orders are released. In addition, vehicles are subjected to a thorough dangerous goods check prior to loading and rejected if there are any issues.

Above and beyond this, we use our global requirement to specifically assess the **safety and environmental risks** of transporting and handling raw materials and sales products with high hazard potential. This is based on the Guidance on Safety Risk Assessment for Chemical Transport Operations published by the European Chemical Industry Council (CEFIC).

We stipulate worldwide requirements for our logistics service providers and assess them in terms of safety and quality. Our experts use our own evaluation and monitoring tools as well as internationally approved schemes such as the ship inspection reports issued by the Chemical Distribution Institute (CDI) and the Oil Companies International Marine Forum (OCIMF).

Transportation incidents

To evaluate transportation safety, we systematically record transportation incidents according to defined criteria. We use the number of transportation incidents[1] as a reporting indicator. In 2021, we recorded 21 transportation incidents worldwide (2020: 19).

A particular focus is incidents involving goods spillages that could lead to significant environmental impacts. These include dangerous goods leaks of BASF products in excess of 200 kilograms on public traffic routes, provided BASF arranged the transport. We recorded three incidents in 2021 with spillage of more than 200 kilograms of dangerous goods[2] (2020: 2). None of these transportation incidents had a significant impact on the environment (2020: 0).

For more information on transportation safety, see basf.com/distribution_safety

1 Data is collected based on the International Council of Chemical Association's (ICCA) guidance for reporting performance and includes road, rail and container shipping incidents.
2 Hazardous goods are classified in accordance with national and international hazardous goods regulations.

Energy and Climate Protection

GRI 102, 103, 201, 301, 302, 305

SUPPLIERS → BASF → CUSTOMERS

As an energy-intensive company, we take responsibility for the efficient use of energy and global climate protection. We are committed to the Paris Climate Agreement. Our innovative products enable a reduction in greenhouse gas emissions in many areas. At the same time, we are working to significantly reduce our own carbon footprint with our carbon management.

At a glance

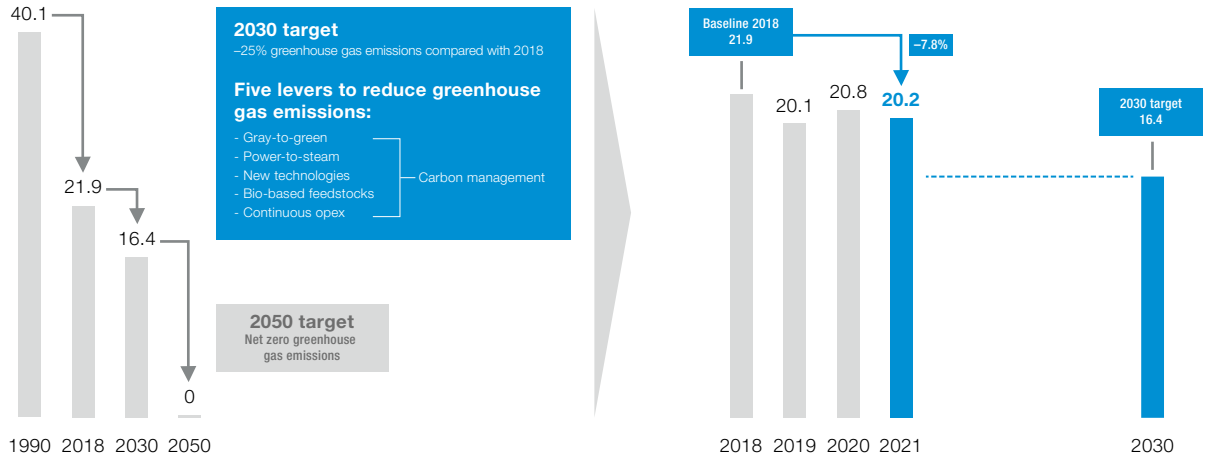
20.2 million metric tons
Greenhouse gas emissions in 2021

2.4 TWh
Renewable energy

- Even more ambitious emission reduction targets
- New Net Zero Accelerator unit bundles and accelerates projects to achieve targets
- Corporate and product carbon footprints create transparency
- Supplier CO_2 Management Program

Schematic overview: development of the BASF Group's greenhouse gas emissions (Scope 1 and 2)

Million metric tons of CO_2 equivalents



Strategy

Climate protection is very important to us and is an important part of our corporate strategy. We significantly raised our **climate protection targets** in 2021: As a leading chemical company, we want to reduce total greenhouse gas emissions[1] from our production sites and our energy purchases by 25% by 2030 compared with 2018 – despite targeted growth and the construction of a large Verbund site in southern China.[2] By 2050, we aim to achieve net zero emissions from our production sites and our energy purchases.

We have bundled our global activities to reduce greenhouse gas emissions in our **carbon management** (see "Global targets and measures"). We only consider external offsetting measures as a temporary stop-gap if our activities do not make the desired contribution to reducing emissions. By 2025, we plan to invest up to €1 billion to achieve our climate protection targets. Additional investments of up to €3 billion are to follow by 2030.

Our **new organizational structure** aims to drive forward our climate protection targets and carbon management activities with even greater focus and speed: The Corporate Strategy & Sustainability unit in the Corporate Center will continue to develop targets and track global target achievement, while the Net Zero Accelerator unit, which was launched at the beginning of 2022, will focus on accelerating the implementation of existing and new cross-company projects to reduce emissions. The emphasis is on low-carbon production technologies (see page 132), the circular economy (see page 44) and renewable energies (see page 128). Both units report directly to the Chairman of the Board of Executive Directors. This ensures that climate protection-relevant aspects are integrated into strategic decision-making processes as well as into core business activities (see page 46). In parallel, our operating divisions are working on division-specific projects to reduce emissions, supported by the global service units.

We consistently align our actions with our climate protection targets, based on a comprehensive analysis of our emissions. Group-wide CO_2 emissions are anchored in the BASF Group's steering and compensation systems as a most important nonfinancial key performance indicator, giving them even more weight. Investments and acquisitions are assessed with regard to their impact on our climate protection targets.

We are gradually integrating our suppliers into the management of greenhouse gas emissions along the value chain. To this end, we launched our **Supplier CO_2 Management Program** in 2021 (see page 130).

1 The goal includes greenhouse gases according to the Greenhouse Gas Protocol, which are converted into CO_2 equivalents (CO_2e).
2 In March 2021, we replaced our previous target of CO_2-neutral growth until 2030 (baseline 2018: 21.9 million metric tons of CO_2e) with a new, more ambitious climate protection target to reduce absolute CO_2 emissions by 25% compared with 2018 (new target: 16.4 million metric tons of CO_2e).

We offer our customers solutions that help prevent greenhouse gas emissions and improve energy and resource efficiency. More than 60% of our annual research and development spending[1] goes toward developing these products, optimizing our processes, and toward research projects to make our processes more energy and resource-efficient and to prevent greenhouse gas emissions.

We continuously analyze potential risks to our business operations arising in connection with the topics of energy and climate protection and derive appropriate measures. We support the recommendations of the **Task Force on Climate-related Financial Disclosures** (TCFD). Since the 2019 reporting year, BASF's annual report has included an overview showing the sections and subsections in which TCFD-relevant information can be found (see page 19). We also participate in the program established by the international nonprofit organization **CDP** for reporting on data relevant to climate protection and have done so since 2004. BASF achieved a score of A– in CDP's 2021 climate change questionnaire, again attaining Leadership status. Companies on the Leadership level are distinguished by factors such as the completeness and transparency of their reporting. They also pursue comprehensive approaches in managing the opportunities and risks associated with climate change as well as strategies to achieve company-wide emission reduction goals.

We report on greenhouse gas emissions in accordance with the Greenhouse Gas Protocol as well as the sector-specific standard for the chemical industry.

Climate protection is a shared task. This is why we support various national and international initiatives and are involved in partnerships. For instance, in 2021 we worked with Together for Sustainability (TfS), the World Business Council for Sustainable Development (WBCSD) and the World Economic Forum's Low-Carbon Emitting Technologies Initiative (LCET) to harmonize the methodological approaches used to calculate Scope 3 emissions. This will help increase the transparency of greenhouse gas emissions along the supply chain and will provide the basis for a Scope 3 target-setting methodology for the chemical sector.

For more information on climate protection, see basf.com/climate_protection

BASF Group's greenhouse gas emissions according to the Greenhouse Gas Protocol[a]

Million metric tons CO_2 equivalents

BASF operations	2021	2020	2018 (baseline)
Scope 1[b]			
CO_2 (carbon dioxide)	17.234	16.860	17.025
N_2O (nitrous oxide)	0.418	0.609	0.677
CH_4 (methane)	0.034	0.023[f]	0.027
HFC (hydrofluorocarbons)	0.034	0.031[f]	0.091
SF_6 (sulfur hexafluoride)	0.001	0	0
Scope 2[c]			
CO_2	2.464	3.279	4.067
Total	20.185	20.802[f]	21.887
Offsetting	0	0	0
Total after offsetting	**20.185**	**20.802[f]**	**21.887**
Sale of energy to third parties (Scope 1)[d]			
CO_2	0.947	0.845[f]	0.773
Total	**21.132**	**21.647[f]**	**22.660**
Use of biomass[e]			
CO_2	0.091	0.024	n/a

a BASF reports separately on direct and indirect emissions from the purchase of energy. Scope 1 emissions encompass both direct emissions from production and generation of steam and electricity, as well as direct emissions from the generation of steam and electricity for sale. Scope 2 emissions comprise indirect emissions from the purchase of energy for BASF's use.
b Emissions of N_2O, CH_4 and HFC have been translated into CO_2 emissions using the Global Warming Potential, or GWP, factor. GWP factors are based on the Intergovernmental Panel on Climate Change (IPCC) 2007, errata table 2012 for the 2018 and 2020 reporting years, and IPCC 2014 for the 2021 reporting year. HFC (hydrofluorocarbons) are calculated using the GWP factors of the individual components.
c Market-based approach. Under the location-based approach, Scope 2 emissions were 3.362 million metric tons of CO_2 in 2020 and 3.670 million metric tons of CO_2 in 2021.
d Includes sales to BASF Group companies; as a result, emissions reported under Scope 2 can be considered twice in some cases.
e Emissions are reported separately from Scope 1 and Scope 2 in accordance with the Greenhouse Gas Protocol.
f The comparative figure for 2020 has been adjusted to reflect updated data.

1 Costs not relevant to the calculation of this share include research expenses in early innovation stages of the phase-gate process, patent costs and expenses for supporting services.

Global targets and measures

Compared with baseline 2018, we want reduce greenhouse gas emissions from our production sites (excluding emissions from the sale of energy to third parties) and our energy purchases by 25% by 2030, i.e., from 21.9 million metric tons to 16.4 million metric tons. This corresponds to a reduction of around 60% compared with 1990. Our long-term goal is net zero greenhouse gas emissions by 2050 (Scope 1 and 2).

2030 and 2050 targets

–25%

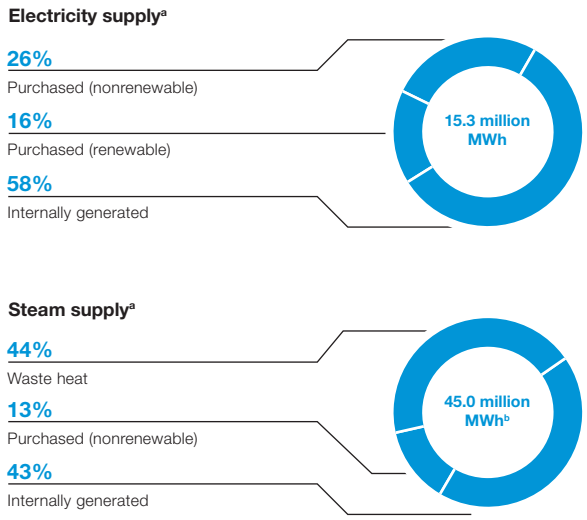
Reduction in our absolute greenhouse gas emissions by 2030 compared with 2018[a] (Scope 1 and 2)

Net zero

Greenhouse gas emissions by 2050[a] (Scope 1 and 2)

a BASF operations excluding sale of energy to third parties, including offsetting

Energy supply of the BASF Group 2021



a Adjusted method for recognizing import/export of electricity and steam
b Conversion factor: 0.75 MWh per metric ton of steam

Fossil fuels and residual fuels used in the BASF Group's central power and steam generation plants

80.3%	**Natural gas** 30.9 million MWh
0.2%	**Heating oil** 0.1 million MWh
2.1%	**Coal** 0.8 million MWh
17.4%	**Substitute fuels** 6.7 million MWh
	Total: 38.5 million MWh

The BASF Group's emissions reported under these targets in 2021 amounted to 20.2 million metric tons of CO_2 equivalents (2020: 20.8 million metric tons of CO_2 equivalents). We were able to reduce emissions by around 3% year on year despite significantly higher production volumes due to the increased use of renewable energy and measures to improve energy efficiency and optimize processes. Lower ammonia production due to the high price of natural gas also reduced emissions.

To achieve our ambitious climate protection goals, we have adopted comprehensive carbon management. This has **five levers to reduce greenhouse gas emissions**: Using renewable energies for both electricity and steam production (gray-to-green and power-to-steam levers), developing and applying new carbon-free and low-carbon production processes (new technologies lever, see page 132), using alternative raw materials (bio-based feedstocks lever), and ongoing measures to further increase energy and resource efficiency in our production (continuous opex lever).

For more information on climate protection, see page 27

A projection of greenhouse gas emissions in 2022 can be found in the forecast from page 148 onward

Energy supply

Our total energy consumption, comprising fuel demand in our own central power and steam generation plants, primary energy requirements in our process plants, and net power and steam imports, was 58.8 million MWh in 2021.

To **generate our own steam and power**, we mainly use natural gas (80.3%) and substitute fuels (17.4%). These are residues from chemical production plants that cannot be reused in the BASF Verbund. We cover more than 58% of our electricity demand with our own gas and steam turbines in highly efficient combined heat and power plants. To achieve the highest possible energy yield with the lowest possible greenhouse gas emissions, we continuously invest in our combined heat and power plants. One example is our gas and steam turbine power plant at the Schwarzheide site in Germany, which is undergoing a €73 million modernization. Once it is started up in 2022, it will produce 10% more electricity and the CO_2 emissions factor of the power generated will be around 10% lower thanks to higher fuel efficiency.

Additional key indicators for energy and climate protection in BASF operations

	2021	2020	2018 (baseline)
Specific greenhouse gas emissions[a] (metric tons of CO_2 equivalents per metric ton of sales product[b])	0.564	0.639	0.577
Primary energy demand[c] (million MWh)	57.627	60.256	60.586
Energy efficiency (kilograms of sales product[b] per MWh)	621	540	626

a Scope 1 and Scope 2 (market-based) according to the GHG Protocol, excluding emissions from the generation of steam and electricity for sale to third parties, including offsetting
b Sales product volumes include sales between BASF Group companies; merchandise is not taken into account.
c Primary energy used in BASF's plants as well as in the plants of our energy suppliers to cover energy demand for production processes Purchased renewable energy has a primary energy conversion efficiency rate of 100%.

Compared with separate methods of generating steam and electricity, we saved 15.0 million MWh of fossil fuels and avoided 3.0 million metric tons of carbon emissions in 2021. In 2021, internally generated power in the BASF Group had a carbon footprint of around 0.24 metric tons of CO_2 per MWh of electricity and was below the national grid factor at most BASF Group locations.

Another important component of carbon-optimized energy supply at our sites is the **Verbund system**. It helps us realize synergies and manage value chains in a resource-efficient way. For example, waste heat from one plant's production process is used as energy in other plants. The Verbund saved us around 21.4 million MWh in 2021, which translates to 4.3 million metric tons less CO_2 released into the environment. With combined power and steam generation as well as our optimized Energy Verbund, we were thus able to avoid a total of 7.3 million metric tons of carbon emissions in 2021. That is why we will continue to invest in the creation and optimization of Verbund structures and drive forward the consolidation of production at highly efficient sites.

A central component of reducing greenhouse gas emissions as part of our carbon management is gradually **shifting our energy supply to renewable sources**. This applies to both our electricity and steam supply and our production processes, where we will increasingly replace fossil fuels with energy from renewable sources. The electrification of our processes will significantly increase the BASF Group's green power demand over the coming years (see page 27).

To ensure access to energy from renewable sources, we are pursuing a **make and buy approach**. Firstly, BASF is investing in its own renewable power assets, particularly offshore wind farms. Secondly, BASF will purchase green power on the market through long-term supply agreements with plant operators, green power agreements or renewable energy certificates, depending on the region and market regulations. A key purchasing criterion is the "additionality" of the energy purchased. This means that power is primarily generated by new wind and solar farms.

In 2021, we entered into pioneering **cooperative agreements** to transform our energy supply. For instance, we currently hold a 49.5% share in Vattenfall's Hollandse Kust Zuid (HKZ) offshore wind farm. Pending approval of the relevant merger control authorities, we plan to sell shares in HKZ to Allianz Capital Partners in the first quarter of 2022. This will reduce our interest to 24.3%. The originally agreed power purchase volumes remain unaffected by the transaction on the basis of a long-term fixed-price power purchasing agreement. Once fully operational, expected in 2023, HKZ will have a total capacity of 1.5 gigawatts. We will use part of the electricity generated there at the Verbund site in Antwerp and at other European production sites. Under a letter of intent, together with RWE we are developing a project concept for an offshore wind farm in the German North Sea with a capacity of 2 gigawatts. Provided the regulatory framework is adapted by the authorities, this wind farm could supply the Verbund site in Ludwigshafen, Germany, with green electricity before 2030. Together with enviaM, we are also planning to build and operate a solar park with a total installed capacity of 24 megawatts peak (MWp) to supply the Schwarzheide site in Germany.

In addition to these cooperative ventures, in 2021 we concluded further **long-term supply agreements** for green power. In Europe, these include a power purchase agreement for wind energy with the Engie group (volume: up to 20.7 TWh / term: 25 years) and an offshore wind power purchase agreement with Ørsted (installed capacity: 186 MW / term: 25 years). We will procure energy for our new Verbund site in Zhanjiang, China, from a wind and solar park with a capacity of 400 megawatts. Further long-term supply agreements for wind and solar power were concluded in the United States for the Freeport and Pasadena sites (both in Texas).

In addition, we have converted existing agreements to green power and have acquired renewable energy certificates in a number of regions. The aim is to gradually replace these temporary measures with our own power assets or long-term supply agreements.

In total, over 88 sites worldwide (2020: 19) were already partially or fully powered by emission-free electricity at the end of 2021. The carbon footprint of purchased electricity in 2021 was around 0.21 metric tons of CO_2/MWh (market-based approach), significantly lower than in the previous year (0.41 metric tons CO_2/MWh).

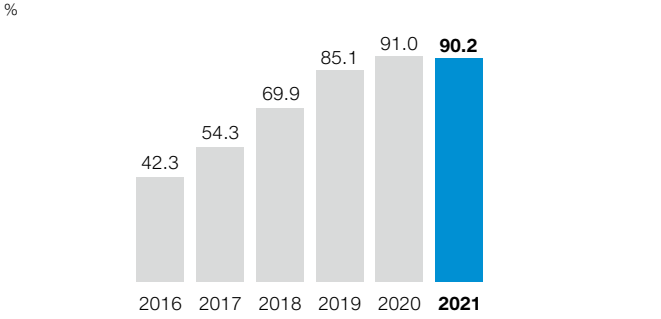
Specific greenhouse gas emissions and energy efficiency

Energy use and greenhouse gas emissions are closely linked to capacity utilization and production volumes at our plants. Specific greenhouse gas emissions in 2021 amounted to 0.564 metric tons of CO_2 equivalents per metric ton of sales product,[1] a decrease of 11.7% compared with the previous year (2020: 0.639 metric tons of CO_2 equivalents per metric ton of sales product). This was mainly due to higher demand compared with the previous year and consequently, better and more stable capacity utilization at our plants. In addition, the increased use of renewable energy had a positive impact on specific greenhouse gas emissions. Since 1990, we have been able to lower our overall greenhouse gas emissions from BASF operations by 49.7% and even reduce specific emissions by 75.4%.

As part of our carbon management, we aim to make our plants and processes even more efficient and resource saving. An important component of this is the introduction and ongoing maintenance of certified **energy management systems** according to DIN EN ISO 50001 at all relevant production sites.[2] These help us to identify and implement further potential for improvement in energy efficiency. This not only reduces greenhouse gas emissions and saves valuable energy resources but also increases our competitiveness. In 2021, 76 production sites worldwide had certified energy management systems, representing 90% of our primary energy demand.

A global working group provides ongoing support to the sites and Group companies in implementing and maintaining certified energy management systems. All energy efficiency measures are recorded in a global database, analyzed and made available to BASF sites as best practices.

Certified energy management systems (ISO 50001) at BASF Group sites worldwide, in terms of primary energy demand



We are currently pursuing more than 250 **technical and organizational measures** to reduce energy consumption and increase competitiveness. Our employees are an important source of optimization ideas in this regard. For instance, suggestions for improvement submitted by our employees in 2021 enabled us to avoid around 12,000 metric tons of CO_2 at the Ludwigshafen site in Germany alone.

We further improved energy and resource consumption in production with numerous projects around the world in 2021. At the Ludwigshafen site in Germany, for example, a multi-stage evaporation system set up at one plant saves over 60,000 metric tons of steam per year. At another plant, additional heat integration made it possible to supply other users with higher-pressure steam, reducing fuel consumption on the power plant side. At the Shanghai-Caojing site in China, a modernized control concept reduced the fuel demand of a heat recovery unit, and at another plant, steam demand was reduced by additional heat integration using a cooler. At the Geismar Verbund site in Louisiana, steam demand was reduced by the use of optimized condensate separators. In total, these measures save more than 23,000 metric tons of CO_2 annually. We also achieved additional savings in steam, electricity and fuel through process improvements at many other sites.

Carbon footprint, product carbon footprint and climate protection products

BASF has published a comprehensive corporate carbon footprint every year since 2008. This reports on all emissions along the value chain – from raw materials extraction to production and disposal.

The **Scope 3 greenhouse gas emissions** arising before and after BASF's activities in the value chain (in accordance with the Greenhouse Gas Protocol's definition) were determined as around 101 million metric tons of CO_2 equivalents for 2021 (2020: 92 million metric tons of CO_2 equivalents).[3] We are continually working to reduce greenhouse gas emissions from our business activities – in our own production and, together with our partners, along the value chain.

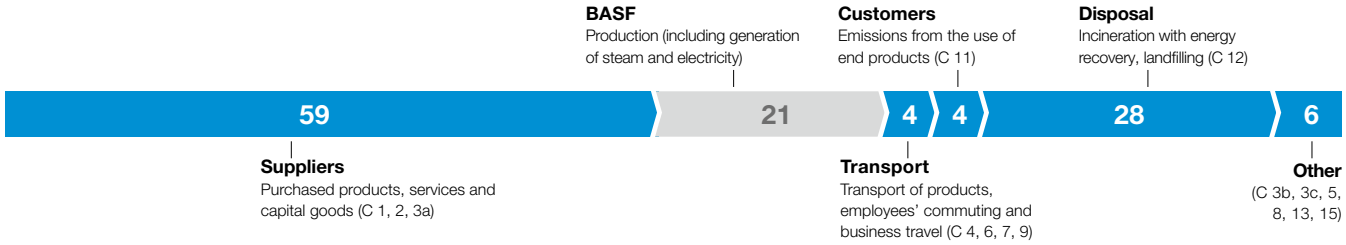
BASF was able to reduce emissions in the Scope 3 category "customers" by 2 million metric tons in 2021, primarily through the use of new blowing agents in polyurethane (PU) foams. Until now, the main blowing agents used were hydrofluorocarbons. These are used in the production of PU insulation materials to create foams with excellent insulation properties. The use of these hydrofluorocarbons in PU products will be prohibited in the European Union from 2023 due to their high climate impact. We are therefore gradually replacing them with hydrofluoroolefins, which have a much lower climate impact (measured by global warming potential, GWP). BASF began rolling out PU spray foams based on this new generation of blowing agents on the European market back in 2017. By the end of 2021, we will have almost completely converted our European PU spray foam production and will continue to systematically drive this forward in other regions as well.

Our climate protection products offer our customers solutions to avoid greenhouse gas emissions over their entire life cycle compared with reference products. The systematic analysis we conduct on our portfolio – Sustainable Solution Steering (see page 141) –

1 Sales product volumes include sales between BASF Group companies; merchandise is not taken into account.
2 Relevant sites are selected based on the amount of primary energy used and local energy prices.
3 Calculated in accordance with internationally recognized rules, including the use of values from general databases and industry averages.

Scope 3 emissions along the BASF value chain in 2021[a]

Million metric tons CO_2 equivalents



a According to Greenhouse Gas Protocol; Scope 1, 2 and 3; categories within Scope 3 are shown in parentheses. Scope 3 emissions in category 10 ("Processing of sold products") are not reported according to the standard for the chemical sector. Only direct use phase emissions are reported in the customer category (Scope 3.11). For more information on our Scope 3 emissions reporting, see basf.com/corporate_carbon_footprint

rates the use of these Accelerator solutions as particularly good with respect to climate protection and energy.

We calculate carbon footprints for around 45,000 sales products to increase **carbon transparency for our customers** (see box on the right). These Product Carbon Footprints (PCF) include all product-related greenhouse gas emissions generated until a BASF product leaves the factory gates ("cradle-to-gate").

The extraction of the raw materials we require and the production of purchased precursors account for the largest share of the PCF. We currently use industrial averages and values from commercial databases as the basis for calculating these upstream emissions.

In 2021, we introduced a global **Supplier CO_2 Management Program** to create transparency and better steer and, in the long term, reduce upstream emissions. In a first step, we ask our suppliers to provide PCFs for our raw materials. We support them by sharing our knowledge of evaluation and calculation methods. In this way, we are also contributing to the standardization of PCF calculation. In a second step, we want to work with our suppliers on solutions to reduce product-related emissions and establish the PCF as a criterion for our purchasing decisions.

For more information on our emissions reporting, see basf.com/corporate_carbon_footprint
For more information on Product Carbon Footprints, see basf.com/pcf

Good to know

Product Carbon Footprint

We use an in-house digital solution to calculate the carbon footprint of our products (PCF). In 2021, this was recognized by organizations such as the German chemical industry association (VCI) with the Responsible Care Award for digitalization. The methodology follows general standards for life cycle analysis such as ISO 14044 and ISO 14067, as well as the Greenhouse Gas Protocol Product Standard, and has been certified by TÜV Rheinland.

We used the new method to calculate PCFs for around 45,000 sales products in 2021. The transparency this creates enables us to target our CO_2 reduction measures to those areas where our customers can later achieve the greatest value added from lower carbon emissions in the value chain. In 2021, we were able to offer the first products with a certified reduced carbon footprint through the use of renewable energy.

We also started to make the automated PCF calculation approach available to interested industry players by way of partnerships. In a first step, IT companies will be able to translate BASF's methodology and in-house solution into a marketable software through licensing agreements.

Hydrogen is a key element on the journey to climate neutrality. BASF is developing a process – methane pyrolysis – that significantly reduces carbon emissions in the production of hydrogen. Find out more about what drives project manager Dieter Flick and which groundbreaking technologies are still being researched in the online report at report.basf.com.

In focus:

Innovative Processes for Climate-Smart Chemistry

Most of our production processes are already highly optimized. This makes it increasingly difficult to implement further improvements to reduce CO_2. Completely new technologies are needed to reduce greenhouse gas emissions over the long term and on a large scale. Different teams are working on this in our Carbon Management R&D Program.

Our focus here is on the production of basic chemicals such as hydrogen. The element is needed as a reaction partner in many processes. The processes currently used to produce hydrogen, such as steam reforming, produce high levels of CO_2 emissions. That is why BASF is open to different technologies and is driving forward two alternative processes for climate-smart hydrogen production: water electrolysis and methane pyrolysis. In **water electrolysis**, water is split directly into its two components, hydrogen and oxygen. If the required energy comes from renewable sources, the process is carbon-free. We intend to use the hydrogen generated by water electrolysis primarily as a material in the BASF Verbund and also, to a limited extent, for hydrogen model region projects in Germany's Rhine-Neckar region. We are currently working with Siemens Energy on initial concepts for the construction of a PEM (proton exchange membrane) water electrolyzer with a capacity of 50 megawatts at the Ludwigshafen site in Germany. We are also exploring various options for project funding.

In parallel, we are developing **methane pyrolysis** technology together with partners from academia and industry in a project sponsored by the German Federal Ministry of Education and Research. In this innovative process, (bio)methane is split directly into hydrogen and solid carbon. The process requires around 80% less electricity than water electrolysis and is virtually carbon-free if renewable energy is used. Following extensive groundwork, we started up a test plant for methane pyrolysis at the Ludwigshafen site in Germany in 2021. It will provide insights into the heating concept, as well as the use of new types of materials.

Another focus area is **alternative heating concepts for our steam cracker furnaces** (see page 72). We use these plants to split petroleum into olefins and aromatics. This requires temperatures of around 850 degrees Celsius, which are normally achieved by burning fossil fuels – which emits high levels of CO_2. A fundamentally new heating concept based on electric resistance heating (eFurnace) and the use of renewable energy could eliminate up to 90% of process-related emissions in the future. To develop and pilot the concept, we signed a cooperation agreement with SABIC and Linde in 2021 and jointly applied for funding to build a demonstration plant.

In addition to new, low-carbon production processes, we are also investigating the use of **innovative carbon storage methods**. At the Antwerp site in Belgium, BASF plans to invest in one of the largest carbon capture and storage (CCS) projects under the North Sea together with its Antwerp@C consortium partners. The project can potentially avoid more than one million metric tons of CO_2 emissions per year from the production of basic chemicals. A final investment decision is targeted for 2022.

For more information on carbon management, see basf.com/carbon-management

Emissions to Air, Waste and Remediation

GRI 102, 103, 305, 306

SUPPLIERS → BASF → CUSTOMERS

We want to minimize the impact of our activities on people and the environment by continually reducing emissions to air, preventing waste and protecting the soil. Our plants are operated safely and efficiently. We use resources responsibly and are continually reducing the environmental impact of our plants and processes with our Operational Excellence Program.

At a glance

26,358 metric tons
Air pollutants from BASF operations

47.0%
Share of our waste recycled or thermally recovered

- Improvements based on continuous monitoring of emissions to air and waste streams
- Circular concepts an important part of our activities
- Systematic management of contaminated sites

Strategy

The safe and efficient operation of our plants and the responsible management of resources and waste are core components of our Responsible Care Management system. We have defined our global standards for emissions to air, waste and contaminated sites in Group-wide guidelines, the implementation of which is the responsibility of the sites and subsidiaries. The Environmental Protection, Health & Safety unit in the Corporate Center conducts regular audits to monitor compliance with legal requirements and internal guidelines. BASF's global network of experts regularly shares information, insights and best practices to further reduce our emissions to air, manage waste and responsibly handle contaminated sites.

Continuous documentation and monitoring of emissions to air, waste streams and contaminated sites as well as the implementation of measures for improvement are an integral part of our environmental management. In addition to greenhouse gases (see page 126 onward), we also measure and analyze emissions of air pollutants to avoid potentially harmful substances as best possible.

Our **waste management** is based on the systematic tracking of material flows and follows a clear hierarchy: We aim to avoid waste as far as possible, for example, by continuously optimizing our processes or developing new production methods. BASF's Verbund structure with its networked plants and value chains is key here. We use it to efficiently manage our material flows. The by-products of one plant serve as feedstock for other plants and processes elsewhere in the BASF Verbund, avoiding waste and enabling us to use raw materials as efficiently as possible.

If these cannot be used within BASF's Verbund structures, we assess whether they can be recycled or thermally recovered. Non-recyclable materials are disposed of safely, appropriately and in an environmentally responsible manner. If we use external waste disposal companies, we conduct regular audits to ensure that waste is disposed of properly. In this way, we also contribute to preventive soil protection and keep today's waste from becoming tomorrow's contamination. If soil and groundwater contamination occurs at active or former sites, appropriate remediation measures are reviewed and implemented.

In addition to optimizing our own processes, we are committed to reducing the impact on air and soil and minimizing our disposal volumes and material consumption **along our value chains**. We expect our suppliers to comply with internationally recognized environmental standards. This is assessed as part of our sustainable supply chain management. We support our suppliers in developing and implementing measures for improvement, for example in waste management (see page 111). We offer our customers a wide range of products that can reduce air pollutants or waste – from industrial process catalysts, fuel additives and catalysts for the automotive sector to additives and track-and-trace technologies to extend the useful life of plastics or improve mechanical recycling of plastic waste.

We are increasingly aligning our actions with the **circular economy principle**. For example, we are increasingly using recycled and waste-based raw materials in our production, recycling operating supplies, and expanding our capacities for recovering precious metals from spent automotive and industrial catalysts. We are also developing product-specific recycling technologies, often together with partners along our value chains. For instance, we are driving forward the chemical recycling of mixed plastic waste and disposed foam mattresses and are working on new concepts for recycling battery materials. We are also involved in cross-industry networks and initiatives to avoid waste and strengthen the circular economy. These include the Alliance to End Plastic Waste (see box on page 134) and the Ellen MacArthur Foundation.

For more information on the circular economy, see page 44

Emissions to air

Total emissions of air pollutants from our production plants amounted to 26,358 metric tons in 2021 (2020: 24,496 metric tons[a]). Emissions of ozone-depleting substances as defined by the Montreal Protocol totaled 17 metric tons in 2021 (2020: 14 metric tons). We significantly reduced these emissions compared with 2002 (229 metric tons) by successively shifting to alternative coolants. Emissions of heavy metals[1] in 2021 amounted to 2 metric tons (2020: 2 metric tons[a]).

Emissions to air

Metric tons

Air pollutants from BASF operations	2021	2020
CO (carbon monoxide)	3,951	3,731[a]
NO_x (total nitrogen oxides)	11,450	10,646[a]
NMVOC (nonmethane volatile organic compounds)	4,988	4,532[a]
SO_x (total sulfur oxides)	1,864	1,861
Dust	2,154	2,000
NH_3 (ammonia) and other inorganic substances	1,951	1,711
Total	**26,358**	**24,496[a]**

a The comparative figure for 2020 has been adjusted to reflect updated data.

We want to further reduce our emissions with various measures. For instance, we use catalysts to reduce nitrogen oxides or feed waste gases back into the production process. One example is the nitrous oxide generated in the production of adipic acid at the Ludwigshafen site in Germany: 99% of this by-product is already decomposed or used in the BASF Verbund. In the future, it will even be 99.9%. This will be made possible by an automation project implemented in 2021 to optimally control processes based on important plant parameters and using predictive model calculations. The aim is to avoid around 550 metric tons of nitrous oxide emissions annually, corresponding to around 145,000 metric tons of CO_2 equivalents.

Waste

BASF generated 2.47 million metric tons of waste in 2021 (2020: 2.21 million metric tons). Of this, 53.0% was disposed of. Hazardous waste accounted for 73.9% of the total disposed waste (2020: 69.6%). Based on the concept of the circular economy, we are continuously examining options for material or thermal recycling for all waste (see "Strategy"). In this way, we were able to find new uses for 47.0% of our waste in 2021. We continuously identify and evaluate the safest and most environmentally sound disposal routes for non-recyclable waste. In 2021, most of our hazardous waste was incinerated (77.7%), where possible with energy recovery. 7.6% of hazardous waste was disposed of in landfill. This is mainly contaminated construction waste that cannot be reused or recycled due to legal requirements.

Waste generation in the BASF Group

Million metric tons

	Hazardous waste[a]		Nonhazardous waste[a]	
	2021	2020	2021	2020
Recycled	0.14	0.13	0.37	0.31
Thermally recovered	0.52	0.43	0.13	0.09
Waste recovered	**0.66**	**0.56**	**0.50**	**0.40**
Through incineration (without energy recovery)	0.75	0.64	0.10	0.10
In surface landfills	0.12	0.13	0.22	0.23
Other[b]	0.10	0.10	0.02	0.05
Waste disposed of	**0.97**	**0.87**	**0.34**	**0.38**
Total waste generation	**1.63**	**1.43**	**0.84**	**0.78**

a Waste is classified as hazardous or nonhazardous waste according to local regulations.
b Physical/chemical and biological treatment, underground disposal

Contaminated sites

We have global standards for managing contaminated sites. A worldwide network of experts ensures these are implemented. We develop remediation solutions that balance nature conservation, climate protection concerns, costs and social responsibility. This means making differentiated decisions on a case-by-case basis, founded on the legal framework and current technological standards. Contaminated sites are documented in a database. Ongoing remediation work around the world continued on schedule in 2021 and planning was concluded for future remediation projects.

For more information on provisions for environmental protection, see the Notes to the Consolidated Financial Statements on pages 224 and 260

Good to know

Alliance to End Plastic Waste

In 2019, we co-founded the Alliance to End Plastic Waste (AEPW) with other companies along the value chain – from plastics producers and consumer goods manufacturers to waste disposal companies. The AEPW now has around 65 members, who together aim to develop solutions that stop plastic waste from entering the environment, especially the ocean. There are four main focus areas: developing infrastructure for waste collection, promoting innovative recycling methods, education and engagement of various stakeholders, and cleanup of areas heavily impacted by plastic waste. The initiative aims to invest up to $1.5 billion by 2023. For instance, BASF supports the AEPW's goal of establishing a circular economy for plastics with its ChemCycling™ project.

For more information on the Alliance to End Plastic Waste, see endplasticwaste.org

1 Heavy metals are included in the figure for dust (see the table "Emissions to air").

Water

GRI 102, 103, 303

SUPPLIERS → BASF → CUSTOMERS

Water is of fundamental importance in chemical production. It is used as a coolant, solvent and cleaning agent, and to make our products. Our goods are transported via waterways. At the same time, water is a scarce commodity in more and more regions. That is why we promote the responsible use of this resource with sustainable water management.

At a glance

1,695 million
Cubic meters
total water abstraction

78.5%
of water demand covered
by reuse

- Responsible use a core part of our strategy
- Global water target 53.5% achieved
- Demand and utilization continuously optimized

Strategy

The responsible use of water as a resource is a core element of our Responsible Care Management System and an important part of our commitment to the United Nations' Sustainable Development Goals (SDGs). This is also reflected in our **position paper on water protection**, which we published in 2021.

Our global standards and requirements for water are defined in Group-wide guidelines. Among other things, these stipulate that water protection concepts must be implemented at all production sites. The guidelines also cover aspects such as process and transportation safety (see pages 120 and 125) in order to prevent production and transportation-related product spillages into water bodies as far as possible. Our sites and subsidiaries are responsible for implementing and complying with internal guidelines and legal requirements. The Environmental Protection, Health & Safety unit in the Corporate Center conducts regular audits to monitor this. BASF's global network of experts shares information, insights and best practices around the responsible use of water on an ongoing basis.

Introducing and implementing **sustainable water management** has been a cornerstone of our strategy for many years now. Our focus here is on our Verbund sites and on production sites in water stress areas.[1] The aim is to protect water as a resource, to use it as efficiently as possible through recirculation, and to continuously reduce wastewater and emissions. We consider the quantitative, qualitative and social aspects of water use.

We pursue our goal by applying the European Water Stewardship standard, which rests on four principles: sustainable water abstraction, maintaining good water quality, preserving conservation areas, and ensuring continuous improvement processes.

We advocate the **responsible use of water as a resource** along the entire value chain. We audit supplier compliance with environmental standards in our regular supplier assessments (see page 110). Where improvement is necessary, we support suppliers in developing and implementing appropriate measures, such as the correct handling of wastewater. In addition, we are involved in a wide range of initiatives to promote sustainability in the supply chain (see page 113). For example, efficient water use is a core part of the Pragati project to improve sustainability in castor bean farming, the source of the castor oil we use.

We offer our customers solutions that help purify water and use it more efficiently while minimizing pollution. These include high-performance plastics to produce ultrafiltration membranes, seeds with higher drought and heat tolerance, or water-saving thin-film processes for metal pretreatment.

We work with numerous partners along the value chain and from civil society to protect water as a resource. For instance, BASF is a member of the Alliance for Water Stewardship, a global multi-stakeholder organization that promotes the responsible use of water. We are co-founders of the Alliance to End Plastic Waste (AEPW) and are also involved in other global networks such as the World Plastics Council or Operation Clean Sweep to effectively reduce and prevent plastic waste, especially in water bodies.

We report transparently and comprehensively on water. For instance, we again provided detailed answers to the 2021 water survey from the nonprofit organization **CDP**. BASF again achieved leadership status with an A– rating in the final assessment. CDP evaluates how transparently companies report on their water management activities and how they reduce risks such as water scarcity. The assessment also considers the extent to which product developments can also contribute to sustainable water management at the customers of the evaluated companies.

For more information on our position paper on water protection, see basf.com/water
For more information on the CDP water survey, see basf.com/en/cdp

1 We define water stress areas as regions in which more than 40% of available water is used by industry, households and agriculture. Our definition is based on the Water Risk Atlas (Aqueduct 3.0) published by the World Resources Institute. For more information, see wri.org/aqueduct.

Global target and measures

Our goal is to introduce sustainable water management at our Verbund sites and at all production sites in water stress areas by 2030, covering 89% of BASF's total water abstraction. We achieved 53.5% of our target in 2021 (2020: 46.2%).[1] Sustainable water management was introduced at seven additional sites in 2021 (2020: 6).

As part of sustainable water management, our sites regularly assess the **water situation in the catchment area**. This raises awareness of potential risks and impacts for the population such as water scarcity. Based on the assessments conducted until the end of 2021, we did not identify any activities with a significant impact on water availability and quality at any site.

Water in the BASF Group 2021

Million cubic meters per year

Abstraction / supply

1,695

Of which in water stress areas: 1%

Surface water / freshwater	1,308
Brackish water / seawater	259
Groundwater	100
Drinking water	20
Reusable wastewater from third parties	3
Water from raw materials	5

87%

13%

Use

6,881

Water used in cooling processes

Percentage in recirculating cooling systems: 81%

229

Water used in production

Percentage of water reused: 10%

Discharge

1,503

Of which cooling water: 1,326
Of which wastewater from production: 177

Surface water / freshwater	1,239
Brackish water / seawater	245
Groundwater	1
External treatment plant	18

Consumption

72

Of which in water stress areas: 16%

2030 target

Introduction of sustainable water management at our production sites in water stress areas and at our Verbund sites

Another important part of our sustainable water management is the continuous analysis and implementation of **measures for improvement**. For instance, we use wastewater from municipal wastewater treatment plants to reduce our demand for freshwater at our sites in Tarragona, Spain (since 2013) and Freeport, Texas (since 2019). At the Pontecchio site in Italy, we partially use rainwater, which reduced our demand for river and groundwater by 22,200 cubic meters in 2021. In Belgium, our Verbund site in Antwerp is a member of the Lerend Netwerk Water network of the Belgian chemical association Essenscia together with other chemical and pharmaceutical companies. The aim is to facilitate dialog on the responsible use of water and to develop action plans for water conservation and circular water use. At the Verbund site in Ludwigshafen, Germany, we have continually optimized cooling water needs over the past few years with various technical improvements. One example is the ethylene oxide plant, where a change in the pipeline route implemented in 2020 reduces the river water used for cooling purposes by around 4.7 million cubic meters compared with the reference period (June 2019 to June 2020). Since then, the cooling system has operated without pumps. This also saves around 360,000 kilowatt hours of electricity compared with the reference period.

Depending on the local situation, we also implement measures for improvement at our sites' catchment areas together with other stakeholders. One example is the Incentivo ao Produtor de Água program that we launched at the Guaratinguetá site in Brazil in 2011 together with local authorities, the Espaço ECO Foundation and other partners. Measures such as better soil management or the reforestation of riverbank woodlands have since significantly reduced surface runoff and soil erosion in the Ribeirão Guaratinguetá catchment area.

Water balance

Our **water abstraction** totaled 1,695 million cubic meters in 2021 (2020: 1,728). This demand was covered for the most part by freshwater such as rivers and lakes (84% of water abstraction). At some sites, we use alternative sources such as treated municipal wastewater, brackish water or seawater. A small part of the water we use reaches our sites as part of raw materials and steam, or is released in our production processes. We abstract most of the water we need for cooling and production ourselves. In 2021, 5% of our total water demand was covered by third parties (2020: 5%).

We predominantly use water for cooling purposes (87% of water abstraction), after which we discharge it back to our supply sources with no product contact. We reduce our demand for cooling water by recirculating as much of it as possible. To do this, we use recooling plants that allow water to be reused several times. Around 13% of our total water abstraction is used in production plants, for

1 Our water target also continues to take into account the sites that we identified as water stress sites in accordance with Pfister et al. (2009) prior to 2019.

example, for extraction or dissolution processes or for cleaning. Here, too, we reduce our demand for water by recycling wastewater. Most of the water used for production purposes is discharged back to water bodies after being treated in our own or third-party plants. Overall, 78.5% of the water we use in cooling or production is reused several times.

The BASF Group's **water consumption** describes the amount of water that is not discharged to a water body, meaning that it is no longer available to other users. Consumption is mainly attributable to the evaporation of water in recirculating cooling systems. A smaller amount is from the water contained in our products. Water consumption in 2021 amounted to around 72 million cubic meters (2020: 63 million cubic meters).

In 2021, around 25% of our production sites were located in **water stress areas** (2020: 25%). These sites accounted for 1% of BASF's total water abstraction (2020: 1%).[1] In water stress areas, we mainly source water from third parties (81%) and largely cover our demand with freshwater. Water consumption in water stress areas accounted for 16% of BASF's total water consumption in 2021 (2020: 11%) and was primarily attributable to evaporation in cooling processes. Wastewater in water stress areas accounted for less than 1% of BASF's total wastewater. The share of wastewater from cooling processes in water stress areas is lower than for the BASF Group as a whole. Cooling water is rarely used for once-through cooling here. Instead, it is generally recirculated to reduce water demand. Production wastewater in water stress areas is primarily treated at third-party facilities.

The supply, treatment, transportation and recooling of water is associated with a considerable energy demand. We are constantly working to optimize our energy consumption and the amount of water we use, and to adapt to the needs of our business and the environment.

Emissions to water

A total of 1,503 million cubic meters of water were discharged from BASF production sites in 2021 (2020: 1,429), including 177 million cubic meters of wastewater from production.

Our wastewater is subject to strict controls and we carefully assess the impact of wastewater discharge in accordance with the applicable laws and regulations. Both internal audits and the responsible local authorities regularly assess whether the analyses and safety precautions at our sites comply with internal guidelines and legal requirements.

Emissions of nitrogen to water amounted to 3,000 metric tons in 2021 (2020: 2,900). Around 12,500 metric tons of organic substances were emitted in wastewater (2020: 11,500). Our wastewater contained 17 metric tons of heavy metals (2020: 22). Phosphorus emissions amounted to 340 metric tons (2020: 270).

Our approach is to reduce wastewater volumes and contaminant loads at the source in our production processes and to reuse wastewater and material flows internally as far as possible. To treat wastewater, we use both central measures in wastewater treatment plants and the selective pretreatment of individual wastewater streams before these are sent to the wastewater treatment plant. We use different methods depending on the type and degree of contamination – including biological processes, chemical oxidation, membrane technologies, precipitation or adsorption.

In order to avoid unanticipated emissions and the pollution of surface or groundwater, we have **water protection concepts** for our production sites in place. This is mandatory for all production plants as part of our Responsible Care Management System. The wastewater protection plans involve evaluating wastewater in terms of risk and drawing up suitable monitoring approaches. We use audits to check that these measures are being implemented and complied with.

For more information, see basf.com/water

1 Aqueduct 3.0 was used to identify sites in water stress areas to determine pro rata water abstraction and water consumption.

Biodiversity

GRI 102, 103, 304

SUPPLIERS → BASF → CUSTOMERS

Biodiversity describes the variety of life forms on Earth. Low flora and fauna diversity weakens ecosystems' ability to withstand changes such as climate change. As a chemical company, we depend on ecosystem services like the availability of renewable resources and high air, water and soil quality, while also influencing them. Protecting biodiversity is a key element of our commitment to sustainability.

At a glance

- Strategic alignment of our biodiversity measures based on impact assessments
- Commitment to preserving biodiversity along the entire value chain with strategic partnerships

Strategy

BASF sees the United Nations' Convention on Biological Diversity and the Sustainable Development Goals (SDGs) – including Life below water (SDG 14) and Life on land (SDG 15) – as important orientation and reference frameworks. Our measures help to preserve biodiversity and meet our responsibility to maintaining the wellbeing of the environment and society. Our corporate sustainability goals on climate protection, product portfolio, circular economy, water management and responsible procurement also help to protect biodiversity.

We align our biodiversity measures with the impact of our business activities along the value chain. Our focus here is on three impact areas: supply chains, sites and production, and product impact. We analyzed these in an internal workshop according to the five drivers of biodiversity loss as defined by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. These are land-use change, climate change, invasive species, overexploitation and pollution. Our analysis showed that our impacts along the value chain mainly relate to the drivers of climate change, land-use change and pollution. We counteract the climate change driver of biodiversity loss – and in this way, help to preserve biodiversity – with our climate protection measures, which play an integral role in all our impact areas (see page 126).

We use various methods to **measure our sustainability performance** that implicitly and explicitly consider relevant risks and opportunities for biodiversity. These include the Eco-Efficiency Analysis, SEEbalance®, Sustainable Solution Steering, Value to Society, AgBalance® and the corresponding biodiversity calculator. Under Value to Society, we assess land use along value chains, among other things. Newly developed assessment methods help us to understand further influences on biodiversity. On the basis of this understanding, we seek dialog with partners and enter into strategic partnerships, through which we drive forward measures to protect biodiversity around the world.

Responsibility to our supply chains

Some of the business activities of our raw material suppliers involve land uses that can influence biodiversity (biodiversity loss driver: land-use change). We have laid down our expectations of our suppliers with regard to environmental, labor and social standards in the supply chain in the Supplier Code of Conduct (see page 109).

BASF procures a variety of renewable raw materials. In the procurement of **palm and palm kernel oil** in particular, there is an elevated risk that forest areas are cleared to create farmland. To improve sustainability in procurement, we established the BASF Palm Commitment in 2011, which was updated in 2015 and is implemented with our Palm Sourcing Policy. Third-party certification with standards such as the Roundtable on Sustainable Palm Oil (RSPO) standard enables us to take biodiversity criteria into account when purchasing raw materials (see page 113). We are also committed to the environmental sustainability of other supply chains through our own initiatives, such as our **rambutan program**. This was launched in 2014 in close collaboration with partners in Vietnam to source botanical ingredients for cosmetic products from certified organic rambutan gardens. In cooperation with local farmers and NGOs, BASF's program promotes the preservation of biodiverse habitats, as well as good agricultural practices, gender equity and fair working conditions.

Our **position on forest protection** sets out our commitment to preserving biodiversity in areas of High Conservation Value such as High Carbon Stock forest areas and peatlands in the procurement of renewable raw materials. BASF participated in the "Forests" assessment conducted by the international organization **CDP** for the second time in 2021 and achieved a score of A–, again giving it Leadership status. CPD is a nonprofit organization that evaluates companies' management of the environmental risks and opportunities relating to forests, among other things. The assessment is conducted based on detailed insights into the palm value chain and activities that impact ecosystems and natural habitats.

Responsibility to our sites and production

Preservation of biodiversity is taken into consideration in the management of our sites. We operate our facilities in a responsible manner and minimize negative effects on the environment (biodiversity loss driver: pollution) by keeping air, water and soil emissions as low as possible and reducing and avoiding waste (see page 133 for more information).

Our site management measures consider our impact on the biodiversity loss driver of land-use change. For example, given the relevance of conservation areas to preserving diversity, we check how close our production sites are to internationally recognized conservation areas. In 2021, we included this indicator in our environmental database. This allows us to raise awareness of biodiversity at local level and draw attention to potential impacts of our sites on these areas. Four percent of our production sites are adjacent to a Ramsar site and 1% are adjacent to a category I, II or

III protected area as defined by the International Union for Conservation of Nature.[1] None of our production sites are adjacent to a UNESCO protected area.

We have adopted biodiversity as a criterion in decision-making processes. In addition, we systematically consider sustainability aspects when deciding whether to invest in the construction of new sites or expand existing ones. Aspects assessed include the potential impacts on forests and biodiversity.

We are implementing **local measures** to protect biodiversity at a number of sites. In Clermont, France, for example, grassed areas were converted into biodiversity-friendly spaces, nesting boxes for swallows and other bird species were installed, and their population sizes were measured and documented. In addition, training was held to raise employees' awareness of biodiversity.

We also take biodiversity conservation into account in our **production**. We are committed to complying with the provisions of international environmental agreements such as the Nagoya Protocol. The supplementary agreement to the U.N.'s Convention on Biological Diversity regulates access to genetic resources and access and benefit sharing. It sets out obligations (for example, compensation payments) for the users of genetic resources such as plant-based raw materials. We use internal control mechanisms to monitor compliance with standards.

Management of our product impact

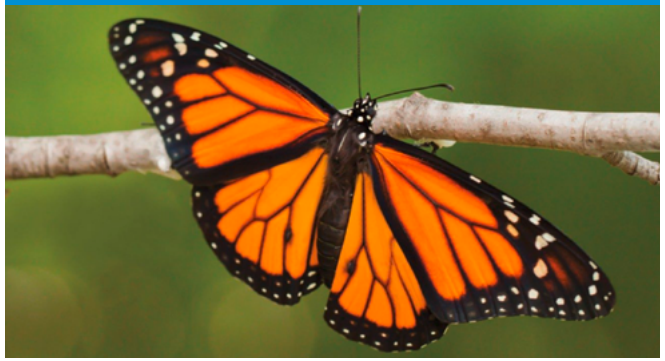
BASF offers products and solutions for a wide range of industries. We want to ensure that our products meet our customers' standards in quality and, through appropriate use, pose no risk to humans, animals or the environment. Our commitment to the objectives set forth by the Responsible Care® charter of the International Council of Chemical Associations (ICCA) obligates us to continuously minimize the negative effects of our products on the environment, health and safety and to optimize our products on an ongoing basis. It is important to consider the potential impacts of product use on biodiversity, for example, with regard to the biodiversity loss driver of pollution.

For example, we evaluate our products and solutions in **crop protection and seeds** throughout the entire research, development and registration process. After they have been approved for the market, we continue assessing them regularly for potential risks and impact to the ecosystems in which they are used. We have initiated various projects and offer training to prevent misuse of our products (see page 124).

All types of **land development**, such as agriculture and forestry, play a role in changing biodiversity (biodiversity loss driver: land-use change). Activities such as tillage, drainage, fertilization and the use of crop protection products can affect flora and fauna, for example, by influencing food sources. Minimizing these impacts while ensuring the necessary productivity is one of the biggest challenges farmers are facing. Our Agricultural Solutions segment focuses on four areas to help farmers to find the right balance: climate-smart farming, sustainable solutions, digital farming and smart stewardship (see page 90). In this context, we work with farmers to create balanced agricultural systems which enable productive and efficient farming of high-quality food products and at the same time promote biodiversity in the field. For example, we advise them on soil cultivation and look for suitable ways to improve biodiversity in farmlands. Our many years of experience in sustainability measurement and evaluation in agriculture are particularly useful here.

Our **AgBalance® method** and the biodiversity calculator, which has been available since 2020, enable a scientifically sound assessment of the impact of agricultural practices on biodiversity. Based on these assessments, we issue recommendations for measures such as planting flower strips or establishing nesting places to benefit pollinators like wild bees and farmland birds. Our modern seed solutions also enable better yield on existing farmlands and thus help protect natural habitats.

Good to know



Initiative to preserve the habitat of the monarch butterfly

The Alas para el Campo cooperation between the German Agency for International Cooperation (GIZ), BASF and partners from politics, academia, distributors and local communities was launched in Mexico in 2019. The aim is to restore the natural habitat of the monarch butterfly along its migration route. This also protects other pollinators. The focus of the initiative is on introducing sustainable farming measures, good agricultural practices and ecosystem conservation strategies, for the protection of pollinators and other beneficial insects. This enables farmers in Mexico, Central America and the Caribbean to restore natural habitats to promote biodiversity while laying the foundation for sustainable yields and prosperity in their communities.

BASF started the global registration for a new, more environmentally friendly insecticide active ingredient in 2021. The active ingredient, Axalion™, enables farmers to control a wide range of piercing and sucking pests that are harmful to crops. At the same time, it is highly compatible with beneficial insects such as pollinators. This supports

1 We have defined "adjacent" as the area within a 3 km radius.

farmers in balancing agricultural productivity, environmental protection and societal demands.

Animal farming is essential to meeting growing global demand for products of animal origin such as meat, eggs and milk. Industrialized livestock production also requires large areas of agricultural land for growing feed, which has implications for the share of forest areas and biodiversity. BASF offers a range of feed additives such as enzymes, vitamins, glycinates and organic acids that improve nutrient utilization from feed. Better feed conversion and more sustainable livestock production mean that less land is needed, preserving natural ecosystems.

Strategic partnerships to promote biodiversity

Engaging in ongoing dialog with a variety of stakeholders is important to BASF. That is why we seek out partnerships with relevant interest groups and organizations worldwide to raise awareness of biodiversity and drive forward the action needed to preserve natural habitats. This enables us to firstly share the knowledge gained from our biodiversity activities and secondly learn from others to improve our own practices.

We cooperate with a number of organizations including the Roundtable on Sustainable Palm Oil, the Sustainable Palm Oil Forum, the Brazilian Coalition on Climate, Forests and Agriculture and the High Carbon Stock Approach Steering Group. The Taskforce on Nature-related Financial Disclosures (TNFD) is working to provide a framework for reporting on nature-related risks and related activities. In 2021, BASF joined the newly established TNFD Forum, a consultative network, to support this development. Our involvement in organizations such as the Alliance to End Plastic Waste and the Alliance for Water Stewardship (see page 135) help to preserve biodiversity in bodies of water.

Together with international partners and based on dialog with stakeholders in the food value chain, we are driving forward **measures to promote sustainable agriculture**. In the United States, for example, BASF is a member of the Honey Bee Health Coalition, which aims to achieve healthy honey bee populations and support healthy populations of native and managed pollinators in productive agricultural systems and thriving ecosystems. BASF France is part of the Entreprises pour l'environnement (EpE) network, which launched the Act4nature campaign with the main objective of protecting and enhancing biodiversity.

Since 2013, we have also been working with different farmers and experts from the **BASF FarmNetwork Sustainability**, an association of farms in Europe, to integrate more connected biodiversity areas into agricultural production. Based on the insights gained from working together, an advisory board of experts from agriculture, nature conservation and environmental protection developed a biodiversity checklist and published it in 2021. This summarizes 10 ecologically effective and practicable measures to promote biodiversity. Since 2021, BASF has supported farmers participating in its #wirzahlenBiodiversität ("We pay biodiversity") program financially and with professional advice. Our initiatives to preserve biodiversity help farmers to achieve the right balance between economic and environmental factors and help them make an important societal contribution to the preservation of ecosystems.

For more information on our responsible management of resources, see page 44
For more information on product stewardship, see pages 123 and 124
For more information on our commitment to biodiversity, see basf.com/biodiversity
For more information on our position on forest protection, see basf.com/forestprotection

We Drive Sustainable Solutions

Innovations based on chemistry are key to solving global challenges such as climate change or resource scarcity. They can play a pivotal role in reducing emissions or decoupling growth and resource consumption, for example. Targeted research and development is the foundation for sustainable solutions and an important growth driver for BASF.

In this section:

Steering Our Product Portfolio
Circular Economy
Product Carbon Footprint

Steering Our Product Portfolio

GRI 102, 416, 417

SUPPLIERS → BASF → CUSTOMERS

We take advantage of business opportunities by offering our customers innovative products and solutions that support their sustainability goals. We ensure that the business units follow standard processes to evaluate and take into account relevant sustainability criteria when they develop and implement strategies, research projects and innovation processes.

Accelerator products make a substantial sustainability contribution in the value chain. These include catalysts that reduce emissions to the environment, biodegradable mulch films for agricultural applications, and high-performance insulation materials for higher energy savings and reduced material use in building construction.

Based on our corporate strategy, we have set ourselves a global target: We aim to make sustainability an even greater part of our innovation power and achieve €22 billion in Accelerator sales by 2025. We met this target already in 2021. Consequently, we will update our product portfolio steering target over the course of 2022.

A significant steering tool for the product portfolio, based on the sustainability performance of our products, is the Sustainable Solution Steering method. It considers our products' applications in various markets and customer industries. Transparently classifying our products on the basis of their contribution to sustainability enables us to systematically improve them. We review the categorization of the portfolio at least every four years. This includes analyzing the portfolio in workshops.

If, during reassessment of our portfolio, we identify products with significant sustainability concerns, we classify these as "challenged." We develop and systematically implement action plans for all products in this category. These include research projects and reformulations to optimize products, or even replacing the product with an alternative. To systematically align our portfolio with contributions to sustainability, in 2018 we started phasing out all Challenged products within five years of their initial classification at the latest. We strive to offer products that make a greater contribution to sustainability in their area of application to live up to our own commitments and meet our customers' demands. That is why an adapted version of our Sustainable Solution Steering method is used in areas such as our research and development pipeline, and in merger and acquisition projects. The results and any measures required are part of our business strategies.

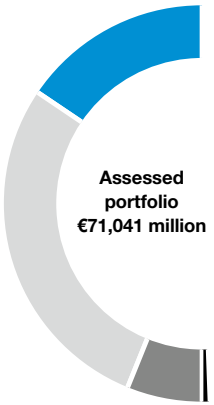
Classification of assessed portfolio according to the Sustainable Solution Steering method

Accelerator
Substantial sustainability contribution in the value chain

Performer
Meets basic sustainability standards on the market

Transitioner
Specific sustainability issues which are being actively addressed

Challenged
Significant sustainability concern identified and action plan in development or implementation



Accelerator sales
2021: €24,103 million
2020: €16,740 million

Performer sales
2021: €39,033 million
2020: €30,519 million

Transitioner sales
2021: €7,879 million
2020: €6,799 million

Challenged sales
2021: €26 million
2020: €72 million

By the end of the 2021 business year, we had evaluated 98.7% of the relevant portfolio[1] (2020: 98.4%). This refers to the BASF Group's sales from products in its strategic portfolio to third parties in the business year concerned. By the end of 2021, sustainability analyses and assessments had been conducted for more than 56,000 specific product applications (2020: >57,000), accounting for €71 billion in sales (2020: €54.1 billion).

In 2021, we generated sales of €24.1 billion with Accelerator products (2020: €16.7 billion) – already reaching our target for 2025. Accelerator products account for 33.9% of the assessed relevant portfolio. Sales of Accelerator products rose by 44.3% compared with the previous year. This is primarily attributable to the positive development of Accelerator sales in the Surface Technologies and Chemicals segments. Performer products account for 54.9%, Transitioner products for 11.1% and Challenged products for 0.1% of the solutions assessed.

New market requirements arise as a result of the continuous development of new product solutions in the industry or changing regulatory frameworks. This has an effect on the comparative assessment, which is why we regularly reassess our product portfolio.

For more information on Sustainable Solution Steering, see basf.com/en/sustainable-solution-steering

Circular economy

Circularity is a particular focus in the continued development of our product portfolio. This enables us to help our customers achieve their sustainability goals while improving the resource and carbon footprint of our products.

By 2030, we aim to generate sales of €17 billion with solutions for the circular economy. These include products based on renewable or recycled raw materials that close material cycles ("close the loop") or increase the resource efficiency or life of materials ("extend the loop").

In addition, we want to increasingly use alternative raw materials in the manufacturing of our products. These include bio-based raw materials such as bionaphtha and biogas, and renewable raw materials such as RSPO-certified palm oil, which we have been using for many years as a substitute for fossil resources. To expand our supply base for alternative raw materials and at the same time, contribute to the circular economy, we are also developing new, waste-based sources of raw materials. To achieve this, we develop innovative technologies, usually in cooperation with partners, for example for the chemical recycling of plastic waste or disposed mattresses made of polyurethane. We aim to process 250,000 metric tons of recycled and waste-based raw materials in our production plants annually from 2025.

One of the steps we have taken to achieve our goals is establishing a company-wide Circular Economy Program. As part of this program, BASF teams are currently developing new approaches to the three main action areas in more than 35 initiatives: alternative raw material pathways, innovative material cycles and new business models for the circular economy – which also include digital and service-based concepts.

For more information on the circular economy, see page 44
For more information on raw materials, see page 112 onward

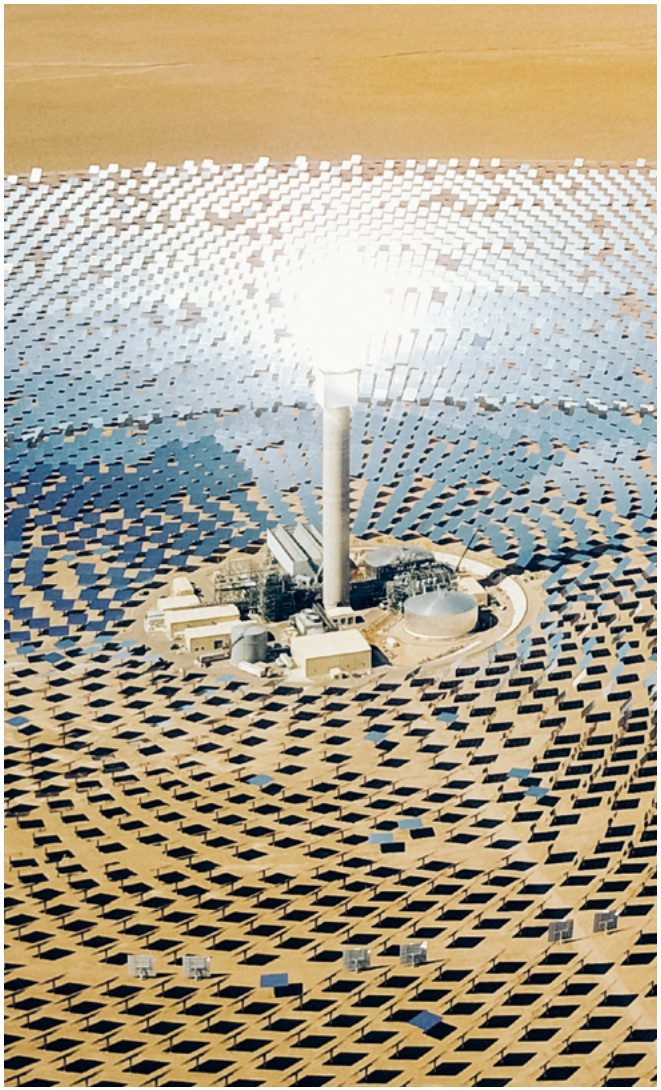
Product Carbon Footprint

In line with increasingly ambitious climate protection targets, CO_2 transparency is becoming more and more important for us and our customers. We have published a comprehensive corporate carbon footprint along our value chain every year since 2008. In addition, we already calculated carbon footprints for individual products in the past. To further increase transparency, we developed a digital solution to determine product-specific greenhouse gas emissions in 2020 and have since calculated the carbon footprints of around 45,000 sales products. These Product Carbon Footprints include all greenhouse gas emissions from raw material extraction to the finished BASF product leaving the factory gates ("cradle-to-gate"). The data helps us to target our CO_2 reduction measures to those areas where our customers can later achieve the greatest value added from lower carbon emissions in the value chain.

To determine the carbon footprint of our purchased raw materials (upstream Scope 3 emissions), we have until now worked with industry averages and values from external databases. To obtain a more accurate data base and reduce emissions in the supply chain, we launched our Supplier CO_2 Management Program in 2021. The aim of the program is to, in a first step, determine the carbon footprints of raw materials as accurately as possible. We support our suppliers here by sharing our knowledge of valuation and calculation methods, for example. In the second step, we then want to work with our suppliers to identify levers and targets to continuously reduce greenhouse gas emissions along the supply chain.

For more information on our corporate carbon footprint and Supplier CO_2 Management Program, see page 130 onward

1 The definition of the relevant portfolio and further information can be found in the Sustainable Solution Steering manual at basf.com/en/sustainable-solution-steering



Although one of BASF's oldest products, sodium nitrate is also used for innovative applications: Its excellent heat storage properties makes the technical salt ideal for solar thermal plants. BASF supplies it to one of the largest solar projects in the world – Noor Energy 1 in Dubai.

In focus:

BASF Solutions for a Sustainable Future

Solutions based on chemistry are fundamental to a sustainable future. Every day, around 111,000 employees at BASF work to turn good ideas into innovative products that help solve global challenges such as climate change, resource scarcity or food supply.

Enabling climate-smart mobility

The transportation sector is one of the largest sources of greenhouse gases. In Europe, for example, around one-quarter of all CO_2 emissions are caused by road traffic. BASF helps to reduce exhaust emissions and vehicle fuel consumption with innovative solutions to treat exhaust gases such as zeolite SCR catalysts or tri-metal catalyst technology (see page 82), Keropur® fuel additives or lightweight high-performance plastics such as Ultramid®, Ultradur® or Elastoflex®.

At the same time, as a leading supplier of battery materials for lithium-ion batteries, we are paving the way for the age of electromobility. Here, too, the focus is on sustainability – from the responsible procurement of mineral raw materials and the most economical use in production to recycling at the end of the life cycle. In the future, the carbon footprint of our European production will be significantly below the industry standard thanks to our efficient manufacturing processes, the high share of renewable energy, and regional procurement and recycling of key raw materials.

In aviation, the Novaflex Sharkskin surface film developed jointly with Lufthansa Technik leads to noticeable CO_2 reductions. Its structure is modeled on sharkskin and optimizes aerodynamics at the flow-related parts of the aircraft. The sharkskin technology will be used on Lufthansa Cargo's entire freighter fleet from 2022. Through its use on the 10 Boeing 777F freighters alone, Lufthansa Technik expects to save around 3,700 metric tons of kerosene and reduce CO_2 by around 11,700 metric tons every year.

Making better use of sun and wind

BASF products enable renewable energies to be used more efficiently. One example is solar salt. This mixture of sodium nitrate and potassium nitrate is used in concentrated solar power (CSP) plants (image left). As a heat transfer fluid at high temperatures of over 550 degrees Celsius, molten solar salt allows solar energy to be stored and thus used even in bad weather or at night.

Other examples are the amine-based hardeners Baxxodur® EC 301 and EC 201. Both have proven effective in processing epoxy resins for the manufacture of rotor blades for modern wind turbines. Baxxodur® hardeners contribute significantly to the advantageous properties of the cured epoxy resin, such as low weight, high mechanical strength, and high chemical and thermal resistance – all of which are key to the longevity of rotor blades.

Avoiding CO_2 through efficient thermal insulation

An important lever in reducing CO_2 is the energy efficiency of buildings. For a number of years now, we have also offered biomass balance versions of our proven insulating materials Styropor®, Neopor®, Styrodur® and Elastopir®. Under a certified mass balance method, we replace 100% of the fossil raw materials used in the production of these product lines with renewable feedstocks. This significantly reduces the carbon footprint of the end product – in the case of Neopor® BMB, by 66% per cubic meter of insulation panel compared with conventional Neopor®.

Creating new products from waste

Our innovative technologies and solutions help to reduce waste generation and increase the amount of waste that can be recycled. One example is our portfolio of plastics additives. Among other things, these additives help to reduce waste by improving the durability of materials. Additives also enable improved mechanical recycling. For example, the IrgaCycle™ product series launched in 2021 helps our customers avoid certain quality problems in mechanically recycled plastics. This means that recycled plastics can also be used for higher-value applications and recycled content can be increased in the manufacture of new products.

In addition to our mechanical recycling solutions, we are driving forward chemical recycling (see page 115). In our ChemCycling™ project, our technology partners convert waste such as used tires or mixed plastic waste, which was not previously recycled, into pyrolysis oil. We can feed this pyrolysis oil into our Verbund structure in place of fossil raw materials and use it to make new products based on a certified mass balance approach. This reduces waste, saves resources and simultaneously reduces the carbon footprint of our products. One example is Styropor® Ccycled™, which is used to manufacture products like insulated transport boxes for temperature-sensitive goods such as coronavirus vaccines. Another application is functional textiles. For example, VAUDE will be launching outdoor pants made using our Ultramid® Ccycled™ polyamide from 2022.

Materials such as Infinergy® can be recycled. The expanded polyurethane is used in products such as shoe soles thanks to its outstanding spring and cushioning properties. Through a combination of mechanical processing and finishing, Infinergy can be recycled and regenerated with its original level of material quality.

We also have sustainable solutions for packaging and food containers made of cardboard, such as cups or boxes. Until now, these have typically been coated with a thin layer of polyethylene, which provides a protective barrier to liquids. However, this plastic layer makes recycling difficult. With its Joncryl HPB 4K range, BASF has developed a dispersion system that provides an excellent liquid barrier. Unlike conventional solutions, it is water-based. This makes it possible to efficiently recycle coated cardboard.

Natural ingredients for industrial and consumer goods

Both industrial users and end consumers are increasingly interested in nature-based ingredients. We are addressing this trend with a growing portfolio of plant-based solutions. One example is Disponil® APG 215 for the wood processing industry. Used as an adjuvant in production, this surfactant increases the bond strength of medium-density fiberboard (MDF). This enables manufacturers to achieve a denser and smoother surface and with it, improved water-repellent properties compared with conventional manufacturing processes. Disponil® APG 215 also offers energy saving potential in the production process and is 100% based on natural, renewable plant-based raw materials.

Alongside the natural trend, sensory characteristics such as consistency and texture play an important role in skin and hair care. That is why we are researching and developing alternatives to synthetic ingredients and excipients for cosmetics and personal care products. One example is Hydagen® Clean. Launched on the market in 2021, the biopolymer is characterized by its ease of use and high quality. It can be processed in both cold and hot water and is biodegradable. It is extracted from the tuber of the konjac plant native to southwest China and is suitable for applications such as gels and fluids, as well as novel products such as patches and jelly cosmetics.

Reducing the environmental impacts of agriculture

The demand for food, feed and energy is increasing, while natural resources are limited. Agriculture is a key enabler in providing enough healthy, affordable food. Our innovative solutions help farmers find the right balance between productive and sustainable cultivation. One example is Revysol®. The new fungicidal active ingredient controls several economically important fungal diseases in several key crops globally. Its enhanced efficacy, improved selectivity and favorable regulatory profile allows farmers to maximize yield and to reduce the need to convert more natural habitat to farmland. Revysol®'s performance and its formulation innovation, which provides long-lasting protection under critical weather conditions, avoids the need for repeated fungicide applications. Revysol® helps to significantly reduce CO_2 emissions per ton of crop.

BASF tapped the Brazilian market with Pingo Doce™ watermelons, introducing not only high-quality seeds but also a new business model. BASF provides technical support to farmers and demonstrates best practices in efficient water management, fertilization and traceability to establish sustainable production. Regular quality controls are carried out to check the sweetness, color and size of the watermelons in order to reduce the amount of fruit rejected by supermarkets. This new approach delivers a product that benefits farmers, consumers and the environment alike.

Forecast

We expect the global economic recovery to continue in 2022. As a result, we anticipate global GDP growth of 3.8% (2021: +5.8%). Global growth should be supported by the gradual containment of the coronavirus pandemic. In the advanced economies in particular, demand will increasingly shift from goods to services. However, the bottlenecks in global supply chains will ease only slowly. As order backlogs in industry are high, we expect global industrial production to grow at an above-average rate of 3.8% and chemical production at 3.5%.

In this section:

Economic Environment 2022
Outlook 2022
Opportunities and Risks

Economic Environment in 2022[1]

At a glance

- Moderate GDP growth expected in Europe and the United States
- Strong growth assumed in Asia
- Moderate growth in global industrial production
- Fragile recovery in the automotive industry
- Slower but still above-average growth forecast for the chemical industry

For Europe and the United States, we expect a moderate weakening of growth momentum compared with the previous year. For China, however, – which made an earlier start to its economic recovery following the downturn in 2020 – we anticipate much slower but still solid growth. Growth in the other emerging markets in Asia will likely be slightly stronger than in the previous year.

However, uncertainty about future developments remains high. The further course of the coronavirus pandemic could impact demand more severely than expected. Supply difficulties in the global value chains could continue for longer than assumed in our outlook. High energy prices and higher inflation rates could dampen consumer purchasing power more strongly than expected in our forecast.

Trends in the global economy in 2022

Overall, we anticipate moderate GDP growth of 3.6% (2021: 5.2%) in the **European Union (E.U.)**. This will be driven in part by the economic upturn in the services sector and the gradual overcoming of supply difficulties that we anticipate for the industrial sector. Growth will also be supported by payments from the European Recovery and Resilience Facility. We expect the differences in growth rates between the E.U. member states to be less pronounced than in the previous year. The dynamic recovery in the western European countries that grew particularly strongly in 2021 (France, Italy) is expected to weaken somewhat, while Germany should see slightly stronger growth. In the eastern E.U. countries, we expect growth rates to converge at a similar level.

We expect the recovery to continue in the **United Kingdom**, although this is subject to considerable uncertainty. In particular, labor shortages in logistics and hospitality may slow further recovery. Overall, we anticipate GDP growth of 3.8% there (2021: 7.5%).

For the **United States**, we are forecasting growth of 3.8% (2021: 5.7%). Growth will be supported by government spending on infrastructure, social and climate programs. A continued revival of the labor market should partially compensate for the phasing out of extended unemployment benefits under the COVID relief package. Delays in the clearance of goods at U.S. ports should gradually become less relevant as growth in demand for goods slows and shifts toward the services sector. In addition, congestion at ports should gradually ease. Labor shortages will prevent a stronger upturn, which will dampen the recovery in the services sector in particular.

We expect growth in the **emerging markets of Asia** to slow overall. In **China**, the real estate sector will cool. In addition, the zero-tolerance policy toward the coronavirus pandemic will likely curb the recovery in private consumption. We also assume that selective measures to contain new coronavirus outbreaks will continue to negatively impact industrial value chains and logistics. Overall, we expect Chinese GDP to grow by 4.5% in 2022 (2021: 8.1%). Economic development in **India** remains uncertain given the still low vaccination rate. We expect growth there to be slightly lower than in the previous year (2022: 7.0%; 2021: 8.1%). This will be driven in particular by a recovery in private consumption. In this

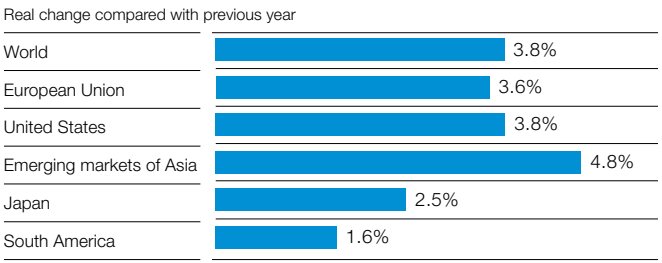
1 Our assumptions account for current estimates by external institutions, including economic research institutes, banks, multinational organizations and consulting firms.

environment, we expect slightly higher GDP growth of 4.6% (2021: 4.2%) for the other emerging Asian economies. This is anticipated due to positive base effects and a gradual recovery in tourism.

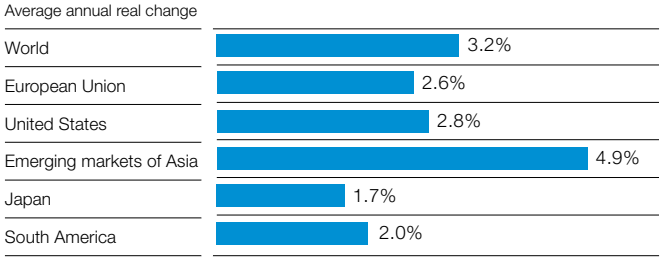
In **Japan**, we expect growth momentum to pick up only slightly in the coming year (+2.5%) after weak growth of just 1.7% in 2021. Growth will be supported by private consumption and investment, while the slowdown in China is expected to have a dampening effect on exports. Government stimulus measures could however accelerate growth more strongly than assumed in our forecast.

In **South America**, growth is expected to weaken significantly in 2022. High net exports of industrial and agricultural commodities will continue to support the Brazilian economy but will no longer provide strong growth impetus. Growth in domestic demand will be curbed by high inflation rates, increased debt and rising interest rates. Overall, we are forecasting growth of only 0.4% for **Brazil** in 2022 (2021: 4.7%). In **Argentina**, too, growth will slow significantly against the backdrop of continued very high inflation and increasing fiscal consolidation requirements (2022: 2.3%; 2021: 9.0%). For the other emerging markets in South America, we expect growth to be slightly higher compared with other countries, but likewise significantly weaker year on year (2022: 3.2%; 2021: 9.5%), as the positive base effects from the previous year also level off in these countries.

Outlook for gross domestic product 2022



Trends in gross domestic product 2022–2024



Outlook for key customer industries

Overall, we anticipate growth of 3.8% (2021: 6.5%) in global industrial production. Growth in the advanced economies (2022: 3.4%; 2021: 5.3%) is likely to be weaker than growth in the emerging markets (2022: 4.1%; 2021: 7.4%).

We are forecasting higher growth in the **transportation industry**[1] in 2022 compared with our other customer industries on average. Based on the current, exceptionally low level, we expect production in the automotive industry to return to strong growth. Overall, production volumes will however still remain well below pre-coronavirus pandemic levels. Growth should pick up again in Europe in particular, after automotive production declined by 26% overall in 2020 and 2021. North America also has a lot of ground to make up. Automotive production there fell by around one-fifth overall in the past two years, compared with around 7% in Asia. Accordingly, we anticipate the strongest catch-up effects in Europe, followed by North America and Asia. However, the supply of precursors, especially semiconductors, will remain a problem and will continue to limit growth.

In the **energy and raw materials** sector, we are forecasting slightly higher production growth than in 2021 due to strong demand and higher raw materials prices. We expect the OPEC+ countries to continue to gradually step up oil production. Oil and gas production in the United States should increase as well.

Growth in the **construction industry** is expected to weaken somewhat. More so than in 2021, commercial construction and infrastructure investment will be a stronger driver than new residential construction. Residential construction activity is expected to cool sharply, especially in China. However, the infrastructure program in the United States, projects under the European Recovery and Resilience Facility, further government programs to support the energetic renovation of existing buildings and still low interest rates will continue to support growth in the construction industry.

Consumer goods production is expected to grow slightly faster than global GDP. We expect growth in textiles and consumer durables to decline. Production of care products will presumably likewise grow at a slightly slower rate than in the previous year.

In the **electronics industry**, demand is likely to remain high and benefit from the ongoing trend toward digitalization and automation in many areas of application, both in industry and in private households. Nevertheless, we expect weaker growth compared with the exceptionally strong prior year.

In the **health and nutrition** sector, we are forecasting lower growth compared with 2021, as the exceptionally strong growth in the pharmaceutical industry is expected to level off. Growth in the food

1 The transportation industry includes the production of motor vehicles, motor vehicle parts and the construction of other vehicles (especially ships and boats, trains, air and spacecraft, and two-wheelers).

industry is also likely to return to its long-term growth path after the gradual reopening of the hospitality sector following the lockdowns in the previous year provided above-average growth in 2021.

Under normal weather conditions, growth in **agricultural production** in 2022 will presumably be similar to the long-term average. Production in industrialized countries will grow only weakly. By contrast, we anticipate solid production growth in emerging markets such as Argentina, China, India and Ukraine.

Outlook for the chemical industry

Global chemical production (excluding pharmaceuticals) is expected to grow by 3.5% in 2022, slower than in the previous year (2021: 6.1%) but still above the average for the years prior to the coronavirus pandemic. In the advanced economies, we anticipate growth of 3.1% (2021: 3.9%), which is above the average for the pre-crisis years. Growth in the emerging markets is expected to slow at a much stronger rate (2022: +3.7%; 2021: 7.2%). Based on these forecasts, global chemical production at the end of the year will be almost 10% above the 2019 level.

In **China**, the world's largest chemical market, we are forecasting much weaker growth in chemical production of 4.0% as base effects from the previous year level off (2021: 7.7%). Growth in demand for chemicals in the consumer goods industries and from the electronics industry is expected to weaken. We anticipate continued growth in demand from the Chinese automotive industry. In the other emerging markets of Asia, we expect chemical growth to be slightly weaker than in China.

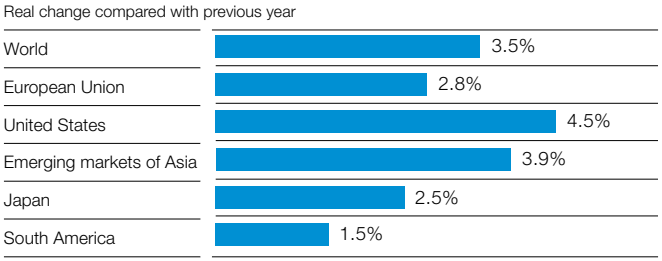
In the **E.U.**, we expect chemical production to increase by 2.8% (2021: 6.0%). We anticipate a significant recovery in the automotive industry, which will strengthen growth in demand for chemicals. For the other customer industries, we are forecasting growth slightly above the long-term average. However, momentum in chemical production already slowed over the course of 2021. As a result, the European chemical industry will presumably grow below the average for the manufacturing sector. We are assuming growth of 2.0% in the United Kingdom (2021: 2.5%).

For the **United States**, we are forecasting significantly stronger growth in chemical production (2022: 4.5%; 2021: 1.8%) following the weather-related production outages in the previous year. In addition to statistical base effects, we expect growing demand above all from the automotive industry, the energy sector and the consumer goods industry.

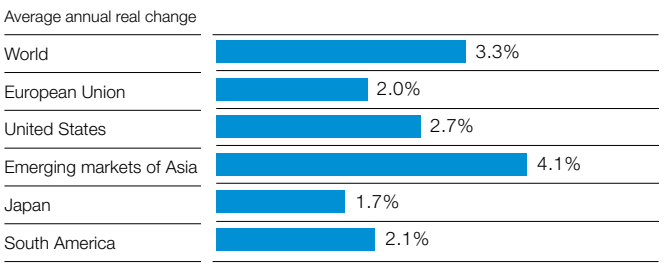
In **Japan**, we expect growth in chemical production to track the growth rate for GDP. The strongest growth stimulus will be provided by the electronics industry and the automotive sector (2022: 2.5%; 2021: 3.7%).

Chemical production in **South America** will presumably grow at around the same rate as the economy as a whole (2022: 1.5%; 2021: 4.6%). This will be primarily driven by the significant recovery in automotive production and continued moderate growth in demand from agriculture and the raw materials sector.

Outlook for chemical production 2022 (excluding pharmaceuticals)



Trends in chemical production 2022–2024 (excluding pharmaceuticals)



Outlook 2022

We expect global economic growth to be somewhat more moderate in 2022 following the very strong recovery in 2021. Global growth should be supported by the gradual containment of the coronavirus pandemic. Nevertheless, a full recovery of the market environment is still not yet expected in 2022 as uncertainty remains exceptionally high.

At a glance

- Forecast sales of between €74 billion and €77 billion
- Expected EBIT before special items of between €6.6 billion and €7.2 billion
- Projected ROCE of between 11.4% and 12.6%
- Capex of around €4.6 billion planned for 2022

Our forecast assumes moderate growth in the majority of our customer industries, while the automotive industry is expected to see a stronger recovery. Our forecast range takes into account uncertainty resulting in particular from the effects of ongoing supply chain disruptions, the further course of the coronavirus pandemic and the development of energy prices. The global economy is expected to grow by 3.8% in 2022 (2021: 5.8%). As order backlogs in industry are high, we expect global industrial production to grow by 3.8% (2021: 6.5%) and chemical production by 3.5% (2021: 6.1%). We anticipate an average oil price of $75 for a barrel of Brent crude and an exchange rate of $1.15 per euro.

Based on these assumptions, we are forecasting sales of between €74 billion and €77 billion (2021: €78.6 billion). The BASF Group's income from operations (EBIT) before special items is expected to be between €6.6 billion and €7.2 billion (2021: €7.8 billion). ROCE should be between 11.4% and 12.6% (2021: 13.5%).

Our CO_2 emissions are expected to be between 19.6 million metric tons and 20.6 million metric tons in 2022 (2021: 20.2 million metric tons). No forecast has been made for the previous Accelerator sales target as we plan to update our portfolio steering target in 2022.

For more information on our expectations for the economic environment in 2022, see page 145 onward
For more information on our opportunities and risks, see page 151 onward

Sales, earnings and ROCE forecast for the BASF Group[1]

The BASF Group is expected to generate sales of between €74 billion and €77 billion in 2022. Contributing factors will include the volume growth expected in all segments and slightly positive portfolio effects from the formation of BASF Shanshan Battery Materials Co., Ltd. We anticipate lower price levels, mainly from lower commodity and precious metal prices, which will lead to a significant decrease in sales in the Surface Technologies and Chemicals segments. We expect slightly lower sales in the Industrial Solutions segment due to negative portfolio effects from the sale of the pigments and kaolin businesses. By contrast, we are forecasting considerable sales growth in the Agricultural Solutions and Nutrition & Care segments following significant price increases. We expect slightly higher sales in the Materials segment and in Other.

The BASF Group's EBIT before special items is expected to decline to between €6.6 billion and €7.2 billion. We anticipate significantly lower contributions from the Chemicals and Materials segments and from Other. We are forecasting slightly lower EBIT before special items in the Industrial Solutions and Surface Technologies segments. The Agricultural Solutions and Nutrition & Care segments plan to considerably increase EBIT before special items.

Based on the forecast for global economic development and expected business development in the BASF Group in 2022, we expect a ROCE of between 11.4% and 12.6%. Compared with the previous year, we anticipate a considerable decrease in ROCE in the Chemicals, Materials and Surface Technologies segments. The Agricultural Solutions and Nutrition & Care segments are expected to considerably increase ROCE, while the Industrial Solutions segment will see a slight increase.

CO_2 emissions forecast for the BASF Group

CO_2 emissions are expected to be between 19.6 million metric tons and 20.6 million metric tons in 2022. We will take specific emission reduction measures to limit the additional emissions from moderate growth and the expected higher capacity utilization of the ammonia plants following low capacity utilization in 2021. These include measures to increase energy efficiency and process optimization, as well as the continued shift to renewable energy. In addition, the reductions in emissions from divestitures, including the agreed sale of the kaolin business, will slightly more than compensate for the additional emissions from the formation of BASF Shanshan Battery Materials Co., Ltd. in 2022.

1 For sales, "slight" represents a change of 0.1%–5.0%, while "considerable" applies to changes of 5.1% and higher. "At prior-year level" indicates no change (+/–0.0%). For earnings, "slight" means a change of 0.1%–10.0%, while "considerable" is used for changes of 10.1% and higher. "At prior-year level" indicates no change (+/–0.0%). At a cost of capital percentage of 9% for 2022, we define a change in ROCE of 0.1 to 1.0 percentage points as "slight," a change of more than 1.0 percentage points as "considerable" and no change (+/–0.0 percentage points) as "at prior-year level."

Forecast by segment[a]

Million €

	Sales		EBIT before special items		ROCE	
	2021	Forecast 2022	2021	Forecast 2022	2021	Forecast 2022
Chemicals	13,579	↓	2,974	↓	32.9%	↓
Materials	15,214	↗	2,418	↓	22.8%	↓
Industrial Solutions	8,876	↘	1,006	↘	15.2%	↗
Surface Technologies	22,659	↓	800	↘	5.6%	↓
Nutrition & Care	6,442	↑	497	↑	8.2%	↑
Agricultural Solutions	8,162	↑	715	↑	4.5%	↑
Other	3,666	↗	–643	↓	–	–
BASF Group	**78,598**	**€74 billion–€77 billion**	**7,768**	**€6.6 billion–€7.2 billion**	**13.5%**	**11.4%–12.6%**

→ At prior-year level: no change (+/–0.0%)
↗|↘ Slight increase/decrease: "slight" represents a change of 0.1%–5.0% for sales; 0.1%–10.0% for earnings; 0.1 to 1.0 percentage points for ROCE
↑|↓ Considerable increase/decrease: "considerable" represents a change of 5.1% or higher for sales; 10.1% or higher for earnings; more than 1.0 percentage points for ROCE.

a For sales, "slight" represents a change of 0.1%–5.0%, while "considerable" applies to changes of 5.1% and higher. "At prior-year level" indicates no change (+/–0.0%). For earnings, "slight" means a change of 0.1%–10.0%, while "considerable" is used for changes of 10.1% and higher. "At prior-year level" indicates no change (+/–0.0%). At a cost of capital percentage of 9% for 2022, we define a change in ROCE of 0.1 to 1.0 percentage points as "slight," a change of more than 1.0 percentage points as "considerable" and no change (+/–0.0 percentage points) as "at prior-year level."

The material opportunities and risks that could affect our forecast are described under Opportunities and Risks on pages 151 to 160.

Sales and earnings forecast for the segments

For the **Chemicals** segment in 2022, we expect sales to decline considerably following very high prices in 2021 due to supply shortages in the market. The decrease in 2022 will be driven by considerably lower sales in the Petrochemicals division. We expect a normalization of the market situation, particularly in the United States, following the supply disruption caused by Winter Storm Uri in January 2021. In the Intermediates division, we anticipate higher sales volumes driven mainly by amines and polyalcohols. Prices in the segment are expected to decline to a lower level while higher raw materials prices will put pressure on margins. For both divisions, we therefore anticipate a considerable decline in EBIT before special items.

For the **Materials** segment, we are forecasting slight sales growth in 2022. Despite the strong recovery in 2021, this will be largely attributable to further volume growth in both divisions. Increased inflationary pressures will be offset by efficiency gains. We anticipate lower prices due to a normalization of the market environment. EBIT before special items in the Monomers division is expected to decrease considerably after strong margins in 2021 as a result of lower price levels and higher raw materials prices. In the Performance Materials division, by contrast, we anticipate a considerable increase in EBIT before special items due to the positive development of sales volumes. However, this will only be able to partly compensate for the decline in the Monomers division.

We expect sales in the **Industrial Solutions** segment to be slightly below the prior-year level. Higher volumes and continuing high price levels in both operating divisions will presumably not be able to completely offset the negative portfolio effects from the divestiture of the global pigments business as of June 30, 2021. We are forecasting a slight decline in the segment's EBIT before special items compared with 2021. This will primarily result from the decrease in the Dispersions & Resins division, largely due to the divestiture of the pigments business. The Performance Chemicals division will likely see significant growth in EBIT before special items mainly as a result of higher sales volumes and stronger margins. However, this will not be able to fully compensate for lower earnings in the Dispersions & Resins division.

In the **Surface Technologies** segment, we are forecasting considerably lower sales in 2022, primarily as a result of lower precious metal prices in the Catalysts division. This will be partly offset by higher volumes in both divisions. The segment's EBIT before special items is expected to decline slightly. We anticipate considerably higher EBIT before special items in the Coatings division but a considerable year-on-year decrease in EBIT before special items in the Catalysts division due to lower contributions from precious metal trading.

For the **Nutrition & Care** segment, we expect considerable sales growth compared with 2021. We anticipate higher volumes in both divisions and higher price levels overall, primarily due to the passing on of higher raw materials prices and logistics and energy costs. This will be partly offset by portfolio effects from the sale of the production site in Kankakee, Illinois. The segment's EBIT before special items should be significantly above the prior-year level. We expect significantly higher earnings contributions from both divisions, mainly due to higher margins on the back of strong volume growth.

We are forecasting considerable sales growth in the **Agricultural Solutions** segment. We will raise our sales prices and volumes in a continued challenging market environment, characterized by supply bottlenecks and high energy and raw materials prices. Based on the positive development of sales, we anticipate a strong improvement in EBIT before special items. In 2022, we will continue to invest in research and development and digitalization at a high level.

Sales in **Other** are expected to be slightly above the 2021 level in 2022. This will be mainly attributable to sales growth in commodity

trading. Despite lower corporate research expenses, we anticipate considerably lower EBIT before special items for 2022 compared with the previous year.

Capital expenditures (capex)

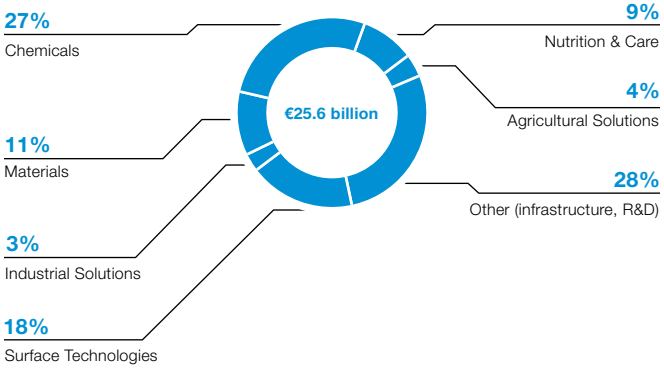
We are planning capital expenditures (additions to property, plant and equipment excluding acquisitions, IT investments, restoration obligations and right-of-use assets arising from leases) of around €4.6 billion for the BASF Group in 2022. For the period from 2022 to 2026, we have planned capital expenditures totaling €25.6 billion, including €12.9 billion for our major growth projects. The investment volume in the next five years will thus be above that of the planning period 2021 to 2025 (€22.9 billion). Focus areas will be our investment project in Zhanjiang, China, to expand our businesses in Asia, as well as investments in battery materials.

Projects currently being planned or underway include:

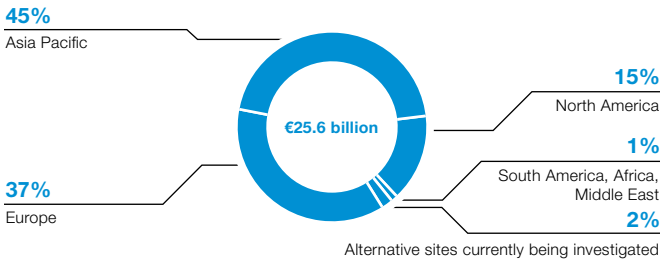
Capex: selected projects

Location	Project
Antwerp, Belgium	Capacity expansion: integrated ethylene oxide complex Gradual capacity expansion: alkoxylates
Chalampé, France	Construction: production plant for hexamethylenediamine
Geismar, Louisiana	Capacity expansion: MDI plant
Harjavalta, Finland, and Schwarzheide, Germany	Investment: battery materials
Zhanjiang, China	Planned construction: integrated Verbund site

Capex by segment 2022–2026



Capex by region 2022–2026



Dividend

We have an ambitious dividend policy and offer our shareholders an attractive dividend yield. We aim to increase our per-share dividend each year.

Information on the proposed dividend can be found on page 13

Financing

In 2022, we expect cash outflows in the equivalent amount of around €2.0 billion from the scheduled repayment of bonds. To refinance maturing bonds and to optimize our maturity profile, we continue to have medium to long-term corporate bonds and our global commercial paper program at our disposal.

Information on our financing policies can be found on page 64

Events after the reporting period

On January 4, 2022, the Board of Executive Directors resolved on a share buyback program with a volume of up to €3 billion, which shall be concluded by December 31, 2023, at the latest.[1] The share buyback program started on January 11, 2022.

1 Subject to a renewed authorization to purchase own shares by the Annual Shareholders' Meeting on April 29, 2022.

Opportunities and Risks

GRI 102, 201

The goal of BASF's risk management is to identify and evaluate opportunities and risks as early as possible and to take appropriate measures in order to seize opportunities and limit risks. The aim is to avoid risks that pose a threat to BASF's continued existence and to make improved managerial decisions to create value. We define opportunities as potential successes that exceed our defined goals. We understand risk to be any event that can negatively impact the achievement of our short-term operational or long-term strategic goals.

At a glance

- Integrated process for opportunity and risk identification, assessment and reporting
- Decentralized management of specific opportunities and risks: aggregate reporting at Group level
- Material opportunities and risks for 2022 arise from overall economic developments and margin volatility

In order to effectively measure and manage identified opportunities and risks, we quantify these where appropriate in terms of probability and economic impact in the event they occur. Where possible, we use statistical methods to aggregate opportunities and risks into risk factors. In addition, we use a qualitative evaluation scale for opportunities and risks if quantification is not possible. This enables us to not only evaluate economic impact but sustainability-related aspects as well. In this way, we achieve an overall view of opportunities and risks allowing us to aggregate risks at Group level and take effective risk management measures.

Overall assessment

For 2022, we expect the overall economic recovery to continue and the coronavirus pandemic to weaken as the population becomes increasingly immunized. General economic uncertainty will nevertheless remain high. The course of the pandemic is difficult to predict; in particular, mutations of the coronavirus may lead to further waves of infection. This can result in production stoppages and supply chain disruptions in our customer industries, with our suppliers and in our own production plants. Moreover, restricted economic activity resulting from further lockdowns can have a significant negative impact on aggregate demand. In addition, an ongoing low supply of energy and raw materials and the resulting high prices could cause inflation rates to rise further. This could dampen the production of energy-intensive products and consumer demand beyond our assumed level of slowed growth.

An escalation of geopolitical conflicts as well as the ongoing trade conflicts between the United States and China and the associated slowdown of the economy also pose significant risks.

Opportunities will arise from stronger demand growth, in particular from a greater reduction in pandemic-related risks than assumed by our forecasts. Rapidly increasing global vaccination rates and the approval of effective antiviral drugs against COVID-19 could be contributing factors.

In addition to the uncertainties surrounding market growth and the development of key customer industries, material opportunities and risks for our earnings arise from margin volatility.

According to our assessment, there continue to be no significant individual risks that pose a threat to the continued existence of the BASF Group. The same applies to the sum of individual risks, even in the case of a global economic crisis like the coronavirus crisis.

Ultimately, however, residual risks (net risks) remain in all entrepreneurial activities that cannot be ruled out, even by comprehensive risk management.

As a non-integral shareholding, income from Wintershall Dea is reported in net income from shareholdings. The opportunities and risks resulting from the shareholding in Wintershall Dea are therefore not included in the outlook for the EBIT of the BASF Group. Opportunities and risks that have an impact on net income from shareholdings and cash flow from the shares in Wintershall Dea are monitored and tracked through BASF's involvement in the relevant governing bodies.

Potential short-term effects on EBIT of key opportunity and risk factors subsequent to measures taken[a]

Possible variations related to:	Outlook – 2022 +	
Business environment and sector		
Market growth	□■■■■■	■■■□□□
Margins	■■■■■■	■■■■■□
Competition	□□□□□■	■□□□□□
Regulation/policy	□□□□■■	■□□□□□
Company-specific opportunities and risks		
Procurement	□□□□■■	■□□□□□
Supply chain	□□□□■■	□□□□□□
Investments/production	□□□■■■	□□□□□□
Personnel	□□□□□■	□□□□□□
Acquisitions/divestitures/cooperations	□□□□□□	■□□□□□
Information technology	□□□□□■	□□□□□□
Compliance/legal	□□□□□■	■□□□□□
Tax	□□□□□■	□□□□□□
Financial		
Exchange rate volatility	□□□□■■	■■□□□□
Other financial opportunities and risks	□□□□■■	■□□□□□

□□□□□■ < €100 million
□□□□■■ ≥ €100 million < €500 million
□□□■■■ ≥ €500 million < €1,000 million
□□■■■■ ≥ €1,000 million < €1,500 million
□■■■■■ ≥ €1,500 million < €2,000 million
■■■■■■ ≥ €2,000 million

a Using a 95% confidence interval per risk factor based on planned values; summation is not permissible

Risk management process

The BASF Group's risk management process is based on the international risk management standard, COSO II Enterprise Risk Management – Integrated Framework, and has the following key features:

Organization and responsibilities

- Risk management is the responsibility of the Board of Executive Directors, which also determines the processes for approving investments, acquisitions and divestitures.
- The Board of Executive Directors is supported by the Corporate Center. Corporate Finance and Corporate Development, which are units within the Corporate Center, and the Chief Compliance Officer coordinate the risk management process at a Group level, examine financial and sustainability-related opportunities and risks, and provide the structure and appropriate methodology. Opportunity and risk management is thus integrated into the strategy, planning and budgeting processes.
- BASF's risk committee reviews the BASF Group's risk portfolio at least twice a year to evaluate any adjustments to risk-management measures and informs the Board of Executive Directors of these. Members of the risk committee are the president of Corporate Finance, the president of Corporate Development, the president of Corporate Legal, Compliance & Insurance and the heads of the Corporate Audit, Corporate Environmental Protection, Health & Safety, Corporate Treasury, and Group Reporting & Performance Management units.
- The management of specific opportunities and risks is largely delegated to the divisions, the service and research units and the regions, and is steered at a regional or local level. This also applies to sustainability-related topics relevant to BASF including the impact of climate change on BASF. A network of risk managers in the divisions, service and research units as well as in the regions advances the implementation of appropriate risk management practices in daily operations. Financial risks are an exception. The management of liquidity, currency and interest rate risks is conducted in the Corporate Finance department. The management of commodity price risks takes place in the Global Procurement unit or in authorized Group companies.
- The BASF Group's management is informed of short-term operational opportunities and risks that fall within an observation period of up to one year in the monthly management report produced by Corporate Finance. In addition, Corporate Finance provides information twice a year on the aggregated opportunity/risk exposure of the BASF Group. Furthermore, any arising individual risks which have an impact of more than €10 million on earnings or risks qualitatively evaluated to have a material impact, for example, reputational risks, must be reported immediately.
- As part of strategy development, the Corporate Development unit additionally conducts strategic opportunity/risk analyses with a 10-year assessment period. These analyses are annually reviewed as part of strategic controlling and are adapted if necessary. Scenarios were also developed to map possible developments beyond the ten-year horizon.
- BASF's Chief Compliance Officer (CCO) manages the implementation of our Compliance Management System, supported by additional compliance officers worldwide. The CCO regularly reports to the Board of Executive Directors on the status of implementation as well as on any significant results and provides a status report to the Supervisory Board's Audit Committee at least once a year, including any major developments. The Board of Executive Directors immediately informs the Audit Committee about significant incidents.
- The internal audit unit (Corporate Audit) is responsible for regularly auditing the risk management system established by the Board of Executive Directors in accordance with section 91(2) of the German Stock Corporation Act. Furthermore, as part of its monitoring of the Board of Executive Directors, the Supervisory Board considers the effectiveness of the risk management system. The suitability of the early detection system we set up for risks is evaluated by our external auditor.

Tools

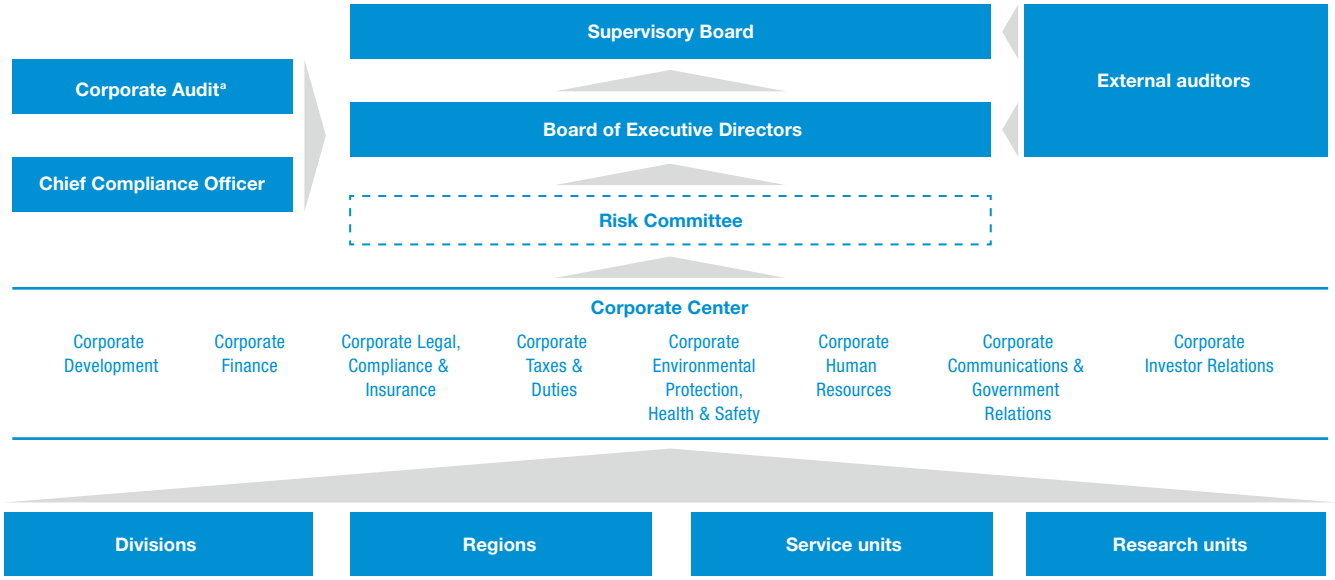
- The Governance, Risk Management, Compliance (GRC) Policy, applicable throughout the Group, forms the framework for risk management and is implemented by the operating divisions, the service and research units and the regions according to their specific business conditions.
- A catalog of opportunity and risk categories helps to identify all relevant financial and sustainability-related opportunities and risks as comprehensively as possible. We also systematically assess opportunities and risks with effects that cannot yet be measured in monetary terms, such as reputational and climate risks. To reflect these, risks for companies in connection with the transition to a low-carbon economy (transition risks) as well as physical risks as defined by the Task Force on Climate-related Financial Disclosures (TCFD), among others, were added to the catalog.
- Because global climate policy ambitions and the implementation of the relevant measures play a decisive role in the ongoing growth of the chemical industry and its customer industries, global long-term scenarios (up to 2050) with various global warming paths were defined. To assess the impact of different global climate policy approaches on our business units, the scenarios were discussed by the business units in workshops. Their feedback will be incorporated into the further development of scenario assumptions and outcomes. A dataset of scenario-specific macroeconomic parameters will be provided to test the economic feasibility of investments and business strategies.

For more information on our sustainability management processes, see page 45 onward

- We use standardized evaluation and reporting tools for the identification and assessment of risks. The aggregation of opportunities, risks and sensitivities at division and Group level using a Monte Carlo simulation helps us to identify effects and trends across the Group. We also aggregate qualitatively assessed risks at Group level using a risk portfolio.
- Our Group-wide Compliance Program aims to ensure adherence to legal regulations and the company's internal guidelines. Our global employee Code of Conduct firmly embeds these mandatory standards into everyday business. Members of the Board of Executive Directors are also expressly obligated to follow these principles.

For more information on our Group-wide Compliance Program, see page 171 onward

Organization of BASF Group's risk management



a The Corporate Audit unit is part of the Corporate Center.

Significant features of the internal control and risk management system with regard to the Group financial reporting process

The Consolidated Financial Statements are prepared by a unit in the Corporate Finance department. The Consolidated Financial Statements are derived from the separate financial statements of the subsidiaries and joint operations, taking into account the relevant data for the joint ventures and associated companies accounted for using the equity method. The BASF Group's accounting process is based on a uniform accounting guideline that, alongside accounting policies based on the International Financial Reporting Standards applicable in the European Union, defines the significant processes and deadlines for the Group. There are binding directives for the internal reconciliations and other accounting operations within the Group. Standard software is used to carry out the accounting processes for the preparation of the individual financial statements as well as for the Consolidated Financial Statements. There are clear rules for the access rights of each participant in these processes.

Employees involved in the accounting and reporting process meet the qualitative requirements and participate in training on a regular basis. There is a clear assignment of responsibilities between the specialist units, companies and service units involved. We strictly adhere to the principles of segregation of duties and dual control, or the "four-eyes principle." Complex actuarial reports and evaluations are produced by specialized service providers or specially qualified employees.

An internal control system for financial reporting continuously monitors these principles. To this end, methods are provided to ensure that evaluation of the internal control system in financial reporting is structured and uniform across the BASF Group. They also work in accordance with the international risk management standard, COSO II Enterprise Risk Management – Integrated Framework.

Material risks for the BASF Group regarding a reliable control environment for proper financial reporting are reviewed and updated on an annual basis. Risks are compiled into a central risk catalog.

Moreover, a centralized selection process identifies companies that are exposed to particular risks, that are material to the Consolidated Financial Statements of the BASF Group, or that provide service processes. The selection process is conducted annually. Persons responsible for implementing the requirements for an effective control system in financial reporting are appointed at the relevant companies.

The process for identifying, evaluating, managing and controlling risks related to preparing the Consolidated Financial Statements as well as monitoring these processes in the selected companies comprises the following steps:

- **Evaluation of the control environment**
  Adherence to internal and external guidelines that are relevant to the maintenance of a reliable control environment is checked by means of a standardized questionnaire.
- **Identification and documentation of control activities**
  In order to mitigate the risks to the financial reporting processes listed in our central risk catalog, critical processes and control activities are documented.
- **Assessment of control activities**
  After documentation, a review is performed to verify whether the described controls are capable of adequately covering the risks. In the subsequent test phase, spot checks are carried out to test whether, in practice, the controls were executed as described and effective.
- **Monitoring of control weaknesses**
  The responsible managers receive reports on any control weaknesses identified and their resolution; and an interdisciplinary committee investigates their relevance to the BASF Group. The Board of Executive Directors and the Audit Committee are informed if control weaknesses with a considerable impact on financial reporting are identified. Only after material control weaknesses have been resolved does the company's managing director confirm the effectiveness of the internal control system.
- **Internal confirmation of the internal control system**
  All managing directors and chief financial officers of each consolidated Group company must confirm to the Board of Executive Directors of BASF SE every half-year and at the end of the annual cycle, in writing, that the internal control system is effective with regard to accounting and reporting.

Operational opportunities and risks

Market growth

The development of our sales markets is one of the strongest sources of opportunities and risks. For more details on our assumptions regarding short-term growth rates for the global economy, regions and key customer industries, such as the chemicals, automotive and construction sectors, see Economic Environment in 2022 on pages 145 to 147.

We also consider opportunities and risks caused by deviations in assumptions. Stronger demand resulting from faster eradication of the coronavirus pandemic, for example through sustained efficacy and growing acceptance of coronavirus vaccines and drugs, will give rise to macroeconomic opportunities. A significant macroeconomic risk arises from the possibility that measures to contain the coronavirus are kept in place for a longer period of time or augmented, and, as a result, negatively affect global supply chains and slow global economic growth. Further increases in energy prices, caused, for example by an escalation of the conflict between Russia and Ukraine, and the resulting higher inflation rates for manufacturer and consumer prices also pose a risk to the economy. Additional macroeconomic risks result from the escalation of other geopolitical conflicts and a renewed intensification of the trade conflict between the United States and China. Both can have a considerable impact on global demand for intermediate goods for industrial production and demand for investment goods.

Weather-related influences can result in positive or negative effects on our business, particularly in the Agricultural Solutions segment.

Margins

Opportunities and risks for the BASF Group primarily result from higher or lower margins in the Chemicals and Materials segments. Opportunities arise here if the positive margin trend continues for longer than expected. However, further increases in energy and raw materials prices in particular, new capacities and raw materials shortages could increase margin pressure on a number of products and value chains. This would have a negative effect on our EBIT.

Moreover, if oil and gas prices rise, Wintershall Dea does not have a compensating effect on the BASF Group's EBIT because this shareholding is no longer reported in EBIT, but in net income from shareholdings.

The year's average oil price for Brent crude was $71 per barrel in 2021, compared with $42 per barrel in the previous year. For 2022, we anticipate an average oil price of $75 per barrel. We therefore expect price levels for the raw materials and petrochemical basic products that are important to our business to rise.

Competition

We continuously enhance our products and solutions in order to maintain competitive ability. We monitor the market and the competition, and try to take targeted advantage of opportunities and counter emerging risks with suitable measures. Aside from innovation, key components of our competitiveness are our ongoing cost management and continuous process optimization.

Regulation/policy
Risks for us can arise from intensified geopolitical tensions, new trade sanctions, stricter emissions limits for plants, and energy and climate laws. In addition, changes in chemical regulations can affect both the BASF Group's product portfolio and that of our customers, for example, on the use or registration of agrochemicals.

Political measures could also give rise to opportunities. For example, we view measures around the world to increase energy efficiency and reduce greenhouse gas emissions as an opportunity for increased demand for our products, such as our insulation foams for buildings, catalysts, battery materials for electromobility, or our solutions for wind turbines. Our broad product portfolio enables us to, in some cases, offer alternatives if new chemicals have to be developed as a result of restrictions in connection with the REACH chemicals regulation or new standards in our customers' industries.

Procurement and supply chain
We minimize procurement risks through our broad portfolio, global purchasing activities and the purchase of raw materials on spot markets. If possible, we avoid procuring raw materials from a single supplier. When this cannot be avoided, we try to foster competition or we knowingly enter into this relationship and assess the consequences of potential nondelivery. We continuously monitor the credit risk of important business partners.

Around the world, the frequency and intensity of extreme weather conditions (such as high/low water levels on rivers, heat/cold waves and hurricanes) are increasing as a result of climate change. We address the risk of supply interruptions on the procurement and sales side caused by extreme weather conditions by switching to alternative logistics carriers and the possibility of falling back on unaffected sites within our global Verbund.

We implemented a package of climate resilience measures for our Verbund site in Ludwigshafen, Germany, to address low water levels on the Rhine River: We developed an early warning system for low water, created multimodal transportation concepts, chartered more ships that can navigate low water levels and, in cooperation with partners, developed a special type of ship designed for extreme low-water situations. These measures are already making longer periods of low water on the Rhine River more manageable.

Investments and production
We try to prevent unscheduled plant shutdowns by adhering to high technical standards and by continuously improving our plants. We reduce the effects of an unscheduled shutdown on the supply of intermediate and end products through diversification within our global production Verbund.

In the event of a production outage – caused by an accident, for example – our global, regional or local emergency response plans and crisis management structures are engaged, depending on the impact scope. Every region has crisis management teams on a local and regional level. They not only coordinate the necessary emergency response measures, they also initiate immediate measures for damage control and resumption of normal operations as quickly as possible.

Crisis management also includes dealing with extreme weather conditions such as hurricanes (for example, at the sites on the Gulf of Mexico in Freeport, Texas, and Geismar, Louisiana) or significantly elevated water temperatures in rivers due to extended heat waves, which limit the available cooling capacity (for example, at the Ludwigshafen site in Germany). Appropriate precautions are taken at the sites in the case of a potential change in risk in connection with climate change. For example, over the past few years, the Verbund site in Ludwigshafen, Germany, has implemented several measures to increase cooling capacity, including expanding and optimizing the central recooling plants and optimizing cooling water flows. These are capable of preventing production outages due to extreme heatwaves.

Short-term risks from investments can result from, for example, technical malfunctions or schedule and budget overruns. We counter these risks with highly experienced project management and controlling.

Acquisitions, divestitures and cooperations
We constantly monitor the market in order to identify possible acquisition targets and develop our portfolio appropriately. In addition, we collaborate with customers and partners to jointly develop new, competitive products and applications.

Opportunities and risks arise in connection with acquisitions and divestitures from the conclusion of a transaction, or it being completed earlier or later than expected. They relate to the regular earnings contributions gained or lost as well as the realization of gains or losses from divestitures if these deviate from our planning assumptions.

For more information on opportunities and risks from agreed transactions, see page 41

Personnel
Due to BASF's worldwide compensation principles, the development of personnel expenses is partly dependent on the amount of variable compensation, which is linked to the company's success, among other factors. The correlation between variable compensation and the success of the company has the effect of minimizing risk. Another factor is the development of interest rates for discounting pension obligations. Furthermore, changes to the legal environment of a particular country can have an impact on the development of personnel expenses for the BASF Group. For countries in which BASF is active, relevant developments are therefore constantly monitored in order to recognize risks at an early stage and enable BASF to carry out suitable measures.

For more information on our compensation system, see page 102
For more information on risks from pension obligations, see page 157

Information technology risks
BASF employs on a large number of IT systems. We use technologies such as big data and the Internet of Things to develop new business models, corporate concepts and strategies and to respond appropriately to changing customer behavior. IT system downtime, confidentiality breaches and the manipulation of data stored in critical IT systems and applications can all have a direct impact on production and logistics processes. The threat environment has changed in recent years, as attackers have become better

organized, use more sophisticated technology, and have far more resources available. If data are lost or manipulated, this can, for example, negatively affect plant availability, delivery quality or the accuracy of our financial reporting. Unauthorized access to sensitive data, such as personnel records or customer data, competition-related information or research results, can result in legal consequences or jeopardize our competitive position. This would also be accompanied by the associated loss of reputation.

To minimize such risks, BASF uses globally uniform processes and systems to ensure IT availability and IT security. These include stable and redundantly designed IT systems, backup processes, virus and access protection, encryption systems as well as integrated, Group-wide standardized IT infrastructure and applications. The systems used for information security are constantly tested, continuously updated, and expanded if necessary. In addition, our employees receive regular training on information and data protection. IT-related risk management is conducted using Group-wide regulations for organization and application, as well as an internal control system based on these regulations.

The Cyber Defense Center was established in 2015 and is continuously being expanded in line with the growth in current requirements. BASF is also a member of Cyber Security Sharing and Analytics e.V. (CSSA) and a founding member of the German Cybersecurity Organization (DCSO) together with Allianz SE, Bayer AG and Volkswagen AG. BASF has also established an information security management system and is internationally certified according to IDIN EN ISO/IEC 27001:2017.

Legal disputes and proceedings

We constantly monitor current and potential legal disputes and proceedings, and regularly report on these to the Board of Executive Directors and Supervisory Board. In order to assess the risks from current legal disputes and proceedings and any potential need to recognize provisions, we prepare our own analyses and assessments of the circumstances and claims considered. In addition, in individual cases, we consider the results of comparable proceedings and, if needed, independent legal opinions. Risk assessment is particularly based on estimates as to the probability of occurrence and the range of possible claims. These estimates are the result of close cooperation between the relevant operating and service units together with Corporate Finance and Corporate Legal. If sufficient probability of occurrence is identified, a provision is recognized accordingly for each proceeding. Should a provision be unnecessary, general risk management continues to assess whether these litigations nevertheless represent a risk for the BASF Group's EBIT.

We use our internal control system to limit risks from potential infringements of rights or laws. For example, we try to avoid patent and licensing disputes whenever possible through extensive clearance research. As part of our Group-wide Compliance Program, our employees receive regular training.

Tax

The recognized tax-related opportunities and risks only concern taxes that impact the BASF Group's EBIT in the short term. These arise when BASF has taken a position that differs from the opinion of a competent administrative authority. If a tax payment has already been made and could be reclaimed, this is presented as an opportunity. If, on the other hand, a potential payment is outstanding in accordance with the administrative opinion, this is a risk. We primarily evaluate opportunities and risks with regard to their probability of occurrence and, if necessary, set up a provision for the relevant risk. If a provision is not necessary, this is taken into account in determining EBIT-relevant risks of the BASF Group.

Financial opportunities and risks

Detailed guidelines and procedures exist for dealing with financial risks. Among other things, they provide for the segregation of financial instrument trading and back office functions.

As a part of risk management, activities in countries with transfer restrictions are continuously monitored. This includes, for example, regular analysis of the macroeconomic and legal environment, shareholders' equity and the business models of the operating units. The chief aim is the management of counterparty, transfer and currency risks for the BASF Group.

Exchange rate volatility

Our competitiveness on global markets is influenced by fluctuations in exchange rates. For BASF's sales, opportunities and risks arise in particular when the U.S. dollar exchange rate fluctuates. A full-year appreciation of the U.S. dollar against the euro by $0.01, which could result from a macroeconomic slowdown, would increase the BASF Group's EBIT by around €30 million, assuming other conditions remain the same. On the production side, we counter exchange rate risks by producing in the respective currency zones.

Financial currency risks result from the translation of receivables, liabilities and other monetary items in accordance with IAS 21 at the closing rate into the functional currency of the respective Group company. In addition, we incorporate planned purchase and sales transactions in foreign currencies into our financial foreign currency risk management. These risks are hedged using derivative instruments, if necessary.

Interest rate risks

Interest rate risks result from potential changes in prevailing market interest rates. These can cause a change in the fair value of fixed-rate instruments and fluctuations in the interest payments for variable-rate financial instruments, which would positively or negatively affect earnings. To hedge these risks, interest rate swaps and combined interest rate and currency derivatives are used in individual cases.

In addition to market interest rates, BASF's financing costs are determined by the credit risk premiums to be paid. These are mainly influenced by our credit rating and the market conditions at the time of issue. In the short to medium term, BASF is largely protected from the possible effects on its interest result thanks to the balanced maturity profile of its financial indebtedness.

Risks from metal and raw materials trading

In the catalysts business, BASF employs commodity derivatives for precious metals and trades precious metals on behalf of third parties and on its own account. Appropriate commodity derivatives are also traded to optimize BASF's supply of refinery products, gas and other petrochemical raw materials. To address specific risks associated with these non-operating trades, we set and continuously monitor limits with regard to the type and volume of the deals concluded.

Liquidity risks

Risks from fluctuating cash flows are recognized in a timely manner as part of our liquidity planning. We have access to extensive liquidity at any time thanks to our good ratings, our unrestricted access to the commercial paper market and committed bank credit lines. In the short to medium term, BASF is largely protected against potential refinancing risks by the balanced maturity profile of its financial indebtedness as well as through diversification in various financial markets.

Risk of asset losses

We limit country-specific risks with measures based on internally determined country ratings, which are continuously updated to reflect changing environment conditions. We selectively use investment guarantees to limit specific country-related risks. We lower credit risks for our financial investments by engaging in transactions only with banks with good credit ratings and by adhering to fixed limits. Creditworthiness is continuously monitored and the limits are adjusted accordingly. We reduce the risk of default on receivables by continuously monitoring the creditworthiness and payment behavior of our customers and by setting appropriate credit limits. Risks are also limited through the use of credit insurance and individual hedging strategies, such as guarantees. Due to the global activities and diversified customer structure of the BASF Group, there are no major concentrations of credit default risk.

Impairment risks

Asset impairment risk arises if the assumed interest rate in an impairment test increases, the predicted cash flows decline, or investment projects are suspended. Following the impairments recognized in the third quarter of 2020, we currently consider the risk of further impairment for assets such as property, plant and equipment, goodwill, technologies and trademarks to be immaterial. The same applies to investments accounted for using the equity method, with the exception of Wintershall Dea, which was remeasured at fair value in 2019. As the value of the shareholding is dependent on expected oil and gas price developments, impairments of the shareholding and of the assets held by the company are possible.

Long-term incentive program for senior executives

Since 2020, BASF has offered its leaders the opportunity to participate in a long-term incentive program (LTI program) in the form or a performance share plan. The LTI plan incentivizes the achievement of strategic growth, profitability and sustainability targets and takes into account the development of the BASF share price and the dividend. The need for provisions for this program varies according to assumptions on the degree of strategic target achievement, the development of the BASF share price and the dividend. This leads to a corresponding increase or decrease in personnel costs.

Until 2020, BASF offered leaders the opportunity to participate in a share price-based compensation program. The need for provisions for this program varies according to the development of the BASF share price and the MSCI World Chemicals Index; this leads to a corresponding increase or decrease in personnel costs.

Risks from pension obligations

Most employees are granted company pension benefits from either defined contribution or defined benefit plans. We predominantly finance company pension obligations externally through separate plan assets. This particularly includes BASF Pensionskasse VVaG and BASF Pensionstreuhand e.V. in Germany, in addition to the large pension plans of our Group companies in North America, the United Kingdom and Switzerland. To address the risk of underfunding due to market-related fluctuations in plan assets, we have investment strategies that align return and risk optimization to the structure of the pension obligations. Stress scenarios are also simulated regularly by means of portfolio analyses. An adjustment to the interest rates used in discounting pension obligations leads immediately to changes in equity. To limit the risks of changing financial market conditions as well as demographic developments, employees have, for a number of years now, been almost exclusively offered defined contribution plans for future years of service. Some of these contribution plans include minimum interest guarantees. If the pension fund cannot generate this, it must be provided by the employer. A permanent continuation of the low interest rate environment could make it necessary to recognize pension obligations and plan assets for these plans as well.

Strategic opportunities and risks

Long-term demand development

We assume that growth in chemical production (excluding pharmaceuticals) will be about as strong as that of the global gross domestic product over the next five years and stronger than the five-year average prior to the coronavirus pandemic. Through our market-oriented and broad portfolio, which we will continue to strengthen in the years ahead through investments in new production capacities, research and development activities and acquisitions, we aim to achieve volume growth that slightly exceeds this market growth. Should global economic growth see unexpected, considerable deceleration because of prolonged restrictions due to the coronavirus pandemic, an ongoing weak period in the emerging markets, protectionist tendencies or geopolitical crises, the expected growth rates could prove too ambitious.

For more information on the corporate strategy, see page 26 onward

Development of competitive and customer landscape

We expect competitors from Asia and the Middle East in particular to gain increasing significance in the years ahead. Furthermore, we predict that many producers in countries rich in raw materials will expand their value chains in consumer-oriented sectors. In addition, the proliferation of large-scale digital marketplaces for chemicals could impact existing customer and supplier relationships.

We expect a continuous rise in customer demand for sustainable solutions, for example, products with a low carbon footprint, made from recycled, circular, or bio-based raw materials that are biodegradable, or products with other measurable sustainability benefits. We are therefore addressing these topics in research and investment programs for the sustainable transformation of BASF. Companies with a proven track record of providing more sustainable solutions will be able to achieve higher growth and profitability as a result. The expansion of sharing economy business models could have a long-term impact on demand in individual customer industries. At the same time, higher demands on product features can also create opportunities for innovation.

To maintain our competitiveness, we are continuously improving our production processes, streamlining our administration and simplifying workflows and processes as part of our excellence programs. Our research and business focus is on highly innovative businesses and differentiation through sustainability advantages to make our customers and BASF more successful.

For more information on the Excellence Program, see page 21

Regulation/policy

We expect to achieve continued regulatory and societal pressure, climate-neutral energy production, climate-neutral energy consumption, and a climate-neutral resource and raw material base. The political approaches to address these issues will vary greatly from region to region. However, based on Europe in particular, we expect measures with a high level of regulation and detail that will have the potential to significantly impact the competitiveness of BASF's operations and product portfolio.

Furthermore, we see the risk of the current geopolitical shift in balance of power leading to the establishment of uncoordinated or divergent global legislative standards and regulatory systems, not just in relation to chemicals, but also to environmental, social and corporate governance criteria and the regulatory framework for digitalization.

We counter these risks as part of our corporate strategy. We explain our strategy in meetings with political decision-makers and social stakeholders. In doing so, we also inform ourselves of the changes we must undergo and advocate for a favorable and stable regulatory framework at both the national and international level. We consider BASF to be in a strong position to contribute solutions toward achieving U.N. development goals, particularly regarding climate neutrality, through new technologies, innovative products and processes and our broad product portfolio.

Innovation

We expect the trend toward increased sustainability requirements in our customer industries to continue. Our aim is to leverage the resulting opportunities in a growing market with even more sustainable innovations. The key areas are products with a lower or even net zero carbon footprint, circular economy solutions, and safe and sustainable products. To be successful in these fields, we have launched specific research and investment programs for the sustainable transformation of BASF. Furthermore, we began applying the Sustainable Solution Steering method to the evaluation of innovation projects and integrated it at an early stage of our research and development processes. In this way, we are steering our innovation portfolio toward increased sustainability, which leads to higher profitability while reducing reputational and financial risks as well.

There are technical and commercial risks of failure associated with every single research and development project. We also address this by maintaining a balanced and comprehensive project portfolio as well as through professional, milestone-based project management.

Further risks may arise from increasing state protectionism and the demand for localization of intellectual property in order to achieve technological independence. Through our Know-how Verbund in research and development, we ensure that critical intellectual property is generated and protected in countries with high intellectual-property standards.

We expect that the digital disruption of established processes will lead to a sharp increase in efficiency and effectiveness in some fields. BASF is therefore committed to taking a leading role in the digital transformation of the chemical industry. Possible applications of digital technologies and solutions are evaluated along the entire value chain and implemented throughout the company, for example, in production, logistics, research and development, business models and corporate governance.

For more information on innovation, see page 49 onward

Procurement, supply chain and infrastructure

Supply security for raw materials, energy and services is increasingly affected by trade disputes, protectionism and geopolitical conflict. In addition, supply chains are increasingly threatened by disruptions such as suppliers' production bottlenecks, interrupted logistics chains, extreme weather events, and longer-lasting effects from the coronavirus pandemic. Climate change and extreme weather events are impacting the availability of renewable resources.

These risks, as well as the introduction of new environmental regulations (for example, carbon fees), can have an impact on purchasing prices. Transportation costs are significantly affected by capacity constraints (for example, a lack of truck drivers, traffic jams due to inadequate logistics infrastructure).

We are seeing an ongoing expansion of the regulatory framework affecting us and our suppliers. Potential non-compliance by our suppliers may lead to a reduced supplier base. Moreover, the availability of renewable energies depends largely on favorable prices and framework conditions.

These risks are continuously analyzed and appropriate strategies and measures developed to minimize the impact on BASF.

To assess the changing risks for our sites from climate change, climate data based on the latest scenarios of the Intergovernmental Panel on Climate Change (IPCC) were compiled for our sites in cooperation with an external partner. This enables the sites to

assess the potential impact of climate change in the coming decades. Here, we focus on a climate protection scenario, supplemented by two scenarios with medium and high levels of global warming.[1] The most common potential impact is an increase in heat and drought. The findings can be considered in the development of site strategies.

The availability of our infrastructure, production plants and supply chains can be negatively affected by system downtime, confidentiality breaches, or manipulation of data in critical IT systems and applications. The threat environment has changed in recent years, as attackers have become better organized, use more sophisticated technology, and have far more resources available.

Portfolio development through investments

We expect growth in chemical production in emerging markets to remain above the global average in the years to come. This will create opportunities that we want to exploit by expanding our local presence. In addition, regional value chains help mitigate risks from trade conflicts and barriers that pose a challenge to global markets and supply chains.

Decisions on the type, scope and location of our investment projects are made on the basis of established comprehensive assessment processes. They take into account long-term forecasts for market, margin and cost development, raw material availability as well as country, currency, sustainability and technology risks. Opportunities and risks arise from potential deviations in actual developments from our assumptions.

Investments in more sustainable technologies represent a long-term opportunity, even though they may not be competitive or profitable in the short term, depending on the market and the prevailing regulatory framework.

For more information on our investment projects, see page 150 onward

Acquisitions, divestitures and cooperations

In the future, we will continue to expand and refine our portfolio through acquisitions that promise above-average profitable growth, are innovation-driven or offer a technological differentiation and help achieve a relevant market position, and make new, sustainable business models possible.

The evaluation of opportunities and risks plays a significant role during the assessment of acquisition targets. A detailed analysis and quantification is conducted as part of due diligence. Examples of risks include increased staff turnover, delayed realization of synergies, or the assumption of obligations that were not precisely quantifiable in advance. If our expectations in this regard are not met, risks could arise, such as the need to impair intangible assets; however, there could also be opportunities, for example, from additional synergies.

Divestitures also play a key role in the development of our portfolio. Risks could arise from divestitures as a result of potential warranty claims or other contractual obligations, such as long-term supply agreements.

For more information on our acquisitions and divestitures, see page 41

Recruitment and long-term retention of qualified employees

BASF anticipates growing challenges in attracting qualified employees in the medium and long term due to demographic change, especially in North America and Europe. As a result, there is an increased risk that job vacancies may not be filled, or only after a delay. We address these risks with measures to integrate diversity, employee and leadership development, and intensified employer branding. At local level, demographic management includes succession planning, knowledge management and offerings to improve the balance between personal and professional life, and promote healthy living. This increases BASF's appeal as an employer and retains our employees in the long term.

For more information on individual initiatives and our targets, see page 97 onward

Sustainability

Opportunities and risks that could arise from material sustainability topics can only rarely be measured in specific financial terms and have an impact on business activities, especially in the medium to long term.

We reduce potential risks in the areas of environmental protection, safety and security, health protection, product stewardship, compliance, supplier relationships and labor and social standards by setting ourselves globally uniform requirements. These sometimes go beyond local legal requirements. Our globally applicable Code of Conduct defines a binding framework for the activities of all BASF employees, leaders and members of the Board of Executive Directors. To ensure compliance with our internal standards, we have global management systems in place and monitor their implementation internally by means such as global surveys and audits. Expectations of suppliers are laid down in our global Supplier Code of Conduct. We have suppliers with a high potential sustainability risk evaluated by third parties, either through sustainability evaluations or on-site audits. The monitoring systems are complemented by grievance mechanisms such as our compliance hotlines.

Furthermore, ongoing climate change poses both opportunities and risks for BASF. As an energy-intensive company, climate-related risks arise particularly from regulatory changes, such as in carbon prices through emissions trading systems, taxes or energy legislation. In addition, BASF's emissions footprint and intensity could lead to a negative perception and reduced appeal among external stakeholders such as customers or investors. We counter these risks with our carbon management measures and by transparently disclosing our positions on and contributions to climate protection (such as political demands, progress in the implementation of our climate strategy and how our products help to protect the environment) in publicly accessible sources (such as this annual report or on the BASF website) and in direct dialog with external stakeholders.

1 The assessment model was based on the IPCC climate change scenario SSP1-2.6, supplemented by SSP2-4.5 (medium global warming scenario) and SSP5-8.5 (high global warming scenario).

In addition to climate-related risks, there are also opportunities. Our broad product portfolio includes, among other things, solutions for the circular economy and climate protection (such as insulation foams for buildings, materials for electromobility and bio-based products). Increased social awareness offers additional market opportunities for these products. We are working with numerous scientific and public organizations and initiatives on solutions for sustainable agriculture that meet economic, environmental, and social demands over the long term.

Our decentralized specialists use a central decision tree to document reportable sustainability risks within the meaning of section 289b et seq. of the German Commercial Code. No reportable residual net risks within the meaning of section 289b et seq. of the German Commercial Code were identified for 2021.

For more information on sustainability management, see page 45 onward

For more information on energy and climate protection, see page 126 onward

For more information on opportunities and risks from energy policies, see page 155

For more information on our positions on and contributions to climate protection, see basf.com/en/sustainable-solution-steering

3

Corporate Governance

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Corporate Governance Report

Corporate governance refers to the entire system for managing and supervising a company. This includes its organization, values, corporate principles and guidelines as well as internal and external control and monitoring mechanisms. Effective and transparent corporate governance ensures that BASF is managed and supervised responsibly with a focus on value creation. It fosters the confidence of our investors, the financial markets, our customers and other business partners, employees, and the public in BASF.

The fundamental elements of BASF SE's corporate governance system are: its two-tier system, with a transparent and effective separation of company management and supervision between BASF's Board of Executive Directors and the Supervisory Board; the equal representation of shareholders and employees on the Supervisory Board; and the shareholders' rights of co-administration and supervision at the Annual Shareholders' Meeting.

Board of Executive Directors

At a glance

- Responsible for company management and represents BASF SE in business with third parties
- Sets goals and strategic direction
- Strictly separate from the Supervisory Board

Direction and management by the Board of Executive Directors

The Board of Executive Directors is responsible for the management of the company, and represents BASF SE in business undertakings with third parties. BASF's Board of Executive Directors is strictly separated from the Supervisory Board, which monitors the Board of Executive Directors' activities and decides on its composition. A member of the Board of Executive Directors cannot simultaneously be a member of the Supervisory Board. As the central duty of company management, the Board of Executive Directors agrees on the corporate goals and strategic direction of the BASF Group as well as its individual business areas; determines the company's internal organization; and decides on the composition of management on the levels below the Board. It also manages and monitors BASF Group business by planning and setting the corporate budget, allocating resources and management capacities, monitoring and making decisions on significant individual measures, and supervising operational management.

The Board's actions and decisions are geared toward the company's best interests. It is committed to the goal of sustainably increasing the company's value. Among the Board's responsibilities is the preparation of the Consolidated and Separate Financial Statements of BASF SE and reporting on the company's financial and nonfinancial performance. Furthermore, it must ensure that the company's activities comply with the applicable legislation and regulatory requirements, as well as internal corporate directives. This includes the establishment of appropriate systems for control, compliance and risk management as well as establishing a company-wide compliance culture with undisputed standards.

Decisions that are reserved for the Board as a whole by law, through the Board of Executive Directors' Rules of Procedure or through resolutions adopted by the Board, are made at regularly held Board meetings called by the chair of the Board of Executive Directors. Board decisions are based on detailed information and analyses provided by the business areas and specialist units, and, if deemed necessary, by external consultants. Board decisions can generally be made via a simple majority. In the case of a tied vote, the casting vote is given by the chair of the Board. However, the chair of the Board does not have the right to veto the decisions of the Board of Executive Directors. Members of the Board of Executive Directors are authorized to make decisions individually in their assigned areas of responsibility.

The Board can set up Board committees to consult and decide on individual issues such as proposed material acquisitions or divestitures; these must include at least three members of the Board of Executive Directors. For the preparation of important decisions, such as those on acquisitions, divestitures, investments and personnel, the Board has various commissions at the level below the Board. Independently of the affected business area, these commissions carefully assess the planned measures and evaluate the associated opportunities and risks. Based on this information, they report and make recommendations to the Board.

The Board of Executive Directors informs the Supervisory Board regularly, without delay and comprehensively, of all issues important to the company with regard to planning, business development, risk situation, risk management and compliance. Furthermore, the Board of Executive Directors coordinates the company's strategic orientation with the Supervisory Board.

The Statutes of BASF SE and the Supervisory Board have defined certain transactions that require the Board of Executive Directors to obtain the Supervisory Board's approval prior to their conclusion. Such cases include the acquisition and disposal of enterprises and

parts of enterprises, as well as the issue of bonds or comparable financial instruments. However, this is only necessary if the acquisition or disposal price or the amount of the issue in an individual case exceeds 3% of the equity reported in the last approved Consolidated Financial Statements of the BASF Group.

For more information on risk management, see the Forecast from page 151 onward

The members of the Board of Executive Directors, including their areas of responsibility and memberships on the supervisory bodies of other companies, are listed from page 174 onward

Compensation of the Board of Executive Directors is described in the Compensation Report at basf.com/compensationreport

Competence profile, diversity concept and succession planning for the Board of Executive Directors

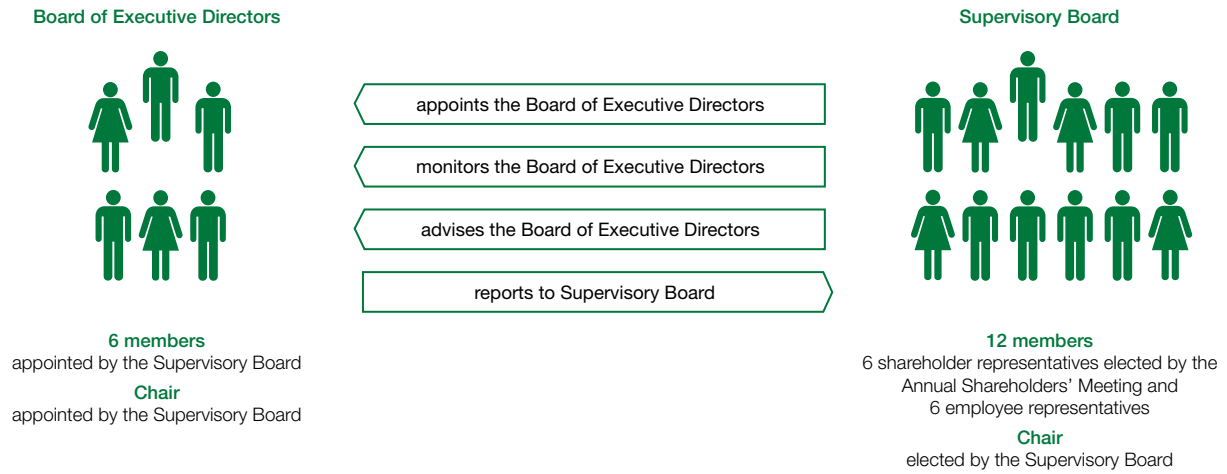
The Supervisory Board works hand in hand with the Board of Executive Directors to ensure long-term succession planning for the composition of the Board of Executive Directors. BASF aims to fill most Board positions with leaders from within the company. It is the task of the Board of Executive Directors to propose a sufficient number of suitable individuals to the Supervisory Board.

BASF's long-term succession planning is guided by the corporate strategy. It is based on systematic management development characterized by the following:

- Early identification of suitable leaders of different professional backgrounds, nationalities and genders
- Systematic development of leaders through the successful assumption of tasks with increasing responsibility, where possible in different business areas, regions and functions
- Desire to shape strategic and operational decisions, and proven success in doing so, as well as leadership skills, especially under challenging business conditions
- Role model function in putting corporate values into practice

The aim is to enable the Supervisory Board to ensure a reasonable level of diversity with respect to education and professional experience, cultural background, international representation, gender and age when appointing members of the Board of Executive Directors.

Two-tier management system of BASF SE



Irrespective of these individual criteria, a holistic approach will ultimately determine a person's suitability for appointment to the Board of Executive Directors of BASF SE. Both systematic succession planning and the selection process aim to ensure that the Board of Executive Directors as a whole has the following profile, which serves as a diversity concept:

- Many years of management experience in scientific, technical and commercial fields
- International experience based on background and/or professional experience
- At least one female Board member
- A balanced age distribution to ensure the continuity of the Board's work and enable seamless succession planning

The first appointment of members of the Board of Executive Directors is for a term of no more than three years. The standard age limit for members of the Board of Executive Directors is 63.

The number of members on the Board of Executive Directors is determined by the Supervisory Board. It is guided by insights gained by BASF as a company with an integrated leadership culture and is determined by the needs arising from cooperation within the Board of Executive Directors. The Supervisory Board considers six to be an appropriate number of Board members given the current business composition, future responsibilities associated with development and the fundamental organizational structure of the BASF Group.

The current composition of the Board of Executive Directors meets the competence profile and the requirements of the diversity concept in full.

Supervisory Board

At a glance

- Appoints, monitors and advises Board of Executive Directors
- Four Supervisory Board committees
- Composition criteria: professional and personal qualifications, diversity, and independence

Supervision of company management by the Supervisory Board

The Supervisory Board appoints the members of the Board of Executive Directors and supervises and advises the Board of Executive Directors on management issues. As members of the Supervisory Board may not simultaneously be on the Board of Executive Directors, a high level of autonomy is already structurally ensured with regard to the supervision of the Board of Executive Directors.

In addition to the SE Council Regulation, the relevant legal basis for the size and composition of the Supervisory Board is provided by the Statutes of BASF SE and the Agreement Concerning the Involvement of Employees in BASF SE (Employee Participation Agreement), which also includes the regulations applicable to BASF for implementing the statutory gender quota for the Supervisory Board. The German Codetermination Act does not apply to BASF SE as a European stock corporation (Societas Europaea, SE).

The Supervisory Board of BASF SE comprises 12 members. Six members are elected by the shareholders at the Annual Shareholders' Meeting. Six members are elected by the BASF Europa Betriebsrat (BASF Works Council Europe), the European employee representation body of the BASF Group. In accordance with the resolution of the Annual Shareholders' Meeting on June 18, 2020, the period of appointment for newly elected members of the Supervisory Board was reduced from five to four years; and the Statutes were amended accordingly. This ensures that the maximum membership duration of 12 years up to which a Supervisory Board member can be classified as independent corresponds to a total of three election terms. In accordance with the German Corporate Governance Code (Code 2020), the Supervisory Board reduced the membership duration used as a basis for its independence rating from 15 to 12 years in December 2019.

The meetings of the Supervisory Board and its four committees are called by their respective chairs and, independently, at the request of one of their members or the Board of Executive Directors. The shareholder and employee representatives of the Supervisory Board prepare for Supervisory Board meetings in separate preliminary discussions in each case. Resolutions of the Supervisory Board are passed by a simple majority vote of the participating members. In the event of a tie, the vote of the chair of the Supervisory Board, who must always be a shareholder representative, shall be the casting vote. This resolution process is also applicable for the appointment and dismissal of members of the Board of Executive Directors by the Supervisory Board. Resolutions can, as needed, also be made in writing or through communication outside of the meetings, as long as no Supervisory Board member objects to this form of passing a resolution.

The Board of Executive Directors regularly informs the Supervisory Board about matters such as the course of business and expected developments, the financial position and results of operations, corporate planning, the implementation of the corporate strategy, business opportunities and risks, as well as risk compliance management. The Supervisory Board has embedded the main reporting requirements in an information policy. The chair of the Supervisory Board is in regular contact with the Board of Executive Directors, especially with its chair, outside of meetings as well.

A list of the members of the Supervisory Board of BASF SE indicating which members are shareholder or employee representatives and their appointments to the supervisory bodies of other companies can be found from page 175 onward

Compensation of the Supervisory Board is described in the Compensation Report at basf.com/compensationreport

The Statutes of BASF SE and the Employee Participation Agreement can be found at basf.com/statutes and basf.com/en/corporategovernance

Personnel Committee

Members
Dr. Kurt Bock* (chair)
Franz Fehrenbach
Sinischa Horvat*
Michael Vassiliadis

Duties
- Prepares the appointment of members to the Board of Executive Directors by the Supervisory Board as well as the service contracts to be entered into with members of the Board of Executive Directors
- When making recommendations for appointments to the Board of Executive Directors, considers professional qualifications, international experience and leadership skills as well as long-term succession planning, diversity, and especially the appropriate consideration of women
- Prepares the resolutions made by the Supervisory Board with regard to the system and amount of compensation paid to members of the Board of Executive Directors

* Classified by the Supervisory Board as an "independent" member of the Supervisory Board (see page 166 for the criteria used to determine independence)

Audit Committee

Members
Dame Alison Carnwath DBE* (chair)
Tatjana Diether*
Anke Schäferkordt*
Michael Vassiliadis

Duties
- Prepares the negotiations and resolutions of the Supervisory Board for the approval of the Financial Statements, the Consolidated Financial Statements and the Management's Reports including the Nonfinancial Statements and discusses the quarterly statements and the half-year financial report with the Board of Executive Directors prior to their publication
- Deals with monitoring the financial reporting process, the annual audit, the effectiveness of the internal control system, the risk management system, and the internal auditing system as well as compliance issues
- Is responsible for business relations with the company's external auditor: prepares the Supervisory Board's proposal to the Annual Shareholders' Meeting regarding the selection of an auditor, monitors the auditor's independence, defines the focus areas of the audit together with the auditor, negotiates auditing fees, evaluates the quality of the audit, and establishes the conditions for the provision of the auditor's nonaudit services; the chair of the Audit Committee regularly discusses this with the auditor outside of meetings as well
- Deals with follow-up assessments of key acquisition and investment projects
- Is responsible for monitoring the internal process of identifying related party transactions and ensuring adherence to statutory approval and disclosure requirements; grants approval of related party transactions
- Is authorized to request any information that it deems necessary from the auditor or from the Board of Executive Directors and has a direct right to information from the heads of central departments such as Corporate Audit or Compliance; can also view all of BASF's business documents and examine these and all other assets belonging to BASF. The Audit Committee can also engage experts such as auditors or lawyers to carry out these inspections

Financial experts
Pursuant to the German Corporate Governance Code, Dame Alison Carnwath DBE, chair of the Audit Committee, has special knowledge of, and experience in, applying accounting and reporting standards and internal control methods and is familiar with the annual audit. A further financial expert on the Supervisory Board is the vice chair of the Supervisory Board, Franz Fehrenbach.

Nomination Committee

Members
Dr. Kurt Bock* (chair)
Prof. Dr. Thomas Carell*
Dame Alison Carnwath DBE*
Liming Chen*
Franz Fehrenbach
Anke Schäferkordt*

Duties
- Identifies suitable individuals for the Supervisory Board based on objectives for the composition decided on by the Supervisory Board
- Prepares the recommendations made by the Supervisory Board for the election of Supervisory Board members for the Annual Shareholders' Meeting

Strategy Committee

Members
Dr. Kurt Bock* (chair)
Dame Alison Carnwath DBE*
Franz Fehrenbach
Waldemar Helber*
Sinischa Horvat*
Michael Vassiliadis

Duties
- Handles the further development of the company's strategy
- Prepares resolutions of the Supervisory Board on the company's major acquisitions and divestitures

Meetings and meeting attendance

In the 2021 business year, meetings were held as follows:
- The Supervisory Board met five times.
- The Personnel Committee met three times.
- The Audit Committee met five times.
- The Nomination Committee met twice.
- The Strategy Committee did not meet.

All members attended all meetings of the Supervisory Board. The meetings of the Supervisory Board committees were also attended by all relevant committee members.

Due to the coronavirus pandemic, the meetings of the Supervisory Board and its committees in the 2021 business year were held in accordance with appropriate safety measures and in compliance with restrictions on assembly and travel as per the applicable infection prevention laws. They took place as in-person meetings

* Classified by the Supervisory Board as an "independent" member of the Supervisory Board (see page 166 for the criteria used to determine independence)

with the additional option of virtual attendance via electronic communication.

For more information on the Supervisory Board's activities and resolutions in the 2021 business year, see the Report of the Supervisory Board from page 177 onward

For an overview of meeting attendance, see basf.com/supervisoryboard/meetings

The Rules of Procedure for the Supervisory Board and its committees can be found at basf.com/supervisoryboard

Competence profile, diversity concept and objectives for the composition of the Supervisory Board

One important concern of good corporate governance is to ensure that seats on the responsible corporate bodies, the Board of Executive Directors and the Supervisory Board, are appropriately filled. On December 21, 2017, the Supervisory Board therefore agreed on objectives for the composition, the competence profile and the diversity concept of the Supervisory Board in accordance with section 5.4.1 of the German Corporate Governance Code in the version dated February 7, 2017, and section 289f(2) no. 6 of the German Commercial Code (HGB). These were expanded on December 19, 2019, in particular with respect to the criteria for assessing independence, based on the new recommendations of the German Corporate Governance Code, which was revised and amended in 2019 (2020 Code). The guiding principle for the composition of the Supervisory Board is to ensure qualified supervision and guidance for the Board of Executive Directors of BASF SE. For the election of shareholder representatives to the Supervisory Board, individuals shall be nominated to the Annual Shareholders' Meeting who can, based on their professional expertise and experience, integrity, commitment, independence and character, successfully perform the work of a supervisory board member at an international chemical company.

Competence profile

The following requirements and objectives are considered essential to the composition of the Supervisory Board as a collective body:

- Leadership experience in managing companies, associations and networks
- Members' collective knowledge of the chemical sector and the related value chains
- Appropriate knowledge within the body as a whole of finance, accounting, financial reporting, law and compliance as well as one independent member with accounting and auditing expertise ("financial expert") within the meaning of section 100(5) of the German Stock Corporation Act (AktG)
- At least one member with in-depth experience in innovation, research & development and technology
- At least one member with in-depth experience in digitalization, information technology, business models and start-ups
- At least one member with in-depth experience in human resources, society, communications and the media
- Specialist knowledge and experience in sectors outside of the chemical industry

For more information on the Supervisory Board's competence profile, see basf.com/competence-profile/supervisoryboard

Diversity concept

The Supervisory Board strives to achieve a reasonable level of diversity with respect to character, gender, international representation, professional background, specialist knowledge and experience as well as age distribution, and takes the following composition criteria into account:

- At least 30% women and 30% men
- At least 30% of members have international experience based on their background or professional experience
- At least 50% of members have different educational backgrounds and professional experience
- At least 30% under the age of 60

Further composition objectives

- **Character and integrity:** All members of the Supervisory Board must be personally reliable and have the knowledge and experience required to diligently and independently perform the work of a supervisory board member.
- **Availability:** Each member of the Supervisory Board ensures that they invest the time needed to properly perform their role as a member of the Supervisory Board of BASF SE. The statutory limits on appointments to governing bodies and the recommendations of the German Corporate Governance Code must be complied with when accepting further appointments.
- **Age limit and period of membership:** Persons who have reached the age of 72 on the day of election by the Annual Shareholders' Meeting should generally not be nominated for election. Membership on the Supervisory Board should generally not exceed three regular statutory periods in office, which will correspond to 12 years in the future.
- **Independence:** To ensure the independent monitoring and consultation of the Board of Executive Directors, the Supervisory Board should have an appropriate number of independent members on the board as a whole, and an appropriate number of independent shareholder representatives. The Supervisory Board deems this to be the case if more than half of the shareholder representatives and at least eight members of the Supervisory Board as a whole can be considered independent. The Supervisory Board's assessment of independence is based on the criteria in the current version of the German Corporate Governance Code (2020 Code). Among other things, this means that members of the Supervisory Board are no longer considered independent if they have been a member of the board for 12 years or longer. The Supervisory Board has additionally defined the following principles to clarify the meaning of independence: The independence of employee representatives is not compromised by their role as an employee representative or employment by BASF SE or a Group company. Prior membership of the Board of Executive Directors of BASF SE does not preclude independence following the expiry of the statutory cooling-off period of two years. Material transactions between a Supervisory Board member or a related party or undertaking of the Supervisory Board member on the one hand, and BASF SE or a BASF Group company on the other, exclude a member of the Supervisory Board from being qualified as independent. A material transaction is defined as one or more

transactions in a single calendar year with a total volume of 1% or more of the sales of the companies involved in each case. In the same way, if a Supervisory Board member or a related party of a Supervisory Board member has a personal service or consulting agreement with BASF SE or one of its Group companies with an annual compensation of over 50% of the Supervisory Board compensation, they do not qualify as independent. Furthermore, if a Supervisory Board member or a related party of a Supervisory Board member holds more than 20% of the shares in a company in which BASF SE is indirectly or directly the majority shareholder, the necessary independence is also not met.

Status of implementation

According to the Supervisory Board's own assessment, its current composition meets all of the requirements of the competence profile: Nine (five shareholder representatives and four employee representatives) of the 12 current members are considered independent based on the above criteria. As of January 2020, shareholder representative Franz Fehrenbach is no longer classified as independent, because he has been a member of the Supervisory Board since January 2008 and no longer meets the criterion of a membership duration of less than 12 years. Franz Fehrenbach will retire from the Supervisory Board on conclusion of the Annual Shareholders' Meeting on April 29, 2022. Employee representative Denise Schellemans, who has also been a member of the Supervisory Board since January 2008, and employee representative Michael Vassiliadis, who has been a member of the Supervisory Board since August 2004, are likewise no longer considered independent.

For more information on the statutory minimum quotas for the number of women and men on the Supervisory Board, see the section after next on this page

The independent Supervisory Board members are named under Management and Supervisory Boards from page 175 onward

An overview of the fulfillment of the competence profile is available at basf.com/supervisoryboard

Compensation of the Board of Executive Directors and the Supervisory Board

The Compensation Report in accordance with section 162 of the German Stock Corporation Act (AktG) and the assurance statement of the substantive and formal audit issued by the auditor, the effective compensation system for the Board of Executive Directors in accordance with section 87a AktG, as well as the most recent resolution of the Annual Shareholders' Meeting on the compensation of the Supervisory Board in accordance with section 113(3) AktG have been made publicly available on the BASF website at basf.com/compensationreport.

Commitments to promote the participation of women in leadership positions at BASF SE

The supervisory board of a publicly listed European stock corporation (SE) that is composed of the same number of shareholder and employee representatives must, according to section 17(2) of the SE Implementation Act, consist of at least 30% women and 30% men. Since the 2018 Annual Shareholders' Meeting, the Supervisory Board of BASF SE comprises four women, of whom two are shareholder representatives and two are employee representatives, and eight men. The Supervisory Board's composition meets the statutory requirements.

As a target figure for the Board of Executive Directors according to section 111(5) AktG, the Supervisory Board determined that for the target-attainment period under the German Act on Equal Participation of Men and Women in Management Positions (FüPoG I&II) from January 1, 2017, to December 31, 2021, the Board of Executive Directors of BASF SE should continue to have at least one female member. This represented 12.5% on the date the target was set (based on eight members of the Board of Executive Directors). Following the entry into force of the German Second Act on Equal Participation of Men and Women in Management Positions (FüPoG II), if the management board of a listed company consists of more than three persons, at least one woman and one man must be members of the management board (section 76(3a) AktG). There have been two female Board members since the appointment of Dr. Melanie Maas-Brunner to the Board of Executive Directors, effective as of February 1, 2021. Since Wayne T. Smith's departure from the Board of Executive Directors on May 31, 2021, the proportion of women has been 33.3%.

The Board of Executive Directors also decided on new target figures for the proportion of women in the two management levels below the Board of Executive Directors of BASF SE: For the second target-attainment period that ended on December 31, 2021, these targets were 12.1% for the proportion of women in the management level directly below the Board, and 7.3% for the level below that. This corresponded to the status at the time these target figures were determined. At the end of the concluded target-attainment period, women made up 20.0% of the management level directly below the Board and 23.2% of the level below that. Both targets were therefore significantly exceeded. For the next target-attainment period from January 1, 2022, to December 31, 2026, the Board of Executive Directors resolved as targets the quotas achieved as of December 31, 2021: 20.0% for the proportion of women in the management level directly below the Board and 23.2% for the level below that.

BASF views the further development and promotion of women as a global duty independent of individual Group companies. It has committed to ambitious targets that were further raised in 2020. The new target is to increase the proportion of women in leadership worldwide to 30% by 2030. BASF will continue to work systematically on expanding the percentage of women in its leadership team. To achieve this, global measures will be implemented and enhanced continuously.

For more information on women in leadership positions in the BASF Group worldwide, see page 99

For more information on the inclusion of diversity, including promotion of women, see the chapter on Employees in the Management's Report on page 99

The November 2015 Employee Participation Agreement relevant to the composition of the Supervisory Board is available at basf.com/en/corporategovernance

Shareholders' rights

At a glance

- Shareholders exercise rights of co-administration and supervision at Annual Shareholders' Meeting
- One share, one vote

Shareholders exercise their rights of co-administration and supervision at the Annual Shareholders' Meeting, which usually takes place within the first five months of the business year. The Annual Shareholders' Meeting elects half of the members of the Supervisory Board and, in particular, resolves on the formal discharge of the Board of Executive Directors and the Supervisory Board, the distribution of profits, capital measures, the authorization of share buybacks, changes to the Statutes and the selection of the auditor.

Each BASF SE share represents one vote. All of BASF SE's shares are registered shares. Shareholders are obliged to have themselves entered with their shares into the company share register and to provide the information necessary for registration in the share register according to the German Stock Corporation Act. There are no registration restrictions and there is no limit to the number of shares that can be registered to one shareholder. Only the persons listed in the share register are entitled to vote as shareholders. Listed shareholders may exercise their voting rights at the Annual Shareholders' Meeting either personally, through a representative of their choice or through a company-appointed proxy authorized by the shareholders to vote according to their instructions. Individual instructions are only forwarded to the company on the morning of the day of the Annual Shareholders' Meeting. Voting rights can be exercised according to shareholders' instructions by company-appointed proxies until the beginning of the voting process during the Annual Shareholders' Meeting. There are neither voting caps to limit the number of votes a shareholder may cast nor special voting rights. BASF has fully implemented the principle of "one share, one vote." All shareholders entered in the share register are entitled to participate in the Annual Shareholders' Meetings, to have their say concerning any item on the agenda and to request information about company issues insofar as this is necessary to make an informed judgment about the item on the agenda under discussion. Registered shareholders are also entitled to file motions pertaining to proposals for resolutions made by the Board of Executive Directors and Supervisory Board at the Annual Shareholders' Meeting and to contest resolutions of the Meeting and have them evaluated for their lawfulness in court. Shareholders who hold at least €500,000 of the company's share capital, a quota corresponding to 390,625 shares, are furthermore entitled to request that additional items be added to the agenda of the Annual Shareholders' Meeting.

Due to assembly restrictions resulting from the coronavirus pandemic, the 2021 Annual Shareholders' Meeting again took place virtually without the physical presence of shareholders in accordance with special regulations prescribed by the German Act on Measures in Corporate Law, the Law of Cooperatives, Associations and Foundations and Residential Property Law to Combat the Effects of the COVID-19 Pandemic (GesRuaCOVBekG), which was passed by the lower house of the German parliament (Bundestag) in March 2020 and extended until the end of 2021 with few amendments. To ensure legally compliant execution of this special Annual Shareholders' Meeting format, whereby shareholders participated solely via electronic communication, some of the aforementioned shareholder rights and options for action were limited or handled in an exceptional manner at this virtual meeting. After again being extended by the Bundestag, these special provisions are valid for Annual Shareholders' Meetings until August 31, 2022, as well.

Implementation of the German Corporate Governance Code (GCGC)

BASF advocates responsible corporate governance that focuses on sustainably increasing the value of the company. BASF SE follows all of the recommendations of the German Corporate Governance Code in the version dated December 16, 2019 (Code 2020), the version in force on submission of the Declaration of Conformity. In the same manner, BASF follows all of the nonobligatory suggestions of the German Corporate Governance Code.

The joint Declaration of Conformity 2021 by the Board of Executive Directors and Supervisory Board of BASF SE is rendered on page 184

For more information on the Declaration of Conformity 2021, the implementation of the Code's suggestions and the German Corporate Governance Code, see basf.com/en/corporategovernance

Disclosures according to section 315a of the German Commercial Code (HGB) and explanatory report of the Board of Executive Directors according to section 176(1) sentence 1 of the German Stock Corporation Act (AktG)

As of December 31, 2021, the subscribed capital of BASF SE was €1,175,652,728.32, divided into 918,478,694 registered shares with no par value. Each share entitles the holder to one vote at the Annual Shareholders' Meeting. Restrictions on the right to vote or transfer shares do not exist. The same rights and duties apply to all shares. According to the Statutes, shareholders are not entitled to receive share certificates. There are neither different classes of shares nor shares with preferential voting rights (golden shares).

The appointment and dismissal of members of the Board of Executive Directors is legally governed by the regulations in Article 39 of the SE Council Regulation, section 16 of the SE Implementation Act and sections 84 and 85 AktG as well as Article 7 of the Statutes of BASF SE. Accordingly, the Supervisory Board determines the number of members of the Board of Executive Directors (at least two), appoints the members of the Board of Executive Directors, and can nominate a chair, as well as one or more vice chairs. The members of the Board of Executive Directors are appointed for a maximum of five years. The maximum initial term of appointment is three years. Reappointments are permissible. The Supervisory Board can dismiss a member of the Board of Executive Directors if there is serious cause to do so. Serious cause includes, in particular, a gross breach of the duties pertaining to the Board of Executive Directors and a vote of no confidence by the Annual Shareholders' Meeting. The Supervisory Board decides on appointments and dismissals according to its own best judgment.

According to Article 59(1) of the SE Council Regulation, amendments to the Statutes of BASF SE require a resolution of the Annual Shareholders' Meeting adopted with at least a two-thirds majority of the votes cast, provided that the legal provisions applicable to German stock corporations under the German Stock Corporation Act do not stipulate or allow for larger majority requirements. In the case of amendments to the Statutes, section 179(2) of the German Stock Corporation Act requires a majority of at least three-quarters of the subscribed capital represented. Pursuant to Article 12(6) of the Statutes of BASF SE, the Supervisory Board is authorized to resolve on amendments to the Statutes that merely concern their wording. This applies in particular to the adjustment of the share capital and the number of shares after the redemption of repurchased BASF shares and after an issue of shares from authorized capital.

By way of a resolution of the Annual Shareholders' Meeting on May 3, 2019, the Board of Executive Directors is authorized, with the consent of the Supervisory Board, to increase, until May 2, 2024, on a one-off basis or in portions on a number of occasions, the company's share capital by a total of up to €470 million by issuing new shares against contributions in cash or in kind (authorized capital). A right to subscribe to the new shares shall be granted to shareholders. This can also be achieved by a credit institution acquiring the new shares with the obligation to offer these to shareholders (indirect subscription right). The Board of Executive Directors is authorized to exclude the statutory subscription right of shareholders to a maximum amount of a total of 10% of share capital in certain exceptional cases that are defined in Article 5(8) of the BASF SE Statutes. This applies in particular if, for capital increases in return for cash contributions, the issue price of the new shares is not substantially lower than the stock market price of BASF shares and the total number of shares issued under this authorization does not exceed 10% of the shares currently in issue or, in eligible individual cases, to acquire companies or shares in companies in exchange for surrendering BASF shares.

By way of a resolution of the Annual Shareholders' Meeting on May 12, 2017, the share capital was increased conditionally by up to €117,565,184 by issuing up to 91,847,800 new shares. The contingent capital increase serves to grant shares to the holders of convertible bonds or warrants attached to bonds with warrants of BASF SE or a subsidiary, which the Board of Executive Directors is authorized to issue up to May 11, 2022, by way of a resolution of the Annual Shareholders' Meeting on May 12, 2017. A right to subscribe to the bonds shall be granted to shareholders. The Board of Executive Directors is authorized to exclude the shareholders' subscription right in certain exceptional cases – as defined in Article 5(9) of the BASF SE Statutes.

At the Annual Shareholders' Meeting on May 12, 2017, the Board of Executive Directors was authorized to purchase up to 10% of the shares in issue at the time of the resolution (10% of the company's share capital) until May 11, 2022. At the discretion of the Board of Executive Directors, the purchase can take place on the stock exchange or by way of a public purchase offer directed to all shareholders. The Board of Executive Directors is authorized to sell the repurchased company shares (a) through a stock exchange, (b) through a public offer directed to all shareholders and – with the approval of the Supervisory Board – to third parties, (c) for a cash payment that is not significantly lower than the stock exchange price at the time of sale and (d) for contributions in kind, particularly in connection with the acquisition of companies, parts of companies or shares in companies or in connection with mergers. In the cases specified under (c) and (d), the shareholders' subscription right is excluded. The Board of Executive Directors is furthermore authorized to retire the shares bought back and to reduce the share capital by the proportion of the share capital accounted for by the retired shares.

Bonds issued by BASF SE and its subsidiaries grant the bearer the right to request early repayment of the bonds at nominal value if, after the date of issue of the bond, one person – or several persons acting together – hold or acquire a volume of BASF SE shares that corresponds to more than 50% of the voting rights (change of control), and one of the rating agencies named in the bond's terms and conditions withdraws its rating of BASF SE or the bond, or reduces it to a noninvestment grade rating within 120 days of the change of control event.

An exceptional change of control compensation awarded to outgoing members of the Board of Executive Directors has not existed since January 1, 2020, as of the introduction of the amended compensation system for the Board of Executive Directors, which was approved by the Annual Shareholders' Meeting on June 18, 2020. The general rule for severance payments granted for premature terminations of appointments to the Board of Executive Directors applies, which states that the maximum severance payment may not exceed the amount of two years' compensation; however, this may not exceed the compensation for the remaining period of the contract.

By contrast, employees of BASF SE and its subsidiaries who are classed as senior executives will still receive a severance payment if their contract of employment is terminated by BASF within 18 months of a change of control event, provided the employee has not given cause for the termination. The employee whose service contract has been terminated in such a case will receive a maximum severance payment of 1.5 times the annual salary (fixed component) depending on the number of months that have passed since the change of control event. A change of control is assumed when a shareholder informs BASF of a shareholding of at least 25% or the increase of such a holding. The remaining specifications stipulated in section 315a HGB refer to situations that are not applicable to BASF SE.

For more information on bonds issued by BASF SE, see basf.com/bonds

Directors' and officers' liability insurance

BASF SE has taken out liability insurance that covers the activities of members of the Board of Executive Directors and the Supervisory Board (directors' and officers' liability insurance). This policy provides for the level of deductibles for the Board of Executive Directors as prescribed by section 93(2) sentence 3 AktG (10% of damages up to 1.5 times the fixed annual compensation).

Share ownership by members of the Board of Executive Directors and the Supervisory Board

No member of the Board of Executive Directors or the Supervisory Board owns shares in BASF SE and related options or other derivatives that account for 1% or more of the share capital. Furthermore, the total volume of BASF SE shares and related financial instruments held by members of the Board of Executive Directors and the Supervisory Board accounts for less than 1% of the shares issued by the company.

Share dealings of the Board of Executive Directors and Supervisory Board

(Obligatory reportable and publishable directors' dealings under Article 19(1) of the E.U. Market Abuse Regulation 596/2014 (MAR))

As legally stipulated by Article 19(1) MAR, all members of the Board of Executive Directors and the Supervisory Board as well as certain members of their families are required to disclose the purchase or sale of financial instruments of BASF SE (for example, shares, bonds, options, forward contracts, swaps) to the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht) and to the company if transactions within the calendar year exceed the threshold of €20,000. In 2021, a total of 26 purchases by members of the Board of Executive Directors and the Supervisory Board and members of their families subject to disclosure were reported as directors' dealings, involving between 18 and 2,500 BASF shares or BASF ADRs (American Depositary Receipts). The price per share was between €61.08 and €72.00. The volume of the individual trades was between €1,217.41 and €171,694.75. The disclosed share transactions are published on BASF SE's website.

For more information on securities transactions reported in 2021, see basf.com/en/directorsdealings

Information on the auditor

The Annual Shareholders' Meeting of April 29, 2021, once again elected KPMG AG Wirtschaftsprüfungsgesellschaft as the auditor of the BASF Group Consolidated Financial Statements and Separate Financial Statements of BASF SE for the 2021 business year, as well as the corresponding management's reports. KPMG member firms also audit the majority of BASF Group companies included in the Consolidated Financial Statements. KPMG has been the continuous auditor of BASF SE since the 2006 Financial Statements. A public call to tender was issued in 2015 to all auditors for the audit of the 2016 Consolidated and Separate Financial Statements, in line with the E.U. Regulation 537/2014 of April 16, 2014. Based on the results of the tendering process, the Audit Committee recommended to the Supervisory Board that it once again propose KPMG for election. Owing to the German Financial Market Integrity Strengthening Act (FISG), KPMG can only be proposed for election by the Annual Shareholders' Meeting as BASF's auditor without further tendering processes up to and including the 2023 business year. Dr. Stephanie Dietz has been the auditor responsible for the Consolidated Financial Statements since auditing the 2020 Financial Statements. Since the 2020 Financial Statements, the auditor responsible for the Separate Financial Statements has been Dr. Stephan Kaiser. The total fee paid to KPMG and auditing firms of the KPMG group by BASF SE and other BASF Group companies for non-audit services, in addition to the auditing fee, was €0.9 million in 2021. This represents around 4.7% of the fees for auditing the financial statements.

For more information, see Note 32 to the Consolidated Financial Statements on page 285

「Compliance」

GRI 102, 103, 205, 206, 406, 407, 408, 409, 412, 413, 418, 419

Our Group-wide Compliance Program aims to ensure adherence to legal regulations, the company's internal guidelines and ethical business practices. Our Code of Conduct firmly embeds these mandatory standards into our employees' day-to-day business. Members of the Board of Executive Directors are also expressly obligated to follow these principles.

Compliance Program and Code of Conduct

At a glance

>53,000
participants in compliance training

77
internal audits on adherence to our compliance standards

- Code of Conduct as the core of our Compliance Program
- Systematic further development of our compliance management system

We care	We Earn Trust	We Play Fair	We Respect	We Protect
– Our Code of Conduct – How We Make Decisions – We Always Speak Up – We Lead Integrity	– Anti-Corruption – Trade Control – Anti-Money Laundering	– Antitrust Laws – Gifts and Entertainment – Conflicts of Interest	– Human Rights, Labor and Social Standards – Environmental Protection, Health and Safety	– Sensitive Company Information – Personal Data – Digital Responsibility – Company Property – Accurate Books and Records

BASF's Compliance Program is based on our corporate values and voluntary commitments, as well as international standards. It describes our commitment to responsible conduct and expectations around how all BASF employees interact with business partners, officials, coworkers and the community. At the core of our Compliance Program is the global, standardized **Code of Conduct**. All employees and managers are obligated to adhere to its guidelines, which cover topics ranging from corruption and antitrust laws to human rights, labor and social standards, conflicts of interest and trade control, and protection of data privacy.

The **revised 2020 version** also offers our employees user-friendly features such as case studies, FAQs and additional references. The corresponding internal online platform and app are available to employees worldwide, providing them continuously with up-to-date content such as videos and links to other specialist units and guidelines as well as direct contact to subject specialists.

A new platform for publishing binding Group-wide governance documents (policies, corporate requirements) provides a more effective search function to make it easier for employees to find relevant regulations. In addition, the managing directors of BASF Group companies can now find important information and assistance on ensuring compliance in their Group companies on an internal website set up especially for them.

Abiding by compliance standards is the foundation of responsible leadership. This has also been embedded in our values. We are convinced that compliance with these standards will play a key role in securing our company's long-term success. Our efforts are principally aimed at preventing violations from the outset.

We perform a **systematic risk assessment** to identify the risk of compliance violations, including corruption risks. These are conducted at divisional, regional and country levels, with an additional focus on Group companies in 2021. The regular compliance audits performed by the Corporate Audit department are another source of information for the systematic identification of risks. These risks are documented in the relevant risk or audit report. The same applies to specific risk minimization measures as well as the time frame for their implementation.

One key element in the prevention of compliance violations is **compulsory training and workshops** held as classroom or online courses. All employees are required within a prescribed time frame to take part in basic compliance training, refresher courses and special tutorials dealing with, for example, antitrust legislation, taxes or trade control regulations. Newly appointed senior executives also receive special training on leading with integrity. Course materials and formats are constantly updated, taking into account the specific risks of individual target groups and business areas. In total,

more than 53,000 participants worldwide received over 79,000 hours of compliance training in 2021.

For more information on the BASF Code of Conduct, see basf.com/code_of_conduct

Compliance culture at BASF

We firmly believe that for corporate responsibility to be a success, there must be an active culture of living these guidelines within the company. Our **compliance standards** were consolidated in the global Code of Conduct in 2013 and republished in June 2020 in our currently applicable global Code of Conduct. They are firmly established and recognized. We expect all employees to act in line with these compliance principles. Managers play a key role here – they serve as an example of and communicate our values and culture both internally and externally. To specifically address compliance and integrity as a leadership task, a workshop series was held in 2021 with more than 130 senior executives.

Monitoring adherence to our compliance principles

BASF's Chief Compliance Officer (CCO) reports directly to the Chairman of the Board of Executive Directors and manages the further development of our global compliance organization and our Compliance Management System. The CCO is supported in this task by the Compliance unit and more than 100 compliance officers worldwide in the regions and countries as well as in the divisions, service units and in the Corporate Center. Material compliance topics are regularly discussed in the compliance committees established at global and regional level. The CCO reports to the Supervisory Board's Audit Committee in at least one of its meetings each year on the status of the Compliance Program as well as any major developments. In the event of significant incidents, the Audit Committee is immediately informed by the Board of Executive Directors.

We particularly encourage our employees to actively and promptly seek guidance if in doubt. They can consult their supervisors, specialist departments, such as the Legal department, and company compliance officers. The internal platform and the corresponding app also help employees to access advice by enabling direct contact. In addition, we have set up more than 50 external hotlines worldwide that our employees can use – including anonymously – to report potential violations of laws or company guidelines. We enhanced and standardized these hotlines in 2021. An independent external company was engaged to manage all hotlines. In the future, the cases reported will be recorded and processed in one global system. In addition to local phone numbers, a new website now also makes it possible to get in contact online using a computer or smartphone. All hotlines and the website are also open to the public. Each concern is documented according to specific criteria, properly investigated in line with standard internal procedures and answered as quickly as possible. The outcome of the investigation as well as any measures taken are documented accordingly and included in internal reports.

In 2021, 277 reports were received by our external hotlines (2020: 387). The information received related to all categories of our Code of Conduct, including environmental and human rights issues, corruption and handling of company property. We carefully investigated all cases of suspected misconduct that came to our attention and, when necessary, took countermeasures on a case-by-case basis. These included, for example, improved control mechanisms, additional informational and training measures, clarification and expansion of the relevant internal regulations, as well as disciplinary measures as appropriate. Most of the justified cases related to personal misconduct in connection with the protection of company property, inappropriate handling of conflicts of interests or gifts and invitations. In such isolated cases, we took disciplinary measures in accordance with uniform internal standards and also pursued claims for damages where there were sufficient prospects of success. In 2021, violations of our Code of Conduct led to termination of employment in a total of 32 cases (2020: 31). This relates to diverse employee groups, including executives.

BASF's **Corporate Audit department** monitors adherence to compliance principles, covering all areas in which compliance violations could occur. They check that employees uphold regulations and make sure that the established processes, procedures and monitoring tools are appropriate and sufficient to minimize potential risks or preclude violations in the first place. In 2021, 77 audits of this kind were performed Group-wide (2020: 61). Our compliance management system itself is also regularly audited by the internal Corporate Audit department, most recently in November 2018. Overall, the audits confirmed the effectiveness of the compliance management system. In cooperation with an external consulting firm, we developed a comprehensive action plan in 2021 to ensure the systematic, continuous optimization of the compliance management system.

We monitor our business partners in sales for potential compliance risks based on the global **Guideline on Business Partner Due Diligence** using a checklist, a questionnaire and an internet-based analysis. The results are then documented. If business partners are not prepared to answer the questionnaire, we do not enter into a business relationship with them. A dedicated global Supplier Code of Conduct applies to our suppliers, which covers compliance with environmental, social and corporate governance standards, among other requirements. As part of our trade control processes, we also check whether persons, companies or organizations appear on sanction lists due to suspicious or illegal activities, and whether there are business processes with business partners from or in countries under embargo.

We support the United Nations' Guiding Principles on Business and Human Rights and are constantly working to enhance our internal guidelines and processes in keeping with these principles. For example, there is an internal **guideline to respect international labor and social standards** that is applicable throughout the Group. Outside of our company, too, we support respect for human rights and the fight against corruption. We are a founding member of the United Nations Global Compact. As a member of Transparency International Deutschland and the Partnering Against Corruption Initiative (PACI) of the World Economic Forum, we assist in the implementation of these organizations' objectives.

As prescribed by BASF's Code of Conduct and corporate values, we adhere to uniformly high standards and integrity regarding tax-related issues. To aid in the achievement of the U.N. SDGs and to meet our own standards for the creation of economic and social value, we contribute to public finances in accordance with legal requirements and our corporate values. BASF's Value to Society method considers taxes paid by BASF to be a social advantage. In 2020, we developed and published the BASF tax principles, which are binding for all Group entities.

For more information on the Supplier Code of Conduct and supplier assessments, see page **109** onward

For more information on the Code of Conduct, see basf.com/code_of_conduct

For more information on human rights and labor and social standards, see **basf.com/human_rights**

For more information on on tax principles, see **basf.com/en/corporategovernance**

Management and Supervisory Boards

Board of Executive Directors

There were six members on the Board of Executive Directors of BASF SE as of December 31, 2021. As part of its long-term succession planning and in line with its diversity concept, the Supervisory Board appointed Dr. Melanie Maas-Brunner as a member of the Board of Executive Directors on December 17, 2020. The Board of Executive Directors therefore temporarily comprised seven members from February 1, 2021, until the departure of Wayne T. Smith as of May 31, 2021. Some of the responsibilities within the Board of Executive Directors were reallocated effective June 1, 2021, as a result of this change.

The composition of the Board of Executive Directors and the responsibilities of individual members are as follows:

	Responsibilities (as of February 21, 2022)	First appointed	Term expires	Supervisory board mandates within the meaning of section 100(2) of the German Stock Corporation Act	Comparable German and non-German supervisory bodies
Dr. Martin Brudermüller Chairman of the Board of Executive Directors Degree: Chemistry, 60 years old 34 years at BASF	Corporate Legal, Compliance & Insurance; Corporate Development; Corporate Communications & Government Relations; Corporate Human Resources; Corporate Investor Relations	2006	2023	Mercedes-Benz Group AG[a] (until March 31, 2022: Daimler AG) (member of the Supervisory Board since March 31, 2021) Mercedes-Benz AG (Mercedes-Benz Group AG group company) (member of the Supervisory Board since April 22, 2021)	–
Dr. Hans-Ulrich Engel Vice Chairman of the Board of Executive Directors Degree: Law, 62 years old 34 years at BASF	Corporate Finance; Corporate Audit; Corporate Taxes & Duties; Global Business Services; Global Digital Services; Global Procurement	2008	2023	Wintershall Dea AG (Chairman of the Supervisory Board since November 2, 2021; Deputy Chairman of the Supervisory Board until November 1, 2021)[b] Wintershall AG (Chairman of the Supervisory Board)[b]	Nord Stream AG (member of the Shareholders' Committee)
Saori Dubourg Degree: Business, 50 years old 25 years at BASF	Agricultural Solutions; Care Chemicals; Nutrition & Health; Europe	2017	2025	Wintershall Dea AG (member of the Supervisory Board)[b]	–
Michael Heinz Degree: MBA, 57 years old 38 years at BASF	Monomers; Performance Materials; Petrochemicals; Intermediates; North America; South America	2011	2024	Wintershall Dea AG (member of the Supervisory Board)[b]	BASF Antwerpen N.V. (Chairman of the Administrative Council until May 31, 2021)
Dr. Markus Kamieth Degree: Chemistry, 51 years old 23 years at BASF	Catalysts; Coatings; Dispersions & Resins; Performance Chemicals; Greater China; South & East Asia, ASEAN & Australia/New Zealand; Mega Projects Asia	2017	2025	–	Solenis UK International Ltd. (member of the Board of Directors until December 31, 2021)
Dr. Melanie Maas-Brunner **(since February 1, 2021)** Degree: Chemistry, 53 years old 25 years at BASF	Corporate Environmental Protection, Health & Safety; European Site & Verbund Management; Global Engineering Services; Advanced Materials & Systems Research; Bioscience Research; Process Research & Chemical Engineering; BASF New Business	2021	2024	–	BASF Antwerpen N.V. (Chairwoman of the Administrative Council since June 1, 2021)
Wayne T. Smith **(until May 31, 2021)** Degrees: Chemical Engineering, MBA, 61 years old 17 years at BASF		2012	2021	–	Inter Pipeline Ltd. (member of the Board of Directors)

a Publicly listed
b Internal membership within the meaning of section 100(2) sentence 2 of the German Stock Corporation Act

Supervisory Board

In accordance with the Statutes, the Supervisory Board of BASF SE comprises 12 members. The term of office of the Supervisory Board commenced following the Annual Shareholders' Meeting on May 3, 2019, in which the shareholder representatives on the Supervisory Board were elected. In accordance with the applicable article of the Statutes as of the date of election, it terminates upon conclusion of the Annual Shareholders' Meeting that resolves on the discharge of members of the Supervisory Board for the fourth complete business year after the term of office commenced; this is the Annual Shareholders' Meeting on April 25, 2024.

The Supervisory Board comprises the following members (as of February 21, 2022):

	Member of the Supervisory Board since	Memberships of statutory supervisory boards in Germany	Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises
Dr. Kurt Bock, Heidelberg, Germany*[1] Chairman of the Supervisory Board of BASF SE Former Chairman of the Board of Executive Directors of BASF SE (until May 2018)	June 18, 2020	Fuchs Petrolub SE[3] (chair) Bayerische Motoren Werke Aktiengesellschaft[3] (member)	–
Franz Fehrenbach, Stuttgart, Germany[1] Vice Chairman of the Supervisory Board of BASF SE Former Chairman of the Supervisory Board of Robert Bosch GmbH (until December 31, 2021)	January 14, 2008	Robert Bosch GmbH[4] (chair until December 31, 2021) Stihl AG (Stihl Holding AG & Co. KG group company)[3] (vice chair)	Stihl Holding AG & Co. KG[4] (member of the Advisory Board) Linde plc[3] (member of the Board of Directors)
Sinischa Horvat, Limburgerhof, Germany*[2] Vice Chairman of the Supervisory Board of BASF SE Chairman of the Works Council of BASF SE, Ludwigshafen Site; Chairman of BASF's Joint Works Council and of the BASF Works Council Europe	May 12, 2017	–	–
Prof. Dr. Thomas Carell, Munich, Germany*[1] Professor of Organic Chemistry at Ludwig Maximilians University Munich	May 3, 2019	–	–
Dame Alison Carnwath DBE, Exeter, England*[1] Senior Advisor Evercore Partners	May 2, 2014	–	Zurich Insurance Group AG[3] (independent, non-executive member of the Board of Directors) Zürich Versicherungs-Gesellschaft AG (Zurich Insurance Group AG group company)[4] (independent, non-executive member of the Board of Directors) PACCAR Inc.[3] (independent member of the Board of Directors) Coller Capital Ltd.[4] (non-executive member of the Board of Directors) Broadwell Capital Limited[4] (non-executive member of the Board of Directors) Asda Group Limited[4] (non-executive member of the Board of Directors since December 1, 2021) EG Group Holdings Limited[4] (non-executive member of the Board of Directors and chair of the audit committee since March 1, 2021)

* Classified by the Supervisory Board as an "independent" member of the Supervisory Board (see page 166 for the criteria used to determine independence)
1 Shareholder representative
2 Employee representative
3 Publicly listed
4 Not publicly listed

Continued from previous page

	Member of the Supervisory Board since	Memberships of statutory supervisory boards in Germany	Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises
Liming Chen, Beijing, China*[1] Chairman IBM Greater China Group	October 8, 2020	–	IBM China Investment Company Ltd.[4] (chair, intragroup membership) IBM (China) Company Ltd.[4] (chair, intragroup membership) IBM Global Services (DaLian) Company Limited[4] (chair, intragroup membership) IBM Solution and Services (ShenZhen) Company Ltd.[4] (chair, intragroup membership) IBM Financing and Leasing Company Ltd.[4] (chair, intragroup membership) IBM Factoring (China) Company Ltd.[4] (chair, intragroup membership) Inspur Power Commercial Systems Company Ltd.[4] (chair, intragroup membership)
Tatjana Diether, Limburgerhof, Germany*[2] Deputy Chairwoman of the Works Council of BASF SE, Ludwigshafen Site, and member of the BASF Works Council Europe	May 4, 2018	–	–
Waldemar Helber, Otterbach, Germany*[2] Member of the Works Council of BASF SE, Ludwigshafen Site	April 29, 2016	–	–
Anke Schäferkordt, Cologne, Germany*[1] Member of the Supervisory Board	December 17, 2010	Serviceplan Group Management SE[4] (partner with unlimited liability of Serviceplan Group SE & Co. KG) (member) Bayerische Motoren Werke Aktiengesellschaft[3] (member)	Wayfair Inc.[3] (non-executive director)
Denise Schellemans, Brecht, Belgium[2] Full-time trade union delegate	January 14, 2008	–	–
Roland Strasser, Riedstadt, Germany*[2] Regional Manager of the Rhineland-Palatinate/Saarland branch of IG BCE	May 4, 2018	AbbVie Komplementär GmbH[4] (member) V & B Fliesen GmbH[4] (member) Villeroy & Boch AG[3] (member)	–
Michael Vassiliadis, Hannover, Germany[2] Chairman of the Mining, Chemical and Energy Industries Union	August 1, 2004	Steag GmbH[4] (member) RAG Aktiengesellschaft[3] (vice chair) Henkel AG & Co. KGaA[3] (member) Vivawest GmbH[4] (member)	–

* Classified by the Supervisory Board as an "independent" member of the Supervisory Board (see page 166 for the criteria used to determine independence)
1 Shareholder representative
2 Employee representative
3 Publicly listed
4 Not publicly listed

Report of the Supervisory Board

Dear Shareholders,

BASF's business developed extremely well in 2021. Growth and earnings were considerably higher than expected at the beginning of the year. The Board of Executive Directors decisively seized the opportunities that arose, strengthened BASF's overall competitiveness and laid important groundwork for the future. They did so in an exceptionally challenging environment, including a sharp rise in raw materials and energy prices, strained conditions in many international supply chains, and problems with production and volumes in the automotive industry, which is particularly important for BASF. In addition, political tensions have increased and global economic activity has become even more demanding overall. Most of these factors will continue to challenge us in 2022.

The Board of Executive Directors has enhanced and refined the portfolio and driven forward important investments for profitable growth. Above all, it defined ambitious targets to further reduce CO_2 emissions at an early stage and presented a package of measures aimed at increasing sustainability in the BASF Group. The underlying conditions vital to this, such as the European Green Deal and upcoming regulation of the chemical industry in the E.U., are currently difficult to assess and were the subject of in-depth discussion.

The Supervisory Board expressly supports this approach and is following it closely, both in an advisory capacity and through regular and critical monitoring. It would like to thank the Board of Executive Directors and all employees worldwide for their dedication, extraordinary work and outstanding results in the 2021 business year.

We will drive forward change in the Supervisory Board, too. Anke Schäferkordt, Franz Fehrenbach, Denise Schellemans, Waldemar Helber and Roland Strasser will resign from the Supervisory Board on conclusion of the Annual Shareholders' Meeting on April 29, 2022. As a result, its composition will once again change quite significantly compared with the start of the current term of office in 2019.

Unfortunately, the new shareholder representatives will again not be able to be elected at a physical Annual Shareholders' Meeting in 2022. The Supervisory Board deeply regrets this, as it believes that it is the ideal place to discuss BASF's development with you. However, after intensive consultation, the Supervisory Board concurred with the Board of Executive Directors' assessment that, from today's perspective, it will not be possible to hold a physical Annual Shareholders' Meeting in a responsible manner at the end of April this year given the current situation.

Monitoring and consultation in an ongoing dialog with the Board of Executive Directors

In 2021, the Supervisory Board of BASF SE exercised its duties as required by law and the Statutes with the utmost care. It regularly monitored the management of the Board of Executive Directors and provided advice on the company's strategic development and important individual measures, about which the Supervisory Board was regularly and thoroughly informed by the Board of Executive Directors. This occurred both during and outside of the meetings of the Supervisory Board and its committees in the form of written and oral reports on, for example, all of the major financial key performance indicators (KPIs) of the BASF Group and its segments, the economic situation in the main sales and procurement markets, and on deviations in business developments from original plans. Furthermore, the Supervisory Board tackled fundamental questions of corporate planning, including financial, investment, sales volumes and personnel planning, as well as measures for designing the future of research and

development. Regular topics of discussion were occupational and process safety and matters relating to sustainability, the environmental and social impact of the company's activities and the challenges of climate change for the future development of BASF's business. The Supervisory Board discussed in detail the reports from the Board of Executive Directors, and also deliberated on prospects for the company and its individual business areas with the Board of Executive Directors. It was convinced of the lawfulness, expediency and propriety of the Board of Executive Director's company leadership.

The Chairman of the Supervisory Board and the Chairman of the Board of Executive Directors were also in regular contact outside of Supervisory Board meetings. The Chairman of the Supervisory Board was always promptly and comprehensively informed of current developments and significant individual issues. The Supervisory Board was involved at an early stage in decisions of major importance. The Supervisory Board passed resolutions on all of those individual measures taken by the Board of Executive Directors which by law or the Statutes required the approval of the Supervisory Board.

Supervisory Board meetings

The Supervisory Board held five meetings in the 2021 business year, each of which was attended by all members. The meetings were held in person with most Supervisory Board members physically present. Only at the meeting prior to the virtual Annual Shareholders' Meeting did the majority of members also participate virtually. The members of the Supervisory Board elected by shareholders and those elected by the employees prepared for the meetings in separate preliminary discussions in each case, which were also attended by members of the Board of Executive Directors.

All members of the Board of Executive Directors attended the Supervisory Board meetings unless it was deemed appropriate that the Supervisory Board discuss individual topics – such as personnel matters relating to the Board of Executive Directors – without them being present. In addition, each Supervisory Board meeting includes an agenda item that provides an opportunity for discussion without the Board of Executive Directors (executive session).

An individual overview of attendance at meetings of the Supervisory Board and its committees will be made available on the company website at basf.com/supervisoryboard/meetings

A significant component of all Supervisory Board meetings was the Board of Executive Directors' reports on the current business situation with detailed information on sales and earnings development, as well as on opportunities and risks for business development, the status of important investment projects (current and planned), operational excellence, important aspects of economic, environmental and social sustainability, developments on the capital markets, significant managerial measures taken by the Board of Executive Directors, and innovation projects.

In all meetings held in 2021, the Supervisory Board also discussed the progress of major investments and ongoing portfolio projects. Discussions focused on:

- The development of the joint venture Wintershall Dea created by the merger of the oil and gas businesses of BASF and LetterOne
- The investment in a joint venture with Shanshan to produce battery materials in China
- The progress and opportunities and risks of the investment project to establish a new Verbund site in southern China
- The progress and completion of the sale of the pigments business

Important topics addressed by the Supervisory Board, which were discussed with the Board of Executive Directors at all meetings, were the effects, challenges and opportunities of climate change and, in particular, the European Green Deal and the resulting changes in the regulatory environment. The Supervisory Board is convinced that the successful management of the necessary, fundamental transformation process, which affects all stages of the value chain, is key to BASF's future and long-term success, not least with regard to society's and investors' likely expectations. These topics were also the main focus of the Supervisory Board's strategy meeting in October 2021.

At its meeting on February 24, 2021, the Supervisory Board reviewed and approved the Consolidated Financial Statements, Management's Report and the proposal for the appropriation of profit for the 2020 business year as presented by the Board of Executive Directors. It also discussed the agenda for the Annual Shareholders' Meeting on April 29, 2021, and adopted its proposals for resolutions. Since, due to the continuing effects of the coronavirus pandemic, the Supervisory Board considered it impossible to hold a physical meeting, it agreed to again hold the Annual Shareholders' Meeting as a virtual event without the physical presence of shareholders. Other topics discussed at the meeting were business conditions and development as well as opportunities and risks for BASF's business in China, the world's largest

chemical market, the project to construct a new Verbund site in southern China, and current business developments, opportunities and challenges in the Petrochemicals division.

The Supervisory Board met on April 28, 2021, one day before the virtual Annual Shareholders' Meeting, primarily to prepare for the Annual Shareholders' Meeting. Another topic was the shareholding in the Wintershall Dea joint venture.

The main agenda items at the meeting on July 22, 2021, were BASF's leadership development and personnel concept, the development and management of pension obligations, the development of the Global Business Services unit, and market opportunities and risks in connection with the European Green Deal.

At the strategy meeting on October 21/22, 2021, the Board of Executive Directors and the Supervisory Board discussed at length the status of implementation of the corporate strategy with a particular focus on growth, strengthening profitability and portfolio development, as well as key aspects of BASF's strategic development. These included:

- The development of research and development activities
- E-mobility and the transformation of the automotive industry as factors influencing the development of the BASF Group
- Market prospects and growth opportunities in China as the largest regional market for chemical products; growth projects such as the Verbund site in southern China and the further expansion of the battery materials business
- Climate change and the European Green Deal and their effects on BASF, as well as the resulting development paths, opportunities and risks
- The status, development and prospects of selected BASF business areas

At its meeting on December 16, 2021, the Supervisory Board discussed and approved the Board of Executive Directors' operational and financial planning, including the investment budget for 2022, and, as in previous years, authorized the Board of Executive Directors to procure the necessary financing in 2022 within a set limit. In addition, the Supervisory Board discussed the Board of Executive Directors' recommendation that, given the uncertainty surrounding the further development of the coronavirus pandemic and potential restrictions, the Annual Shareholders' Meeting on April 29, 2022, is also held as a virtual event. The Supervisory Board agreed to this following extensive deliberation and consideration of the resulting, unavoidable restrictions of shareholder rights compared with a physical meeting.

Compensation and composition of the Board of Executive Directors

In several meetings over the 2021 business year, the Supervisory Board discussed and passed resolutions on the compensation of the Board of Executive Directors. Matters relating to the composition of the Board of Executive Directors did not arise in 2021.

At its meeting on February 24, 2021, the Supervisory Board deliberated and agreed on the 2021 targets for the Board of Executive Directors based on the preparations of the Personnel Committee. It also discussed and resolved on the final performance factors for the Board of Executive Directors' short-term and long-term incentives for 2020. At its meeting on December 16, 2021, the Supervisory Board evaluated, based on the discussions and the corresponding recommendation of the Personnel Committee, the Board of Executive Directors' performance in 2021 and set the performance factor for the short-term incentive 2021 and the strategic performance factors for the deferral compensation components for 2018–2021 and 2019–2022. The Chairman of the Supervisory Board abstained from the resolution on the factor for the performance bonus for 2018–2021 as this affected him personally.

For more information on the compensation of the Board of Executive Directors and the Supervisory Board, see the Compensation Report, which has been made publicly available on the company's website at basf.com/compensationreport

Committees

The Supervisory Board of BASF SE has four committees: 1. the committee for personnel matters of the Board of Executive Directors and the granting of loans in accordance with section 89(4) of the German Stock Corporation Act (Personnel Committee); 2. the Audit Committee; 3. the Nomination Committee; and 4. the Strategy Committee. Following each Committee meeting, the chairs of the Committees reported in detail about the meetings and the activities of the Committees at the subsequent meeting of the Supervisory Board.

For information on the composition of the committees and the tasks assigned to them by the Supervisory Board, see the Corporate Governance Report from page 164 onward

The **Personnel Committee** met three times during the reporting period. All committee members attended all meetings. At its meeting on February 24, 2021, the Personnel Committee discussed the targets for the Board of Executive Directors for the 2021 business year and the 2020 Compensation Report. At its meeting on July 21, 2021, the Personnel Committee addressed the status of leadership development at the top levels of management below the Board of Executive Directors and long-term succession planning for the Board of Executive Directors. At its meeting on December 16, 2021, the Personnel Committee discussed the appropriateness of the compensation of the Board of Executive Directors, the assessment of the Board's performance in 2021 and a proposal for the performance-related variable compensation of the Board of Executive Directors.

The **Audit Committee** met five times during the reporting period. All committee members attended all meetings. The Audit Committee is responsible for all the tasks listed in section 107(3) sentence 2 of the German Stock Corporation Act (AktG) and the recommendations of the German Corporate Governance Code. The Audit Committee is also responsible for monitoring the internal process for identifying related party transactions and adopting resolutions to approve related party transactions.

At the meeting on February 22, 2022, the auditor reported in detail on its audits of BASF SE's Separate and Consolidated Financial Statements for the 2021 business year, including the corresponding management's reports, and discussed the results of its audit with the Audit Committee. The committee's audit also included the Nonfinancial Statements of BASF SE and the BASF Group, as well as the Compensation Report of BASF SE in accordance with section 162 AktG, which had been audited by the external auditor. In preparation for the audit of the Nonfinancial Statements, the Audit Committee had, following a corresponding resolution by the Supervisory Board, additionally engaged KPMG to perform a limited assurance and issue an assurance report on it. KPMG also reported in detail on the focus, the procedure and the key findings of this audit.

At the meeting on July 21, 2021, the Audit Committee engaged KPMG AG Wirtschaftsprüfungsgesellschaft – the auditor elected by the Annual Shareholders' Meeting on April 29, 2021 – with the audit for the 2021 reporting year and auditing fees were agreed upon. The focus areas and scope of the annual audit were discussed and defined together with the auditor. The Audit Committee excluded in principle the engagement of the auditor to perform any services outside of the audit of the annual financial statements, including beyond prevailing legal limitations. For certain nonaudit services, the Audit Committee authorized the Board of Executive Directors to engage KPMG for such services to a very limited extent, or granted approval in individual cases. At the meeting on December 15, 2021, the auditors responsible reported on the status of the annual audit, as well as the focus areas of the audit and the most important individual items. The Audit Committee also addressed the effects of the German Financial Market Integrity Strengthening Act on appointing KPMG as an auditor in the future. Due to the change in the rules on auditor rotation, it is now possible to last appoint KPMG for the 2023 business year.

Other important agenda items included providing guidance to the Board of Executive Directors on accounting issues, the control system established by the Board of Executive Directors, and follow-up assessments of acquisition and investment projects. At its meeting on April 27, 2021, the Audit Committee addressed risk management in the BASF Group and the organization of internal environmental, health and safety audits. Its meetings on July 21, 2021, and December 15, 2021, focused on internal auditing and compliance, respectively. In these meetings, the head of the Corporate Audit department and the head of the Corporate Compliance unit reported to the Audit Committee and answered its questions. In all meetings, the Audit Committee also received information on the development of risks from litigation.

The **Nomination Committee** is responsible for preparing candidate proposals for the Supervisory Board members to be elected by the Annual Shareholders' Meeting. The Nomination Committee is guided by the objectives for the composition of the Supervisory Board adopted by the Supervisory Board as well as the competence profile and diversity concept for the Supervisory Board resolved at the meeting on December 21, 2017. The Nomination Committee met twice in 2021. Both meetings were attended by all committee members. Items discussed at the meetings were the current competence profile and diversity concept for the Supervisory Board, the selection of candidates to succeed Franz Fehrenbach and Anke Schäferkordt, who had announced at an early stage that they would resign from the Supervisory Board on conclusion of the Annual Shareholders' Meeting 2022. In 2022, they will have been members of BASF's Supervisory Board for 14 and 12 years, respectively, meaning that both will no longer be independent within the meaning of the criteria of the German Corporate Governance Code and the criteria for the independence of Supervisory Board members set by the Supervisory Board. The committee identified successor candidates in a structured process and with external support, and evaluated them according to set criteria. Based on the recommendation of the Nomination Committee, the Supervisory Board resolved on December 16, 2021, to propose Alessandra Genco, Chief Financial Officer of Leonardo SpA, and Prof. Dr. Stefan Asenkerschbaumer, Deputy Chairman of the Board of Management and Chief Financial Officer of Robert Bosch GmbH until

December 31, 2021, for election to the Supervisory Board at the Annual Shareholders' Meeting on April 29, 2022.

The Strategy Committee, which was established to discuss strategic options for the further development of the BASF Group, did not meet in 2021.

Corporate governance and Declaration of Conformity

The Supervisory Board places great value on ensuring good corporate governance: In 2021, it was therefore once again intensely occupied with the corporate governance standards practiced in the company and the implementation of the recommendations and suggestions of the German Corporate Governance Code in the current version dated December 16, 2019.

In accordance with the recommendations of the German Corporate Governance Code and the Guiding principles for the dialog between investors and German supervisory boards, the Chairman of the Supervisory Board again sought dialog with investors where appropriate in 2021.

Special onboarding events are held for new members of the Supervisory Board to familiarize them with the basics of corporate governance at BASF, the organization and internal structures of the BASF Group, and the composition of its businesses. Above and beyond this, the company also supports the members of the Supervisory Board with training for their activities on the Supervisory Board, whether through external offerings such as topic-specific seminars or internal information offerings such as site and plant visits.

At its meeting of December 16, 2021, the Supervisory Board approved the joint Declaration of Conformity by the Supervisory Board and the Board of Executive Directors in accordance with section 161 of the German Stock Corporation Act (AktG). BASF complies with all recommendations of the German Corporate Governance Code in the version dated December 16, 2019. The Corporate Governance Report provides extensive information on the BASF Group's corporate governance.

The full Declaration of Conformity is rendered on page 184 and is available to shareholders on the company website at basf.com/en/corporategovernance

Independence and efficiency review

An important aspect of good corporate governance is the independence of Supervisory Board members and their freedom from conflicts of interest. The Supervisory Board based the assessment of the independence of its members on the recommendations of the German Corporate Governance Code and the additional criteria for assessing the independence of Supervisory Board members contained in the Rules of Procedure of the Supervisory Board, which were revised in the Supervisory Board meeting on December 19, 2019. The criteria used to assess independence are presented in the Corporate Governance Report on page 166. According to the Supervisory Board's assessment, on the basis of these criteria, five of the six shareholder representatives and four of the six employee representatives – 9 of the 12 members of the Supervisory Board in total – are considered to be independent as of the end of 2021. All three non-independent Supervisory Board members were classified as such due to the length of their membership on the Supervisory Board, which exceeds 12 years in each case. Franz Fehrenbach and Denise Schellemans, two of the members to be classified as non-independent, will leave the Supervisory Board on conclusion of the Annual Shareholders' Meeting on April 29, 2022; this increases the number of independent members to 11 of 12 members. Above and beyond this, however, the Supervisory Board does not see any indications that the Supervisory Board role is not performed completely independently. In cases where Supervisory Board members hold supervisory or management positions at companies with which BASF has business relations, we see no impairment of their independence. The scope of these businesses is marginal and furthermore takes place under conditions similar to those of a third party.

The Supervisory Board reviews the efficiency of its activities every year in the form of a self-assessment. To this end, the Chairman of the Supervisory Board conducted a written survey of all Supervisory Board members in the fourth quarter of 2021 on the basis of a detailed questionnaire covering the entire range of relevant Supervisory Board topics. These included, in particular, the preparation and conduct of Supervisory Board meetings, the content and topics of the meetings, cooperation within the Supervisory Board, and cooperation with the Board of Executive Directors and the auditor. The results of these dialogs, including suggestions to further improve the Supervisory Board's work, were presented by the Chairman of the Supervisory Board at the Supervisory Board meeting on December 16, 2021, and thoroughly discussed by the members of the Supervisory Board. Overall, its members again rated the Supervisory Board's activity as efficient.

Independent of the efficiency review of the Supervisory Board, the Audit Committee also conducted a self-assessment of its activities in 2021 based on individual discussions between the chair of the Audit Committee and all members of the Audit Committee. Material subjects were the organization and content of meetings, meeting documents and reports, participants and quality of discussion at meetings, and the implementation of the recommendations of the 2020 efficiency review. The Audit Committee discussed the results of the questionnaire and detailed suggestions at its meeting on December 15, 2021. On this basis, the members judged the Audit Committee's work to be efficient and appropriate.

Separate and Consolidated Financial Statements; Compensation Report

KPMG AG Wirtschaftsprüfungsgesellschaft, the auditor elected by the Annual Shareholders' Meeting for the 2021 reporting year, has audited the Financial Statements of BASF SE and the BASF Group Consolidated Financial Statements, which were prepared in accordance with the International Financial Reporting Standards (IFRS) as adopted by the European Union, and the additional requirements that must be applied in accordance with section 315e(1) of the German Commercial Code (HGB), including the Management's Report and the accounting records from which they were prepared, and have approved them free of qualification. Furthermore, the auditor certified that the Board of Executive Directors had taken the measures incumbent on it under section 91(2) of the German Stock Corporation Act (AktG) in an appropriate manner. In particular, it had instituted an appropriate early risk detection system that fulfilled the requirements of the company and is applicable for the early identification of developments that could pose a risk to the continued existence of the BASF Group. The results of the audit as well as the procedure and material findings of the audit of the financial statements are presented in the Auditor's Report.

The Auditor's Report is rendered from page 188 onward

For more information on the auditor, see the Corporate Governance Report on page 170

Beyond the statutory audit of the Financial Statements, KPMG also conducted, on behalf of the Supervisory Board, a limited assurance of the Nonfinancial Statements (NFSs) for BASF SE and the BASF Group, which are integral parts of the respective management's reports. On the basis of its audit, KPMG did not raise any objections to reporting and the satisfaction of the relevant statutory requirements. Above and beyond the statutory requirements, the auditor also conducted a limited assurance of the Compensation Report that is to be prepared by the Board of Executive Directors and Supervisory Board in accordance with section 162 AktG.

The assurance report issued by KPMG on the substantive audit of the NFS can be found at basf.com/nfs-audit-2021

The assurance report issued by KPMG on the audit of the Compensation Report can be found at basf.com/compensationreport

The auditor's reports were sent in a timely manner to every member of the Supervisory Board. The auditor attended the accounts review meeting of the Audit Committee on February 22, 2022, as well as the accounts meeting of the Supervisory Board on February 23, 2022, and reported on the procedure and material findings of its audit, including the key audit matters described in the Auditor's Report. The auditor also provided the Supervisory Board with detailed explanations of the reports on the day before the accounts meeting.

The Audit Committee reviewed the Financial Statements, the Management's Report and the Compensation Report at its meeting on February 22, 2022, including the reports prepared by the auditor and the key audit matters specified in the Auditor's Report, and discussed them in detail with the auditor. The chair of the Audit Committee gave a detailed account of the preliminary review at the Supervisory Board meeting on February 23, 2022. On this basis, the Supervisory Board examined the Financial Statements and Management's Report of BASF SE for 2021, the proposal by the Board of Executive Directors for the appropriation of profit, and the Consolidated Financial Statements and Management's Report for 2021. The results of the preliminary review by the Audit Committee and the results of the Supervisory Board's own examination fully concur with those of the audit. The Supervisory Board sees no grounds for objection to the management or the reports submitted.

At its accounts meeting on February 23, 2022, the Supervisory Board approved the Financial Statements of BASF SE and the Consolidated Financial Statements of the BASF Group prepared by the Board of Executive Directors, making the 2021 Financial Statements final. The Supervisory Board concurred with the proposal of the Board of Executive Directors regarding the appropriation of profit and the payment of a dividend of €3.40 per share.

Also at the meeting on February 23, 2022, the Supervisory Board discussed with the Board of Executive Directors the joint Compensation Report of the Board of Executive Directors and the Supervisory Board in accordance with section 162 AktG and approved it.

The Compensation Report is publicly available on the company's website at basf.com/compensationreport

Composition of the Supervisory Board

Liming Chen, the Supervisory Board member appointed by the Ludwigshafen am Rhein local court (*Amtsgericht*) effective October 8, 2020, was elected to the Supervisory Board as a shareholder representative by the Annual Shareholders' Meeting on April 29, 2021, and was thus confirmed as a member of the Supervisory Board with a term of office until the end of the current Supervisory Board period in 2024.

In addition, the Supervisory Board members Anke Schäferkordt and Franz Fehrenbach announced in 2021 that they will resign from the Supervisory Board on conclusion of the Annual Shareholders' Meeting on April 29, 2022. In light of this, the Supervisory Board selected Alessandra Genco and Prof. Dr. Stefan Asenkerschbaumer as candidates to succeed them on the Supervisory Board based on a selection process managed by the Nomination Committee. Details of the two candidates proposed for election will be published in the invitation to the Annual Shareholders' Meeting and made available on the company's website at basf.com/annualmeeting.

According to the Supervisory Board's assessment, the current and proposed future composition of the Supervisory Board meet in full the objectives with respect to its competence profile and diversity concept.

Ludwigshafen, February 23, 2022

The Supervisory Board

Dr. Kurt Bock
Chairman of the Supervisory Board

Declaration of Conformity Pursuant to Section 161 AktG

Declaration of Conformity 2021 of the Board of Executive Directors and the Supervisory Board of BASF SE

The Board of Executive Directors and the Supervisory Board of BASF SE hereby declare pursuant to section 161 AktG (German Stock Corporation Act)

The recommendations of the Government Commission on the German Corporate Governance Code as amended on December 16, 2019, published by the Federal Ministry of Justice on March 20, 2020, in the official section of the Federal Gazette are complied with and have been complied with since the submission of the last Declaration of Conformity of December 2020.

Ludwigshafen, December 2021

The Supervisory Board
of BASF SE

The Board of Executive Directors
of BASF SE

Declaration of Corporate Governance

Declaration of Corporate Governance in accordance with section 315d HGB in connection with section 289f HGB

The Declaration of Corporate Governance, pursuant to section 315d HGB in connection with section 289f HGB, comprises the subchapters Corporate Governance Report including the description of the diversity concept for the composition of the Board of Executive Directors and the Supervisory Board (except for the disclosures pursuant to section 315a HGB), Compliance and Declaration of Conformity as per section 161 of the German Stock Corporation Act (AktG) in the Corporate Governance chapter. It is a component of the Management's Report.

Pursuant to section 317(2) sentence 6 HGB, the auditor checked that the disclosures according to section 315d HGB were made.

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Statement by the Board of Executive Directors

and assurance pursuant to sections 297(2) and 315(1) of the German Commercial Code (HGB)

The Board of Executive Directors of BASF SE is responsible for preparing the Consolidated Financial Statements and Management's Report of the BASF Group.

The BASF Group Consolidated Financial Statements for 2021 were prepared according to the International Financial Reporting Standards (IFRS), which are published by the International Accounting Standards Board (IASB), London, and have been endorsed by the European Union.

We have established effective internal control and steering systems in order to ensure that the BASF Group's Management's Report and Consolidated Financial Statements comply with applicable accounting rules and to ensure proper corporate reporting.

The risk management system we have set up is designed such that the Board of Executive Directors can identify material risks early on and take appropriate defensive measures as necessary. The reliability and effectiveness of the internal control and risk management system are continually audited throughout the Group by our internal audit department.

To the best of our knowledge, and in accordance with the applicable reporting rules, the Consolidated Financial Statements of the BASF Group give a true and fair view of the net assets, financial position and results of operations of the Group, and the Management's Report of the BASF Group includes a fair review of the development and performance of the business as well as position of the BASF Group, together with a description of the principal opportunities and risks associated with the expected development of the BASF Group.

Ludwigshafen am Rhein, February 23, 2022

Dr. Martin Brudermüller
Chairman of the Board of Executive Directors

Dr. Hans-Ulrich Engel
Vice Chairman and Chief Financial Officer

Saori Dubourg

Michael Heinz

Dr. Markus Kamieth

Dr. Melanie Maas-Brunner

Independent Auditor's Report[1]

To BASF SE, Ludwigshafen am Rhein

Report on the Audit of the Consolidated Financial Statements and of the Group Management Report

Opinions

We have audited the Consolidated Financial Statements of BASF SE and its subsidiaries (the Group), which comprise the balance sheet as at December 31, 2021, statement of income, statement of income and expense recognized in equity, statement of cash flows, statement of equity for the financial year from January 1, 2021 to December 31, 2021 and Notes to the Consolidated Financial Statements, including a summary of significant accounting policies. In addition, we have audited the Group Management Report of BASF SE for the financial year from January 1, 2021 to December 31, 2021.

In accordance with German legal requirements we have not audited the content of those components of the Group Management Report specified in the "Other Information" section of our auditor's report.

The Group Management Report contains cross-references which are not intended to use by law and are identified as unaudited. In accordance with the German legal requirements we have not audited the content of those cross-references and the related referenced information.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying Consolidated Financial Statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Section 315e (1) of the German Commercial Code (HGB) and full IFRS and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at December 31, 2021, and of its financial performance for the financial year from January 1, 2021 to December 31, 2021, and
- the accompanying Group Management Report as a whole provides an appropriate view of the Group's position. In all material respects, this Group Management Report is consistent with the Consolidated Financial Statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our opinion on the Group Management Report does not cover the content of those parts of the Group Management Report specified in the "Other Information" section of our auditor´s report. The Group Management Report contains cross-references which are not legally required and are identified as unaudited. Our opinion does not cover those cross-references and the referenced information.

Pursuant to Section 322 (3) sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the Consolidated Financial Statements and of the Group Management Report.

Basis for the Opinions

We conducted our audit of the Consolidated Financial Statements and of the Group Management Report in accordance with Section 317 HGB and the EU Audit Regulation No. 537/2014 (referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institute of Public Auditors in Germany (Institut der Wirtschaftsprüfer, IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the Consolidated Financial Statements and on the Group Management Report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the Consolidated Financial Statements for the financial year from January 1, 2021 to December 31, 2021. These matters were addressed in the context of our audit of the Consolidated Financial Statements as a whole, and in forming our opinion thereon, we do not provide a separate opinion on these matters.

1 This is a translation of the German original. Solely the original text in German language is authoritative.

Recoverability of goodwill

For information on the accounting principles applied, please refer to Note 1.4 to the Consolidated Financial Statements on page 204. The underlying assumptions used in the calculation and the disclosures on the impairment tests performed are included in Note 14 to the Consolidated Financial Statements from page 236 onward.

Financial statement risk

Intangible assets in the Consolidated Financial Statements of BASF SE include goodwill in the amount of €7,520 million. Goodwill accounts for 8.6% of total assets and thus has a material impact on the company's net assets. Goodwill must be tested for impairment annually and whenever there is an indication that goodwill may be impaired.

Goodwill impairment testing is complex and is based on a range of discretionary assumptions. These include the forecasts for future cash inflows in the detailed planning period, the assumed growth rate for subsequent periods and the cost of capital. These assumptions have a material impact on the recoverability of goodwill. The growth forecasts of the Board of Executive Directors are associated with risks and can be revised in light of volatile raw materials prices and an instable macroeconomic environment.

There is the risk for the financial statements that an impairment as of the balance sheet date is not identified or that an impairment as of the balance sheet date is not recognized with an appropriate amount. In addition, there is also a risk that the disclosures in the Notes on the key assumptions are not appropriate and complete.

Our audit approach

We consulted our valuation specialists in order to assess, among other things, the appropriateness of the key assumptions as well as the Group's methods of calculation.

We examined the forecast for the expected business and earnings development and the resulting cash flows in the detailed planning period, in particular with respect to whether the expected development of the relevant sales markets were given appropriate consideration and are consistent with the current budgets adopted by the Board of Executive Directors and the Supervisory Board. We compared internal growth forecasts with industry expectations and those of significant competitors and we assessed whether assumptions contained in the planning regarding the future development of margins and the amount of investments are appropriate. Our review of the appropriateness of the budgets adopted by the Board of Executive Directors and the Supervisory Board also included a comparison of planning in past business years with the results actually achieved. For selected units, we examined whether reasons for not reaching planned values in the past were given appropriate consideration in current planning, to the extent that this was relevant.

We assessed the appropriateness of the assumed growth rate for the period following the detailed planning period on the basis of industry-specific and macroeconomic studies. We evaluated the methodological appropriateness of the calculation and the appropriateness of the weighted cost of capital rates. To this end, we calculated our own expected values for the assumptions and data underlying the weighted cost of capital rates and compared these with the assumptions and data used.

Finally, we assessed whether the disclosures in the Notes on the key assumptions are appropriate and complete.

Our observations

The assumptions and data underlying the calculations of the Board of Executive Directors are acceptable. The disclosures in the Notes on the key assumptions are appropriate and complete.

Recoverability of the shareholding in Wintershall Dea

For information on the accounting principles applied and the underlying assumptions used in the calculation, please refer to Note 10.2 to the Consolidated Financial Statements on page 227.

Financial statement risk

In the Consolidated Financial Statements of BASF SE, shares in Wintershall Dea in the amount of €9,583 million are reported under non-integral shareholdings accounted for using the equity method. The shareholding in Wintershall Dea accounts for 11% of total assets and thus has a material influence on the company's net assets.

If there are indicators for an impairment of an equity-accounted shareholding the company determines the recoverable amount as of the reporting date and compares this with the carrying amount. The recoverable amount is the higher of fair value less costs to sell and the value in use of the shareholding. The higher value in use determined for the shareholding as the recoverable amount is determined using the discounted cash flow method. If the carrying amount is higher than the recoverable amount, this results in an impairment.

The determination of the recoverable amount of the shareholding in the Wintershall Dea is complex and based on discretionary assumptions. These include, in particular, the estimates made by BASF's Board of Executive Directors on the long-term development of oil and gas prices, the forecast production volumes of Wintershall Dea's oil and gas fields based on expected license terms and production profiles, and the cost of capital. The development of future oil and gas prices is subject to increased uncertainty, particularly in view of the timing of the implementation of international climate targets.

In addition to the impairments and reversals of impairments of €161 million after tax recognized by Wintershall Dea, as a result of the impairment test performed, the company recognized impairments of €420 million on fair value adjustments of assets of Wintershall Dea that are carried forward in income from non-integral companies accounted for using the equity method.

There is the risk for the financial statements that a decline in the value of the shareholding as of the balance sheet date was not identified. In addition, there is also the risk that the associated disclosures in the Notes are not appropriate and complete.

Our audit approach

From explanations provided by employees in accounting, we gained an understanding of the company's process to identify indicators for impairment and to determine the recoverable amount. In doing so, we assessed, among other things, whether the calculation of the recoverable amount of the shareholding in Wintershall Dea is consistent with the relevant accounting principles and whether the key assumptions made in this calculation are appropriate.

We discussed the projected development of production volumes and oil and gas prices with the persons responsible for planning. We evaluated the production profiles used in the measurement of the exploration and production business's assets, taking into account assessments by experts contracted by Wintershall Dea. In order to assess its suitability as a basis for calculation, we had the oil and gas price scenario used by the company explained to us. To assess its appropriateness, we compared the oil and gas price scenario used by BASF with the published forecasts of competitors, analysts, international institutions and other market participants. Due to the increased estimation uncertainties regarding future oil and gas price developments, we evaluated the impact of alternative price scenarios on the carrying amount of the shareholding and assessed the appropriateness of the valuation.

In consultation with our valuation specialists, we furthermore satisfied ourselves of the methodological appropriateness of the calculation and the appropriateness of the weighted cost of capital rates. We compared the assumptions and data underlying the cost of capital, in particular the risk-free rate, the market risk premium and the beta factor, with our own assumptions and publicly available data.

In order to assess the accuracy of the measurement of the interest in Wintershall Dea, we reproduced selected calculations taking into account risk-based considerations.

Finally, we assessed whether the disclosures in the Notes on the recoverability of the shareholding in Wintershall Dea are appropriate and complete.

Our observations

The underlying calculation method for the impairment test of the shareholding in Wintershall Dea is appropriate and consistent with the applicable accounting principles.

The company's assumptions and data underlying the measurement are appropriate. The associated disclosures in the notes are appropriate and complete.

Other Information

The Board of Executive Directors and the Supervisory Board are responsible for the other information. The other information comprises the following components of the Group Management Report, whose content was not audited:

- the information of the integrated non-financial statement which is identified as unaudited
- the corporate governance statement in the section Corporate Governance of the Group Management Report, and
- the disclosures which are not normally part of the Group Management Report and which are identified as unaudited.

Additionally, the other Information comprises the remaining parts of the BASF Report 2021.

The other information does not comprise the Consolidated Financial Statements, the audited parts of the Group Management Report and our auditor's report.

Our opinions on the Consolidated Financial Statements and on the Group Management Report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the Consolidated Financial Statements, with the Group Management Report information audited for content or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

If we conclude, based on the work we have conducted, that there is a material misstatement of this other information, we are obligated to report on this fact. We do not have anything to report in this regard.

Responsibilities of the Board of Executive Directors and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

The Board of Executive Directors is responsible for the preparation of the Consolidated Financial Statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB and full IFRS and that the Consolidated Financial Statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, the Board of Executive Directors is responsible for such internal control as they have determined necessary to enable the preparation of Consolidated Financial Statements that are free from material misstatement, whether due to fraud or error.

In preparing the Consolidated Financial Statements, the Board of Executive Directors is responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the Board of Executive Directors is responsible for the preparation of the Group Management Report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the Consolidated Financial Statements complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the Board of Executive Directors is responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a Group Management Report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the Group Management Report.

The Supervisory Board is responsible for overseeing the Group's financial reporting process for the preparation of the Consolidated Financial Statements and of the Group Management Report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report

Our objectives are to obtain reasonable assurance about whether the Consolidated Financial Statements as a whole are free from material misstatement, whether due to fraud or error, and whether the Group Management Report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the Consolidated Financial Statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the Consolidated Financial Statements and on the Group Management Report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these Consolidated Financial Statements and this Group Management Report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the Consolidated Financial Statements and of the Group Management Report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit of the Consolidated Financial Statements and of arrangements and measures (systems) relevant to the audit of the Group Management Report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by the Board of Executive Directors and the reasonableness of estimates made by the Board of Executive Directors and related disclosures.
- Conclude on the appropriateness of the Board of Executive Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the Consolidated Financial Statements and in the Group Management Report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the Consolidated Financial Statements, including the disclosures, and whether the Consolidated Financial Statements present the underlying transactions and events in a manner that the Consolidated Financial Statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB and full IFRS.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the Consolidated Financial Statements and on the Group Management Report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.

– Evaluate the consistency of the Group Management Report with the Consolidated Financial Statements, its conformity with law, and the view of the Group's position it provides.
– Perform audit procedures on the prospective information presented by the Board of Executive Directors in the Group Management Report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the Board of Executive Directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with the audit committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the audit committee with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the Consolidated Financial Statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other Legal and Regulatory Requirements

Report on the Assurance in accordance with Section 317 (3a) HGB on the Electronic Reproduction of the Consolidated Financial Statements and the Group Management Report Prepared for Publication Purposes

We have performed assurance work in accordance with Section 317 (3a) HGB to obtain reasonable assurance about whether the reproduction of the Consolidated Financial Statements and the Group Management Report (hereinafter the "ESEF documents") contained in the file provided that can be downloaded by the issuer from the electronic client portal with access protection, "basf-gruppe-2021-12-31.zip" (SHA256 hash value: 9cb0551f9c637 4988409b15ddd 8d688c5ff4b423a4708d1d2768a220841d4d3a) and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format ("ESEF format"). In accordance with German legal requirements, this assurance only extends to the conversion of the information contained in the Consolidated Financial Statements and the Group Management Report into the ESEF format and therefore relates neither to the information contained in this reproduction nor any other information contained in the above-mentioned electronic file.

In our opinion, the reproduction of the Consolidated Financial Statements and the Group Management Report contained in the above-mentioned electronic file provided and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format. We do not express any opinion on the information contained in this reproduction nor on any other information contained in the above-mentioned file beyond this reasonable assurance opinion and our audit opinion on the accompanying Consolidated Financial Statements and the accompanying Group Management Report for the financial year from January 1, 2021 to December 31, 2021 contained in the "Report on the Audit of the Consolidated Financial Statements and the Group Management Report" above.

We conducted our assurance work on the reproduction of the Consolidated Financial Statements and the Group Management Report contained in the above-mentioned electronic file provided in accordance with Section 317 (3a) HGB and the IDW Assurance Standard: Assurance in accordance with Section 317 (3a) HGB on the Electronic Reproduction of Financial Statements and Management Reports Prepared for Publication Purposes (ED IDW AsS 410) (October 2021). Accordingly, our responsibilities are further described below. Our audit firm has applied the IDW Standard on Quality Management 1: Requirements for Quality Management in Audit Firms (IDW QS 1).

The company's Board of Executive Directors is responsible for the preparation of the ESEF documents including the electronic reproduction of the Consolidated Financial Statements and the Group Management Report in accordance with Section 328 (1) sentence 4 item 1 HGB and for the tagging of the Consolidated Financial Statements in accordance with Section 328 (1) sentence 4 item 2 HGB.

In addition, the company's Board of Executive Directors is responsible for the internal controls they consider necessary to enable the preparation of ESEF documents that are free from material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB for the electronic reporting format.

The supervisory board is responsible for overseeing the preparation process for the ESEF documents as part of the financial reporting process.

Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB.

We exercise professional judgement and maintain professional skepticism throughout the assurance work. We also:

- Identify and assess the risks of material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB, design and perform assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance opinion.
- Obtain an understanding of internal control relevant to the assurance of the ESEF documents in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance opinion on the effectiveness of these controls.
- Evaluate the technical validity of the ESEF documents, i.e. whether the electronic file containing the ESEF documents provided meets the requirements of Commission Delegated Regulation (EU) 2019/815 on the technical specification for this electronic file.
- Evaluate whether the ESEF documents enable an XHTML reproduction with content equivalent to the audited Consolidated Financial Statements and the audited Group Management Report.
- Evaluate whether the tagging of the ESEF documents with Inline XBRL technology (iXBRL) in accordance with Articles 4 and 6 of Commission Delegated Regulation (EU) 2019/815 in the version in force on the balance sheet date enables an appropriate and complete machine-readable XBRL copy of the XHTML reproduction.

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor by the annual general meeting on April 29, 2021. We were engaged by the chair of the audit committee on July 21, 2021. We have been the group auditor of BASF SE without interruption since the financial year 2006.

We declare that the opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

Other matters – use of the auditor's report

Our auditor's report should always be read in conjunction with the audited Consolidated Financial Statements and the audited Group Management Report as well as the audited ESEF documents. The Consolidated Financial Statements and the Group Management Report converted to ESEF format – including the versions to be published in the Federal Gazette (Bundesanzeiger) – are merely electronic reproductions of the audited Consolidated Financial Statements and the audited Group Management Report and do not replace them. In particular, the ESEF report and our assurance opinion contained therein can only be used in conjunction with the audited ESEF documentation provided in electronic form.

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Dr. Stephanie Dietz.

Frankfurt am Main, February 22, 2022

KPMG AG
Wirtschaftsprüfungsgesellschaft
[Original German version signed by:]

Sailer
Wirtschaftsprüfer
[German Public Auditor]

Dr. Dietz
Wirtschaftsprüferin
[German Public Auditor]

Statement of Income

BASF Group

Statement of income

Million €

	Explanations in Note	2021	2020
Sales revenue	**[7]**	**78,598**	**59,149**
Cost of sales	[8]	–58,801	–44,040
Gross profit on sales		**19,797**	**15,109**
Selling expenses	[8]	–8,414	–7,497
General administrative expenses	[8]	–1,408	–1,228
Research and development expenses	[8]	–2,216	–2,086
Other operating income	[9]	1,894	1,399
Other operating expenses	[9]	–2,650	–6,108
Income from integral companies accounted for using the equity method	[10]	675	220
Income from operations	**[5]**	**7,677**	**–191**
Income from non-integral companies accounted for using the equity method	[10]	285	–925
Income from other shareholdings	[10]	47	157
Expenses from other shareholdings	[10]	–125	–141
Net income from shareholdings		**207**	**–909**
Interest income		168	164
Interest expenses		–482	–537
Interest result		**–314**	**–373**
Other financial income		94	118
Other financial expenses		–215	–207
Other financial result		**–122**	**–89**
Financial result	**[11]**	**–436**	**–462**
Income before income taxes		**7,448**	**–1,562**
Income taxes	[12]	–1,430	91
Income after taxes from continuing operations		**6,018**	**–1,471**
Income after taxes from discontinued operations	**[3]**	**–36**	**396**
Income after taxes		**5,982**	**–1,075**
of which attributable to shareholders of BASF SE (net income)		5,523	–1,060
of which attributable to noncontrolling interests	[13]	459	–15
Earnings per share from continuing operations (€)	**[6]**	**6.05**	**–1.58**
Earnings per share from discontinued operations (€)	**[6]**	**–0.04**	**0.43**
Earnings per share (€)	**[6]**	**6.01**	**–1.15**
Dilution effect (€)	[6]	–0.01	–
Diluted earnings per share (€)	**[6]**	**6.00**	**–1.15**

Statement of Income and Expense Recognized in Equity

BASF Group

Statement of comprehensive income[a]
Million €

	BASF Group	
	2021	2020
Income after taxes	**5,982**	**–1,075**
Remeasurement of defined benefit plans[b]	3,476	–1,376
Deferred taxes on the remeasurement of defined benefit plans	–811	422
Investments accounted for using the equity method – share of nonreclassifiable gains/losses (after taxes)	44	–19
Nonreclassifiable gains/losses	**2,709**	**–973**
Unrealized gains/losses in connection with cash flow hedges	284	14
Reclassification of realized gains/losses recognized in the statement of income in connection with cash flow hedges	–222	65
Unrealized gains/losses from currency translation	1,566	–1,612
Reclassification of realized gains/losses from currency translation recognized in the statement of income	52	71
Deferred taxes on reclassifiable gains/losses	–29	–5
Investments accounted for using the equity method – share of reclassifiable gains/losses (after taxes)	313	–1,286
Reclassifiable gains/losses	**1,964**	**–2,753**
Other comprehensive income after taxes	**4,673**	**–3,726**
of which attributable to shareholders of BASF SE	4,583	–3,677
attributable to noncontrolling interests	90	–49
Comprehensive income	**10,655**	**–4,801**
of which attributable to shareholders of BASF SE	10,106	–4,737
attributable to noncontrolling interests	549	–64

a For more information on other comprehensive income, see Note 20 on page 250 of the Notes
b For more information on the remeasurement of defined benefit plans, see Note 22 from page 254 onward

Balance Sheet

BASF Group

Assets
Million €

	Explanations in Note	December 31, 2021	December 31, 2020
Intangible assets	[14]	13,499	13,145
Property, plant and equipment	[15]	21,553	19,647
Integral investments accounted for using the equity method	[10]	2,540	1,878
Non-integral investments accounted for using the equity method	[10]	9,843	10,874
Other financial assets	[10]	575	582
Deferred tax assets	[12]	2,600	3,386
Other receivables and miscellaneous assets	[18]	1,722	912
Noncurrent assets		**52,332**	**50,424**
Inventories	[17]	13,868	10,010
Accounts receivable, trade	[18]	11,942	9,466
Other receivables and miscellaneous assets	[18]	5,568	4,673
Marketable securities		208	207
Cash and cash equivalents[a]	[1]	2,624	4,330
Assets of disposal groups	[3]	840	1,182
Current assets		**35,051**	**29,868**
Total assets		**87,383**	**80,292**

a For a reconciliation of the amounts in the statement of cash flows with the balance sheet item cash and cash equivalents, see page 198

Equity and liabilities
Million €

	Explanations in Note	December 31, 2021	December 31, 2020
Subscribed capital	[19]	1,176	1,176
Capital reserves	[19]	3,106	3,115
Retained earnings	[19]	40,365	37,911
Other comprehensive income	[20]	–3,855	–8,474
Equity attributable to shareholders of BASF SE		**40,792**	**33,728**
Noncontrolling interests	[13]	1,289	670
Equity		**42,081**	**34,398**
Provisions for pensions and similar obligations	[22]	6,160	8,566
Deferred tax liabilities	[12]	1,499	1,447
Tax provisions		415	587
Other provisions	[23]	1,782	1,484
Financial indebtedness	[21]	13,764	15,819
Other liabilities	[21]	1,600	1,711
Noncurrent liabilities		**25,220**	**29,614**
Accounts payable, trade	[21]	7,826	5,291
Provisions	[23]	3,935	2,825
Tax liabilities	[12]	1,161	988
Financial indebtedness	[21]	3,420	3,395
Other liabilities	[21]	3,679	3,440
Liabilities of disposal groups	[3]	61	341
Current liabilities		**20,081**	**16,280**
Total equity and liabilities		**87,383**	**80,292**

Statement of Cash Flows

BASF Group

Statement of cash flows[a]

Million €

	2021	2020
Net income	5,523	–1,060
Depreciation and amortization of property, plant and equipment and intangible assets	3,687	6,751
Changes in inventories	–3,304	849
Changes in receivables	–1,272	–2,176
Changes in operating liabilities and other provisions	3,010	927
Changes in pension provisions, defined benefit assets and other items	213	137
Gains (–) / losses (+) from the disposal of noncurrent assets and securities	–611	–15
Cash flows from operating activities	**7,245**	**5,413**
Payments made for property, plant and equipment and intangible assets	–3,532	–3,129
Payments made for financial assets and securities	–994	–877
Payments made for acquisitions	–600	–1,240
Payments received for divestitures	1,030	2,520
Payments received from the disposal of noncurrent assets and securities	1,474	822
Cash flows from investing activities	**–2,622**	**–1,904**
Capital increases/repayments and other equity transactions	–	3
Additions to financial and similar liabilities	7,627	15,135
Repayment of financial and similar liabilities	–10,772	–13,555
Dividends paid		
To shareholders of BASF SE	–3,031	–3,031
noncontrolling interests	–281	–108
Cash flows from financing activities	**–6,457**	**–1,556**
Cash-effective changes in cash and cash equivalents	**–1,834**	**1,953**
Changes in cash and cash equivalents		
From foreign exchange rates	131	–81
changes in the scope of consolidation	–7	8
Cash and cash equivalents at the beginning of the year[b]	**4,335**	**2,455**
Cash and cash equivalents at the end of the year[b]	**2,624**	**4,335**

a The statement of cash flows is explained in the Management's Report (Financial Position) on page 65.
b In 2021 and 2020, cash and cash equivalents presented in the statement of cash flows deviate from the figures in the balance sheet. For explanations and other disclosures on the statement of cash flows, see Note 27 from page 277 onward.

Statement of Changes in Equity

BASF Group

Statement of changes in equity[a]
Million €

	Subscribed capital	Capital reserves	Retained earnings	Remeasurement of defined benefit plans	Currency translation	Measurement of securities at fair value	Cash flow hedges	Other comprehensive income[b]	Equity attributable to shareholders of BASF SE	Non-controlling interests	Equity
As of January 1, 2021	**1,176**	**3,115**	**37,911**	**–6,538**	**–1,800**	**7**	**–143**	**–8,474**	**33,728**	**670**	**34,398**
Dividends paid	–	–	–3,031	–	–	–	–	–	**–3,031**	–281[c]	**–3,312**
Income after taxes	–	–	5,523	–	–	–	–	–	**5,523**	459	**5,982**
Other comprehensive income after taxes	–	–	–	2,709	2,205	–2	–329	4,583	**4,583**	90	**4,673**
Changes in scope of consolidation and other changes	–	–10[d]	–37	36	–	–	–	36	**–11**	351	**340**
As of December 31, 2021	**1,176**	**3,106**	**40,365**	**–3,793**	**406**	**5**	**–472**	**–3,855**	**40,792**	**1,289**	**42,081**

Statement of changes in equity[a]
Million €

	Subscribed capital	Capital reserves	Retained earnings	Remeasurement of defined benefit plans	Currency translation	Measurement of securities at fair value	Cash flow hedges	Other comprehensive income[b]	Equity attributable to shareholders of BASF SE	Non-controlling interests	Equity
As of January 1, 2020	**1,176**	**3,115**	**42,056**	**–5,618**	**798**	**5**	**–35**	**–4,850**	**41,497**	**853**	**42,350**
Dividends paid	–	–	–3,031	–	–	–	–	–	**–3,031**	–108[c]	**–3,139**
Income after taxes	–	–	–1,060	–	–	–	–	–	**–1,060**	–15	**–1,075**
Other comprehensive income after taxes	–	–	–	–973	–2,598	2	–108	–3,677	**–3,677**	–49	**–3,726**
Changes in scope of consolidation and other changes	–	–	–54	53	–	–	–	53	**–1**	–11	**–12**
As of December 31, 2020	**1,176**	**3,115**	**37,911**	**–6,538**	**–1,800**	**7**	**–143**	**–8,474**	**33,728**	**670**	**34,398**

a For more information on the items relating to equity, see Notes 19 and 20 from page 249 onward
b Details are provided in the Statement of Income and Expense Recognized in Equity on page 195
c Including profit and loss transfers
d Valuation adjustment BASF "plus" share program

Notes

1 Summary of accounting policies

1.1 General information

BASF SE (registered at the district trade register, or *Amtsgericht*, for Ludwigshafen am Rhein, number HRB 6000) is a publicly listed corporation headquartered in Ludwigshafen am Rhein, Germany. Its official address is Carl-Bosch-Str. 38, 67056 Ludwigshafen am Rhein, Germany.

The Consolidated Financial Statements of BASF SE as of December 31, 2021, have been prepared in accordance with the International Financial Reporting Standards (IFRS) of the International Accounting Standards Board (IASB), and section 315e (1) of the German Commercial Code (HGB). IFRSs are generally only applied after they have been endorsed by the European Union. For the 2021 fiscal year, all of the binding IFRSs and pronouncements of the International Financial Reporting Interpretations Committee (IFRIC) were applied. The Consolidated Financial Statements are for the period from January 1, 2021 to December 31, 2021, and are presented in euros. They are written in German and translated into English. All amounts, including the figures for previous years, are given in million euros unless otherwise indicated. Due to rounding, individual figures in this report may not add up to the totals shown and percentages may not correspond exactly to the figures shown.

The individual financial statements of the consolidated companies are prepared as of the balance sheet date of the Consolidated Financial Statements. Business continuity is assumed. The company is equipping itself for the challenges posed by the economic impact of the coronavirus pandemic and of climate change. The accounting policies applied are largely the same as those used in 2020.

For more information, see Note 1.3 from page 202 onward and Note 10 from page 225 onward

On February 22, 2022, the Board of Executive Directors prepared the Consolidated Financial Statements, submitted them to the Supervisory Board for review and approval, and released them for publication.

1.2 Changes in accounting principles

Accounting policies applied for the first time in 2021

The amendments shown in the table had no material effect on BASF SE's Consolidated Financial Statements.

Accounting policies applied for the first time in 2021

Standard/interpretation	Name of standard/interpretation or amendments	Date of publication	Date of endorsement by the E.U.
Amendments to IFRS 4	Insurance Contracts (Extension of Temporary Exemption from Application of IFRS 9)	June 25, 2020	December 15, 2020
Amendments to IFRS 9 IAS 39 IFRS 7 IFRS 4 IFRS 16	 Financial Instruments Financial Instruments: Recognition and Measurement Financial Instruments: Disclosures Insurance Contracts Leases (Interest Rate Benchmark Reform – Phase 2)	August 27, 2020	January 13, 2021
Amendments to IFRS 16	Leases: Covid-19-Related Rent Concessions beyond June 30, 2021	March 31, 2021	August 30, 2021

IFRSs and IFRICs not yet to be considered but already endorsed by the E.U.

The effects on the BASF Group financial statements of the IFRSs and IFRICs not yet in force in 2021 but already endorsed by the European Union were reviewed. The amendments to IAS 16, whereby specific income is to be recognized with the associated costs in profit or loss, as well as the amendments to IAS 37 regarding cost calculation for onerous contracts are already being taken into account. BASF currently assumes that all other amendments will have no material effect. It does not plan on early adoption.

IFRSs and IFRICs not yet to be considered but already endorsed by the E.U.

Standard/interpretation	Name of standard/interpretation or amendments	Date of publication	Date of endorsement by the E.U.	Mandatory date of initial application
Amendments to IFRS 3	Business Combinations (Amendment to References to the Conceptual Framework)	May 14, 2020	June 28, 2021	January 1, 2022
Amendments to IAS 16	Property, Plant and Equipment (Proceeds before Intended Use)	May 14, 2020	June 28, 2021	January 1, 2022
Amendments to IAS 37	Provisions, Contingent Liabilities and Contingent Assets (Onerous Contracts, Settlement Costs from Contracts)	May 14, 2020	June 28, 2021	January 1, 2022
Annual improvements to IFRS 2018–2020	Amendments to IFRS 1 (Subsidiary as a First-Time Adopter) IFRS 9 (Fees in the "10% Test" Regarding Derecognition of Financial Liabilities) IFRS 16 (Lease Incentives) IAS 41 (Taxation in Fair Value Measurements)	May 14, 2020	June 28, 2021	January 1, 2022
Amendments to IFRS 17	Insurance Contracts (including amendments to the standard)	June 25, 2020	November 19, 2021	January 1, 2023

IFRSs and IFRICs not yet to be considered and not yet endorsed by the E.U.

The IASB issued further amendments to standards and interpretations which are still subject to E.U. endorsement and whose application is not yet mandatory. The amendments to IAS 12, which serve to clarify how companies account for deferred taxes on transactions such as leases and decommissioning obligations, are already being applied in BASF's financial statements. All other amendments are unlikely to have a material impact on the reporting of BASF. BASF does not plan on early adoption of these amendments.

IFRSs and IFRICs not yet to be considered and not yet endorsed by the E.U.

Standard/interpretation	Name of standard/interpretation or amendments	Date of publication	Expected date of initial application
Amendments to IAS 1	Presentation of Financial Statements (Classification of Liabilities as Current or Noncurrent) (including Deferral of Effective Date)	January 23, 2020 (July 15, 2020)	January 1, 2023
Amendments to IAS 1 and IFRS Practice Statement 2	Presentation of Financial Statements and Making Materiality Judgements (Presentation of Key Accounting Policies)	February 12, 2021	January 1, 2023
Amendments to IAS 8	Accounting Policies, Changes in Accounting Estimates and Errors (Definition of Changes in Accounting Policies and Accounting Estimates)	February 12, 2021	January 1, 2023
Amendments to IAS 12	Income Taxes (Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction)	May 7, 2021	January 1, 2023
Amendments to IFRS 17	Insurance Contracts (Initial Application of IFRS 17 and IFRS 9 – Comparative Information)	December 9, 2021	January 1, 2023

1.3 Group accounting principles

Scope of consolidation: The scope of consolidation is based on the application of the standards IFRS 10 and 11.

According to IFRS 10, a group consists of a parent entity and the subsidiaries controlled by the parent. "Control" of an investee assumes the simultaneous fulfillment of the following three criteria:

- The parent company holds decision-making power over the relevant activities of the investee
- The parent company has rights to variable returns from the investee
- The parent company can use its decision-making power to affect the variable returns

Based on corporate governance structures and any additional agreements, companies are analyzed for their relevant activities and variable returns, and the link between the variable returns and the extent to which their relevant activities could be influenced.

According to IFRS 11, which regulates the accounting of joint arrangements, a distinction must be made between joint ventures and joint operations. In the case of a joint venture, the parties that have joint control of a legally independent company have rights to the net assets of that arrangement. In joint operations, the parties that have joint control have direct rights to the assets and obligations for the liabilities relating to the arrangement. This requirement is particularly fulfilled if the production output of the joint arrangement is almost entirely transferred to the partners, through which the partners guarantee the joint arrangements' ongoing financing.

Companies whose corporate governance structures classify them as joint arrangements are analyzed to determine if they meet the criteria for joint ventures or joint operations in accordance with IFRS 11. Should the arrangement be structured through a separate vehicle, its legal form, contractual arrangements and all other facts and circumstances are reviewed.

In addition to BASF SE, the Consolidated Financial Statements include all material subsidiaries on a fully consolidated and all material joint operations on a proportionally consolidated basis. Companies whose business is dormant or of low volume, and are of minor importance for the presentation of a true and fair view of the net assets, financial position and results of operations, are not consolidated, but rather are reported under other shareholdings. These companies are carried at amortized cost and are written down in the case of an impairment. The aggregate assets and equity of these companies amount to less than 1% of the corresponding value at Group level.

Joint ventures and associated companies are accounted for using the equity method in the Consolidated Financial Statements. Associated companies are entities that are not subsidiaries, joint ventures or joint operations, and over whose operating and financial policies significant influence can be exercised. In general, this applies to companies in which BASF has an investment of between 20% and 50%. Associated companies and joint ventures that are fully or predominantly allocated to operating divisions are classified as integral because they are integrated into the value chain of the respective division; are controlled by the divisions; and they generate their income in close cooperation with the other assets of the BASF Group and/or of these divisions. Equity-accounted income from integral joint ventures or associated companies is reported as part of income from operations (EBIT).

Equity-accounted income from non-integral joint ventures or associated companies is reported in net income from shareholdings.

For more information, see Note 10 from page 225 onward

Consolidation methods: Assets and liabilities of consolidated companies are uniformly recognized and measured in accordance with the principles described herein. For companies accounted for using the equity method, material deviations in measurement resulting from the application of other accounting principles are adjusted.

Transactions between consolidated companies as well as intercompany profits resulting from trade between consolidated companies are eliminated in full. Sales and material other balances and transactions between joint operations and fully consolidated Group companies are also eliminated. Material intercompany profits related to companies accounted for using the equity method are eliminated.

Capital consolidation is conducted at the acquisition date according to the purchase method. Initially, all assets, liabilities and additional intangible assets that are to be capitalized are measured at fair value regardless of the scope of any noncontrolling interests. Subsequently, the cost of acquiring the company is compared with the proportional share of the fair value of the net assets acquired. The resulting positive differences are capitalized as goodwill. Negative differences are reviewed once more, then recognized directly in the income statement.

Noncontrolling interests are measured at fair value at the date of acquisition proportional to the assets acquired and liabilities assumed (partial goodwill method).

The incidental acquisition costs of a business combination are recognized in the income statement under other operating expenses.

For more information, see Note 13 on page 235

Foreign currency translation: The cost of assets acquired in foreign currencies and revenue from sales in foreign currencies are determined by the exchange rate on the date the transaction is recognized. Foreign currency receivables and liabilities are valued at the exchange rates on the balance sheet date. Changes in assets and liabilities arising from foreign currency translation are recognized in the income statement and reported under other operating income or expenses, other financial result, and in the case of financial assets measured at fair value through other comprehensive income, in other comprehensive income.

Translation of foreign currency financial statements: The translation of foreign currency financial statements depends on the functional currency of the consolidated companies. For companies whose functional currency is not the euro, translation into the reporting currency is based on the closing rate method: Balance sheet items are translated into euros using closing rates on the balance sheet date; expenses and income are translated into euros at monthly average rates and accumulated for the year. The difference between a company's translated equity at historical rates at the time of acquisition or retention and its equity at closing rates on the balance sheet date is reported under other comprehensive income (translation adjustments) and is recognized in the income statement only upon the company's disposal.

For certain companies outside the eurozone or U.S. dollar zone, the euro or U.S. dollar is the functional currency. In such cases, financial statements prepared in the local currency are translated into the functional currency using the temporal method: All nonmonetary assets and related depreciation and amortization as well as equity are translated at the exchange rate applying to the respective transactions. All other balance sheet items are translated using closing rates on the balance sheet date; other expenses and income are translated at monthly average rates. The resulting translation differences are recognized in the income statement under other operating income or expenses. If necessary, financial statements in the functional currency are translated into the presentation currency according to the closing rate method.

Selected exchange rates

EUR 1 equals

	Closing rates		Average rates	
	Dec. 31, 2021	Dec. 31, 2020	2021	2020
Brazil (BRL)	6.31	6.37	6.38	5.89
China (CNY)	7.19	8.02	7.63	7.87
United Kingdom (GBP)	0.84	0.90	0.86	0.89
Japan (JPY)	130.38	126.49	129.88	121.85
Malaysia (MYR)	4.72	4.93	4.90	4.80
Mexico (MXN)	23.14	24.42	23.99	24.52
Norway (NOK)	9.99	10.47	10.16	10.72
Russia (RUB)	85.30	91.47	87.15	82.72
Switzerland (CHF)	1.03	1.08	1.08	1.07
South Korea (KRW)	1,346.38	1,336.00	1,354.06	1,345.58
United States (USD)	1.13	1.23	1.18	1.14

1.4 Accounting policies

The accounting policies for the individual items in the Balance Sheet and the Statement of Income are presented in the respective sections of the Notes.

Business combinations: In business combinations, the acquired assets and liabilities are recognized at fair value on the date the acquirer effectively obtains control. The fair value of acquired assets and assumed liabilities at the date of acquisition, as well as the useful lives of the acquired assets, are largely based on projected cash flows. Actual cash flows can deviate significantly from those. Independent external appraisals are typically used for the purchase price allocation of material business combinations. Valuations in the course of business combinations are based on existing information as of the acquisition date.

Groups of assets and liabilities held for sale (disposal groups): These comprise those assets and directly associated liabilities shown separately on the balance sheet whose sale in the context of a single transaction is highly probable. A transaction is assumed to be highly probable if there are no significant risks of completion of the transaction, which usually requires the conclusion of binding contracts. The assets and liabilities of disposal groups are recognized at the lower of the sum of their carrying amounts or fair value less costs to sell; this does not apply to assets that do not fall under the valuation principles of IFRS 5. Depreciation of noncurrent assets and the use of the equity method are suspended.

Discontinued operations: These are classified as held for sale and are presented as discontinued operations in BASF's Consolidated Financial Statements in accordance with IFRS 5. Until closing, the income after taxes of discontinued operations is shown in income after taxes of the BASF Group as a separate item (income after taxes from discontinued operations). In addition, the assets and liabilities of the discontinued operations are reclassified to a disposal group (assets or liabilities of disposal groups). The statement of cash flows is not adjusted. The activities of discontinued operations are not allocated to any reportable segment in financial reporting.

For more information, see Note 3 from page 207 onward and Note 5 from page 213 onward

Use of estimates and assumptions in preparing the Consolidated Financial Statements

The carrying amount of assets, liabilities and provisions, contingent liabilities and other financial obligations reported in the Consolidated Financial Statements depends on the use of estimates, assumptions and discretionary scope. Specific estimates or assumptions used in individual accounting or valuation methods are disclosed in their respective sections of the Notes to the Consolidated Financial Statements. They are based on the circumstances and estimates on the balance sheet date and thus affect the amounts of income and expenses shown for the reporting periods presented. These assumptions primarily relate to the determination of discounted cash flows in the context of impairment tests and purchase price allocations; the useful lives of depreciable property, plant and equipment and intangible assets; the carrying amount of shareholdings; and the measurement of provisions for items such as employee benefits, warranties, trade discounts, environmental protection and taxes. Although uncertainty is appropriately incorporated in the valuation factors, actual results can differ from these estimates.

Impairment tests on assets are carried out whenever certain triggering events indicate potential impairment. External triggering events include, for example, changes in customer industries, technologies used and economic downturns. Internal triggering events for an impairment test include lower product profitability, planned restructuring measures or physical damage to assets. Impairment tests entail a comparison of the carrying amount and the recoverable amount. The recoverable amount is the higher of fair value less costs to sell and the value in use. As a rule, value in use is determined using the discounted cash flow method. The estimation of cash flows and the assumptions used consider all information available on the respective balance sheet date on the future development of the operating business. Actual future developments may vary. Impairment testing relies upon the cash-generating unit's long-term earnings forecasts, which are based on macroeconomic trends. The weighted average cost of capital (WACC) based on the capital asset pricing model plays an important role in impairment testing. It comprises a risk-free interest rate, the market risk premium and an industry-specific spread for the credit risk. Additional important assumptions are the forecasts for the detailed planning period and the terminal growth rates used. Fair value less costs to sell must be determined for the impairment test of disposal groups; specific assumptions relating to the respective transaction must be made for this determination.

For more information, see Note 3 from page 207 onward and Note 14 from page 236 onward

An impairment is recognized if the recoverable amount of the asset is lower than the carrying amount. The impaired asset (excluding goodwill) is written down by the amount of the difference between these amounts.

The goodwill impairment test is based on cash-generating units. At BASF, these largely correspond to the business units, or in individual cases the divisions. If there is a need for impairment, the existing goodwill is, if necessary, completely written off as a first step. If there is further need for impairment, this is allocated to the remaining assets of the cash-generating unit. Goodwill impairments are reported under other operating expenses.

Climate and sustainability-related developments: The chemical industry is resource-intensive. BASF is committed to the Paris Climate Agreement: Using resources as efficiently and responsibly as possible and the concept of a circular economy are firmly embedded in BASF's strategy and its actions, supported by the Verbund structure, clearly defined ambitious targets for reducing CO_2, and the use of renewable and recycled feedstocks. BASF always strives to employ raw materials more efficiently and improve production processes as well as to continuously seek ways to use non-fossil, renewable or recycled feedstocks. For this reason, current developments and measures relating to climate change and sustainability do not lead to fundamentally changed expectations with regard to useful lives or recoverability of the majority of noncurrent assets. There is also no material need for adjustments to provisions for environmental and restoration obligations. In individual cases, however, plants may be shut down if necessary for reasons of environmental protection.

Climate policies are also causing fundamental changes in the automotive industry, one of BASF's key customer industries. The transition to electromobility will have a long-term negative impact on the emissions catalyst business. This development was accounted for in the adjustment of the growth rate for the goodwill impairment test and did not lead to an impairment. Other BASF businesses will benefit from this transformation; for example, demand for innovative lightweight materials and battery materials will grow. Furthermore, climate policies can influence the business of oil and gas producers such as Wintershall Dea, which BASF accounts for using the equity method. Nevertheless, given the large share of gas in Wintershall Dea's production and reserves as well as the acceptance of gas as a bridge technology, it can be assumed that these assets are fundamentally recoverable. The price assumptions applied for the impairment test reflected current developments regarding climate neutrality as well as a possible oil and gas shortage due to lack of investment in this industry.

For more information on climate and sustainability, see Wintershall Dea's annual report at wintershalldea.com/en/investor-relations

2 Scope of consolidation

As of December 31, 2021, a total of 267 companies were included, either proportionally or fully, in the scope of consolidation of the Consolidated Financial Statements (December 31, 2020: 282). Of these, nine companies were first-time consolidations (2020: 43). Since the beginning of 2021, a total of 24 companies (2020: 63) were deconsolidated due to divestiture, merger, liquidation or immateriality.

First-time consolidations in 2021 comprised:
- Four acquired companies with headquarters in Europe and three in Asia Pacific
- Two newly established companies with headquarters in Europe (one of those in Germany)

First-time consolidations in 2020 comprised:
- Four acquired companies with headquarters in Europe (one of those in Germany), one in North America, one in South America, Africa, Middle East, and three in Asia Pacific
- One newly established company with headquarters in Europe, two newly established companies in Asia Pacific, and one newly established company with headquarters in South America, Africa, Middle East
- Eleven companies that had not been consolidated at the time of initial inclusion in the Consolidated Financial Statements in Europe, six in North America, 11 in Asia Pacific and two in South America, Africa, Middle East

Three of the nine first-time consolidations in 2021 were companies added as part of the formation of BASF Shanshan Battery Materials Co., Ltd. Five companies were added to the scope of consolidation as acquired or newly formed companies as part of the purchase of 49.5% of the Hollandse Kust Zuid offshore wind park from Vattenfall.

Eleven companies were deconsolidated as a result of the divestiture of the global pigments business in 2021. Additionally, seven companies merged with BASF companies due to the integration of the polyamide business (PA 6.6) which had been acquired in 2020.

Scope of consolidation

Number of companies

	Europe	Of which Germany	North America	Asia Pacific	South America, Africa, Middle East	2021	2020
As of January 1	**143**	**45**	**39**	**76**	**24**	**282**	**302**
of which proportionally consolidated	7	–	–	2	–	9	7
First-time consolidations	6	1	–	3	–	9	43
of which proportionally consolidated	–	–	–	–	–	–	2
Deconsolidations	9	3	4	8	3	24	63
of which proportionally consolidated	–	–	–	–	–	–	–
As of December 31	**140**	**43**	**35**	**71**	**21**	**267**	**282**
of which proportionally consolidated	7	–	–	2	–	9	9

Overview of impact of changes to the scope of consolidation (excluding acquisitions and divestitures)

	2021		2020	
	Million €	%[a]	Million €	%[a]
Sales	**–1**	**0.0**	**–3**	**0.0**
Noncurrent assets	21	0.0	12	0.0
of which property, plant and equipment	–1	0.0	39	0.2
Current assets	–28	0.0	–23	0.1
of which cash and cash equivalents	–8	0.3	7	0.2
Assets	**–7**	**0.0**	**–11**	**0.0**
Equity	1	0.0	–5	0.0
Noncurrent liabilities	0	0.0	1	0.0
of which financial indebtedness	–	–	–	–
Current liabilities	–8	0.0	–7	0.0
of which financial indebtedness	–	–	1	0.0
Total equity and liabilities	**–7**	**0.0**	**–11**	**0.0**
Other financial obligations	–	–	–	–

a Proportional share in relation to the BASF Group

The proportionally consolidated joint operations include, in particular:

- Ellba C.V., Rotterdam, Netherlands, which is jointly operated with Shell for the production of propylene oxide and styrene monomer
- BASF DOW HPPO Production BVBA, Antwerp, Belgium, which is jointly operated with Dow for the production of propylene oxide
- Butachimie SNC, Chalampé, France, which is jointly operated with Invista for the production of adiponitrile (ADN) and hexamethylenediamine (HMD)
- Alsachimie S.A.S., Chalampé, France, which is jointly operated with Domo Chemicals for the production of adipic acid

In addition to the fully and proportionally consolidated companies, 27 joint ventures and/or associated companies (2020: 25) were consolidated using the equity method.

A list of the companies included in the Consolidated Financial Statements and of all companies in which BASF SE has a shareholding as required by section 313(2) of the German Commercial Code (HGB) is provided in the list of shares held.

For more information, see Note 4 on page 213

For more information, see basf.com/en/corporategovernance

3 Acquisitions and divestitures

Acquisitions

In 2021, BASF acquired the following activity:

– Since August 31, 2021, BASF and Shanshan, a lithium-ion battery materials provider in China, have held shares in BASF Shanshan Battery Materials Co., Ltd. The company is majority-owned by BASF (BASF 51%; Shanshan 49%). It already occupies a very strong position in the value chain for battery materials including raw materials, precursors for cathode active materials, cathode active materials and battery recycling. It focuses primarily on the electric vehicle market as well as the consumer electronics and energy storage segments. Through this investment, BASF is further strengthening its position in Asia to create an integrated global supply chain for battery materials for customers in China and worldwide. The investment strengthens the Catalysts division. The transaction includes four companies and approximately 1,600 employees. One of the companies is classified as an investment accounted for using the equity method, but for reasons of materiality, was consolidated in BASF's financial statements at amortized cost. The purchase price was €616 million and was cash-effective in full. A separate transaction valued at €36 million was connected to the purchase in accordance with IFRS 3.51 and was reported under other receivables. It contains a compensation component which is coupled with employees remaining at BASF Shanshan Battery Materials Co., Ltd. It affects a period of one to two years and will be disbursed in two tranches. Goodwill of €254 million resulted in particular from sales and cost synergies. The businesses acquired accounted for €354 million in sales revenue and –€36 million in income from operations in the 2021 fiscal year. Including the businesses and assets of the BASF Shanshan companies in BASF's Consolidated Financial Statements since January 1, 2021, would have resulted in a sales revenue contribution of €821 million and income from operations of €13 million. These pro forma data are for comparison purposes. They are not necessarily values that would have resulted had the transaction taken place as of January 1, 2021, and are not suitable for forecasting future developments or events. The goodwill is not tax deductible.

The following table shows the fair values for the assets and liabilities of the BASF Shanshan companies, which were used on a preliminary basis until a complete independent valuation is carried out. The purchase price allocation considers all the facts and circumstances prevailing as of the date of acquisition that were known prior to the preparation of these financial statements. If further facts and circumstances become known within the 12-month valuation period pursuant to IFRS 3, the purchase price allocation will be recalculated accordingly.

The gross amounts of contractual trade accounts receivable were €290 million, of which €52 million is expected to be uncollectible. The gross amounts of Other receivables were €160 million.

Preliminary purchase price allocation for the acquisition of assets and liabilities of the BASF Shanshan companies

Million €

	Fair value as of date of acquisition
Goodwill	254
Other intangible assets	139
Property, plant and equipment	332
Integral investments accounted for using the equity method	–
Non-integral investments accounted for using the equity method	–
Other financial assets	8
Deferred tax assets	11
Other receivables and miscellaneous assets	–
Noncurrent assets	**744**
Inventories	207
Accounts receivable, trade	238
Other receivables and miscellaneous assets	160
Marketable securities	–
Cash and cash equivalents	52
Current assets	**657**
Total assets	**1,401**
Provisions for pensions and similar obligations	–
Deferred tax liabilities	32
Tax provisions	2
Other provisions	18
Financial indebtedness	5
Other liabilities	8
Noncurrent liabilities	**65**
Accounts payable, trade	262
Provisions	2
Tax liabilities	1
Financial indebtedness	91
Other liabilities	15
Current liabilities	**371**
Total liabilities	**436**
Noncontrolling interests	348
Total purchase price	**616**

– Furthermore, BASF completed the purchase of 49.5% of Vattenfall's Hollandse Kust Zuid wind farm on September 1, 2021. The transaction is not being reported as an acquisition because the acquired assets do not constitute a business in accordance with IFRS 3.2b, so it is not within the IFRS 3 scope of application. The transaction is therefore not included in the table to the right.

In 2020, BASF acquired the following activity:

– BASF closed the acquisition of Solvay's polyamide business (PA 6.6) on January 31, 2020. Domo Chemicals, Leuna, Germany, was approved by the E.U. Commission as the buyer of the European polyamide business, which could not be acquired by BASF under the conditions imposed by the authorities. The transaction broadened BASF's polyamide capabilities with innovative products. It also enhanced the company's access to growth markets in Asia as well as in North and South America. Through backward integration into the key raw material adiponitrile (ADN), BASF was integrated along the entire polyamide 6.6 value chain and was able to improve supply reliability. The purchase price of the business acquired by BASF was €1,319 million on a cash and debt-free basis. Of that amount, €1,308 million was already cash effective in 2020. The remaining purchase price should be paid in 2022. The business was integrated into the Performance Materials and Monomers divisions. The transaction between Solvay and BASF included eight production sites in Germany, France, China, India, South Korea, Brazil and Mexico, as well as research and development and technical consultation centers in Asia and the Americas. It also included two shareholdings in France, which are accounted for as joint operations: The 50% interest in Butachimie SNC, Chalampé, France, to produce ADN and hexamethylenediamine, and the 51% interest in the newly established Alsachimie S.A.S., Chalampé, France, to produce adipic acid. With the acquisition, around 700 Solvay employees were transferred to BASF. Furthermore, some 1,000 employees of the Alsachimie S.A.S. and Butachimie SNC joint operations are to be included on a pro rata basis by BASF. Goodwill of €20 million resulted in particular from sales synergies. The majority of total goodwill was not tax deductible.

The following overview shows the effects of acquisitions in 2021 and 2020 on the Consolidated Financial Statements. When acquisitions resulted in the transfer of assets or the assumption of additional liabilities, the effects were shown as net amounts.

Effects of acquisitions

	2021		2020	
	Million €	%[a]	Million €	%[a]
Goodwill	254	3.4	21	0.3
Other intangible assets	139	2.3	670	10.8
Property, plant and equipment	332	1.5	559	2.8
Financial assets	8	0.1	–	–
Other noncurrent assets	11	0.3	108	2.5
Noncurrent assets	**744**	**1.4**	**1,358**	**2.7**
Current assets	**692**	**2.0**	**548**	**1.8**
of which cash and cash equivalents	52	2.0	68	1.6
Assets	**1,436**	**1.6**	**1,906**	**2.4**
Equity	**348**	**0.8**	**–**	**–**
of which noncontrolling interests	348	27.0	–	–
Noncurrent liabilities	**65**	**0.3**	**264**	**0.9**
of which financial indebtedness	5	–	–	–
Current liabilities	**371**	**1.8**	**334**	**2.1**
of which financial indebtedness	91	2.7	8	0.0
Total equity and liabilities	**436**	**0.5**	**598**	**0.7**
Payments made for acquisitions	**652**		**1,308**	
Additions of cash and cash equivalents	–52	–	–68	–
Payments made for acquisitions according to statement of cash flows	**600**		**1,240**	

a Proportional share in relation to the BASF Group

Divestitures

In 2021, BASF sold the following activities:

– On May 31, 2021, BASF completed the sale of its production site in Kankakee, Illinois, to a subsidiary of One Rock Capital Partners, LLC. The transaction also included the vegetable-oil-based sterols and natural vitamin E business as well as the anionic surfactants and esters produced at the Kankakee site. The purchase price was €177 million. The transaction affected the Nutrition & Health and Care Chemicals divisions.

– Following the fulfillment of clearance conditions, BASF closed the divestiture of its global pigments business to DIC, Tokyo, Japan, on June 30, 2021. The business' assets and liabilities have been reported as a disposal group since the business transfer agreement was signed in August 2019. The purchase price on a cash and debt-free basis was €1.15 billion. The transaction affected approximately 2,500 employees in the Dispersions & Pigments division. The division was renamed Dispersions & Resins following the transaction closing. The disposal group of the pigments business was derecognized when BASF's global pigments business was sold to DIC, Tokyo, Japan, on June 30, 2021. The calculation of the disposal loss on the global pigments business is presented in the following table:

Calculation of disposal loss on the global pigments business
Million €

	June 30, 2021
Purchase price on a cash and debt-free basis	1,150
Purchase price adjustments[a]	–140
Purchase price	1,010
Disposed net assets	–938
Assets of the disposal group	–1,281
Reinstated receivables	30
Liabilities of the disposal group	338
Reinstated liabilities	–25
Other	–89
Disposal loss before taxes	**–17**
Tax expense	–63
Disposal loss after taxes	**–80**

a Purchase price adjustments take into account, among other things, cash, financial indebtedness and pension obligations.

– On November 9, 2021, BASF and Clayton, Dubilier & Rice sold their shares in Solenis to Platinum Equity, Beverly Hills, California. With over 5,200 employees, Solenis serves customers in water-intensive industries by helping them solve complex water treatment and process improvement challenges. BASF held a 49% share in Solenis after having transferred its wet-end paper and water chemicals business to the company in February 2019. This was accounted for using the equity method. The remaining 51% of the shares were held by funds managed by Clayton, Dubilier & Rice, and by Solenis management. The purchase price allocated to BASF was €1.1 billion. The investment was classified as non-integral. Its earnings and the gain on the disposal in the amount of €589 million were reported under net income from shareholdings.

– On November 30, 2021, BASF completed the sale of the precision microchemicals business to Entegris, Billerica, Massachusetts. The transaction included fixed assets and inventories; the purchase price was €78 million. The precision microchemicals business was part of the Surface Treatment business unit of BASF's Coatings division, operating under the Chemetall brand.

In 2020, BASF sold the following activity:

– On September 30, 2020, and on November 30, 2020, BASF closed the divestiture of its construction chemicals business to an affiliate of Lone Star, Dallas, Texas, a global private equity firm. The purchase price on a cash and debt-free basis was €3.17 billion. The sale covered approximately 7,500 employees as well as production sites and sales offices in more than 60 countries of the former Construction Chemicals division. From the signing of the agreement on December 21, 2019, until the closing of the transaction, BASF's construction chemicals business was reported as a discontinued operation. Purchase price adjustments were reported in income from discontinued operations in the amount of €36 million after taxes in 2021.

The following overview shows the effects of the divestitures in 2021 and 2020 on the Consolidated Financial Statements. The sales line item showed the year-on-year decline resulting from divestitures. The impact on equity related mainly to gains and losses from divestitures.

Effects of divestitures

	2021		2020	
	Million €	%[a]	Million €	%[a]
Sales	**–495**	**–0.8**	**–91**	**–0.2**
Noncurrent assets	**–31**	**–0.1**	**–**	**–**
of which property, plant and equipment	–50	–0.2	–	–
Current assets	**–1,730**	**–4.9**	**–3,035**	**–10.2**
of which cash and cash equivalents[b]	–33	–	–89	–
Assets	**–1,761**	**–2.0**	**–3,035**	**–3.8**
Equity	**794**	**1.9**	**607**	**1.8**
Noncurrent liabilities	**8**	**–**	**–**	**–**
of which financial indebtedness	–	–	–	–
Current liabilities	**–338**	**–1.7**	**–883**	**–5.4**
of which financial indebtedness	–	–	–	–
Total equity and liabilities	**464**	**0.5**	**–276**	**–0.3**
Payments received from divestitures	**2,225**		**2,759**	
Further effects in connection with divestitures[c]	–1,195	–	–239	–
Payments received from divestitures according to statement of cash flows	**1,030**		**2,520**	

a Proportional share in relation to the BASF Group
b Includes €33 million from the divested disposal group of the pigments business in 2021, and €89 million from the discontinued construction chemicals business in 2020.
c Includes project-related tax payments and derecognition of cash and cash equivalents. The divestiture of the investment accounted for using the equity method to Solenis in 2021, is not shown under divestitures in the statement of cash flows, but as a disposal of financial assets.

Agreed transactions and groups of assets and liabilities held for sale (disposal groups)

– On November 18, 2021, BASF and KaMin LLC./CADAM S.A. (KaMin) signed an agreement to sell BASF's kaolin minerals business to KaMin, a global performance minerals company headquartered in Macon, Georgia. Currently, the kaolin minerals business is part of BASF's Performance Chemicals division. Pending approval by the relevant antitrust authorities, the transaction is expected to close in the second half of 2022. The kaolin minerals business has approximately 440 employees in North America, Europe and Asia. The divestiture comprises the production hub with sites in Daveyville, Toddville, Edgar, Gordon and related mines, reserves and mills in Toomsboro and Sandersville, Georgia. The refinery catalysts operations located at the same site are not part of the divestiture. With the agreement on the sale of the kaolin minerals business to KaMin, the affected assets and liabilities were reclassified to a disposal group, and an impairment test was performed as of December 31, 2021. In accordance with IFRS 5, the fair value less expected disposal costs was used as the recoverable amount and compared with the carrying amount. This resulted in the need for impairment in the amount of €9 million as of December 31, 2021, which was allocated to the goodwill of the disposal group for the kaolin minerals business.
– On December 6, 2021, BASF and Allianz Capital Partners, acting as party to the contract on behalf of Allianz Insurance Companies (Allianz), agreed to the purchase by Allianz of 25.2% of the investment in the Hollandse Kust Zuid (HKZ) offshore wind farm. This follows a transaction between Vattenfall and BASF under which BASF acquired 49.5% of HKZ from Vattenfall on September 1, 2021. The transaction is expected to close in the first quarter of 2022, subject to the approval of the relevant antitrust authorities. The assets and liabilities were reclassified to a disposal group upon agreement to the investment by Allianz.
– On December 28, 2021, BASF reached an agreement with Clariant Corporation, Louisville, Kentucky, to sell its production site in Quincy, Florida, and the associated attapulgite business in the Dispersion & Resins division. The Quincy site employs around 75 employees and manufactures clay-based mineral products used in a variety of industrial applications. The purchase price amounts to $60 million. The transaction is expected to close in the summer of 2022, subject to the approval of the relevant antitrust authorities.

Other comprehensive income as of December 31, 2021, included €52 million, which resulted from the change in the fair value of physical power purchase agreements (PPAs) and is fully attributable to the wind farm investment disposal group.

The values of the disposal groups are presented in the following table.

Disposal groups
Million €

	Kaolin minerals business December 31, 2021	Wind farm investment December 31, 2021
Balance Sheet		
Goodwill	–5	–
Other intangible assets	–	–
Property, plant and equipment	–153	–
Integral investments accounted for using the equity method	–	–565
Non-integral investments accounted for using the equity method	–	–
Other financial assets	–	–
Deferred tax assets	–	–
Other receivables and miscellaneous assets	–	–71
Noncurrent assets	**–158**	**–636**
Inventories	–44	–
Accounts receivable, trade	–	–
Other receivables and miscellaneous assets	–	–2
Marketable securities	–	–
Cash and cash equivalents	–	–
Current assets	**–44**	**–2**
Assets of the disposal group	**202**	**638**
Provisions for pensions and similar obligations	–	–
Deferred tax liabilities	–20	–17
Tax provisions	–	–
Other provisions	–17	–
Financial indebtedness	–	–
Other liabilities	–	–
Noncurrent liabilities	**–37**	**–17**
Accounts payable, trade	–	–
Provisions	–	–
Tax liabilities	–	–
Financial indebtedness	–	–
Other liabilities	–2	–4
Current liabilities	**–2**	**–4**
Liabilities of the disposal group	**39**	**21**
Net assets	**163**	**617**

4 BASF Group list of shares held pursuant to section 313(2) of the German Commercial Code (HGB)

The list of consolidated companies and the complete list of all companies in which BASF SE holds shares as required by section 313(2) HGB as well as information on the exemption of subsidiaries from accounting and disclosure obligations are an integral component of the audited Consolidated Financial Statements submitted to the electronic Federal Gazette (Bundesanzeiger). The list of shares held is also published online.

For more information, see basf.com/en/corporategovernance

5 Reporting by segment and region

The BASF Group's business is operated by 11 divisions, grouped into six segments:

- **Chemicals:** Petrochemicals, Intermediates
- **Materials:** Performance Materials, Monomers
- **Industrial Solutions:** Dispersions & Resins, Performance Chemicals
- **Surface Technologies:** Catalysts, Coatings
- **Nutrition & Care:** Care Chemicals, Nutrition & Health
- **Agricultural Solutions:** Agricultural Solutions

The divisions are allocated to the segments based on their business models and according to their focal points, customer groups, the focus of their innovations, their investment relevance and sustainability aspects.

The **Chemicals** segment comprises the Petrochemicals and Intermediates divisions and is the cornerstone of BASF's Verbund structure. It supplies the other segments with basic chemicals and intermediates, contributing to the organic growth of the key value chains. In addition to internal transfers, the segment mainly serves customers in downstream industries, especially in the chemical and plastics industries. The segment's competitiveness is strengthened by technological leadership and operational excellence, process and product innovations as well as the development of sustainable technologies.

The **Materials** segment is composed of the Performance Materials and the Monomers divisions. The segment offers advanced materials and their precursors for new applications and systems. Its product portfolio includes isocyanates and polyamides as well as inorganic basic products and specialties for plastics and plastics processing. In addition to specific technological knowledge, industry expertise and customer proximity, particularly products that contribute to the circular economy as well as sustainable production methods help differentiate BASF from its competitors.

The **Industrial Solutions** segment consists of the Dispersions & Resins and the Performance Chemicals divisions. The segment develops and markets ingredients and additives for industrial applications, such as polymer dispersions, resins, electronic materials, antioxidants and additives. Its customers come from key industries such as automotive, plastics and electronics as well as energy and resources. The pigments business was part of the Dispersions & Pigments division until June 30, 2021. The division was renamed Dispersions & Resins as of July 1, 2021, following the divestiture of the global pigments business.

The **Surface Technologies** segment bundles chemical solutions for surfaces in the Catalysts and Coatings divisions. Its portfolio range serves the automotive and chemical industries and includes catalysts, battery materials, automotive OEM and refinish coatings, surface treatment, and precious and base metal services. Innovations and solutions customized in collaboration with our customers in the field of sustainable mobility are a key growth driver for this segment.

The **Nutrition & Care** segment comprises the Care Chemicals division and the Nutrition & Health division. This segment produces ingredients and solutions for consumer applications in the areas of nutrition, home and personal care. Its customers include food and feed producers as well as the pharmaceutical, cosmetics, and the detergent and cleaner industries. The segment's competitiveness is strengthened, among other things, by focusing on new business models and sustainability trends in the consumer goods markets, for instance expanding the portfolio with bio-based and biodegradable products.

The **Agricultural Solutions** segment consists of the division of the same name. As an integrated provider, its portfolio comprises fungicides, herbicides, insecticides and biological crop protection products, as well as seeds and seed treatment products. Furthermore, Agricultural Solutions offers farmers innovative and sustainable solutions, including those based on digital technologies, combined with practical advice.

Activities that are not allocated to any of the divisions are recorded under **Other**. These include other businesses which comprise commodity trading, engineering and other services, as well as rental income and leases. Discontinued operations and certain activities remaining after divestitures are also reported here.

The following activities are also presented under Other:
- The steering of the BASF Group by corporate headquarters.
- Cross-divisional corporate research, which includes plant biotechnology research, works on long-term topics of strategic importance to the BASF Group. Furthermore, it focuses on the development of specific key technologies, which are of central importance for the divisions.
- Results from currency translation that are not allocated to the segments; earnings from the hedging of raw materials prices and foreign currency exchange risks; and gains and losses from the long-term incentive programs (LTI programs).
- Remanent fixed costs resulting from organizational changes or restructuring; function and region-related restructuring costs not allocated to a division; idle capacity costs from internal human resource platforms; and consolidation effects that cannot be allocated to the divisions.

Income from operations (EBIT) of Other
Million €

	2021	2020
Costs for cross-divisional corporate research	–355	–364
Costs of corporate headquarters	–255	–214
Other businesses	180	169
Foreign currency results, hedging and other measurement effects	–62	–59
Miscellaneous income and expenses	–149	–735
Income from operations of Other	**–641**	**–1,203**

Income from operations of Other improved by €562 million year on year, from –€1,203 million to –€641 million. This resulted mainly from **miscellaneous income and expenses,** which included special income from the partial release of provisions for the restructuring of the Global Business Services unit. In the previous year, special charges had been recognized. The **costs of corporate headquarters** rose by €41 million year on year to €255 million. Income from **other businesses** increased by €11 million to €180 million. The **costs for cross-divisional corporate research** decreased by €9 million to €355 million.

The same accounting rules are used for segment reporting as those used for the Group, which are presented in these Notes. Transfers between the segments are generally executed at adjusted market-based prices, taking into account the higher cost efficiency and lower risk of intragroup transactions. Assets, as well as their depreciation and amortization, are allocated to the segments based on economic control. Assets used by more than one segment are allocated based on the percentage of usage.

Income from operations (EBIT) before special items is used for the internal steering of the segments and complements the key management indicator, return on capital employed (ROCE). It is determined based on EBIT, which is calculated from gross profit on sales, selling expenses, general administrative expenses, research and development expenses, other operating income and expenses, and income from integral companies accounted for using the equity method. To calculate EBIT before special items, this figure is then adjusted for special items. Special items arise from the integration of acquired businesses, restructuring costs, impairments and reversals of impairments, gains or losses on divestitures and sales of integral investments accounted for using the equity method, as well as other expenses and income that arise outside of ordinary business activities. EBIT and EBIT before special items are alternative performance measures that are not defined under IFRS and are to be considered as being complementary to the indicators defined by IFRS.

Reconciliation of the assets of Other to the assets of the BASF Group

Million €

	December 31, 2021	December 31, 2020
Segment assets	**64,262**	**56,161**
Assets of businesses included in Other	3,202	2,251
Other financial assets and non-integral investments accounted for using the equity method	10,418	11,456
Deferred tax assets	2,600	3,386
Cash and cash equivalents / marketable securities	2,832	4,537
Defined benefit assets	661	126
Other receivables / prepaid expenses	3,407	2,375
Assets of Other	**23,121**	**24,131**
Assets of the BASF Group	**87,383**	**80,292**

Reconciliation of segment income to income before income taxes

Million €

	2021	2020
EBIT before special items of the segments	8,411	4,329
EBIT before special items of Other	–643	–769
EBIT before special items	**7,768**	**3,560**
Special items of the segments	–93	–3,317
Special items of Other	3	–434
Special items	**–91**	**–3,751**
EBIT of the segments	8,317	1,012
EBIT of Other	–641	–1,203
EBIT	**7,677**	**–191**
Net income from shareholdings	207	–909
Financial result	–436	–462
Income before income taxes	**7,448**	**–1,562**

Segments 2021

Million €

	Chemicals	Materials	Industrial Solutions	Surface Technologies	Nutrition & Care	Agricultural Solutions	Other	BASF Group
Sales	13,579	15,214	8,876	22,659	6,442	8,162	3,666	78,598
Intersegment transfers	4,269	1,250	420	171	491	40	120	6,761
Sales including transfers	17,848	16,464	9,296	22,831	6,933	8,202	3,786	85,358
Income from integral companies accounted for using the equity method	409	20	9	94	6	–	136	675
Income from operations (EBIT)	2,997	2,345	965	761	554	696	–641	7,677
Assets	10,369	11,286	6,302	13,769	7,231	15,305	23,121	87,383
of which goodwill	199	189	631	2,373	874	3,187	66	7,520
other intangible assets	55	632	172	1,104	379	3,596	41	5,980
property, plant and equipment	4,734	4,732	2,025	3,817	2,716	2,570	959	21,553
integral investments accounted for using the equity method	1,199	212	21	484	42	–	582	2,540
Liabilities	3,820	4,372	2,621	3,678	3,146	4,091	23,573	45,301
Research and development expenses	97	193	175	296	172	904	378	2,216
Additions to property, plant and equipment and intangible assets (including acquisitions)	1,157	709	361	1,469	654	347	183	4,881
Depreciation and amortization of property, plant and equipment and intangible assets	767	817	380	483	413	662	157	3,678
of which impairments and reversals of impairments[a]	31	33	43	9	6	8	14	144

a Impairments and reversals of impairments included reversals of impairments of €12 million in Industrial Solutions in 2021.

Segments 2020

Million €

	Chemicals	Materials	Industrial Solutions	Surface Technologies	Nutrition & Care	Agricultural Solutions	Other	BASF Group
Sales	8,071	10,736	7,644	16,659	6,019	7,660	2,360	59,149
Intersegment transfers	2,861	720	375	203	429	91	73	4,752
Sales including transfers	10,932	11,456	8,019	16,862	6,448	7,751	2,433	63,901
Income from integral companies accounted for using the equity method	46	16	17	55	4	–	82	220
Income from operations (EBIT)	–192	–109	630	–587	688	582	–1,203	–191
Assets	7,896	9,118	6,402	11,691	6,214	14,840	24,131	80,292
of which goodwill	186	179	628	2,019	844	3,039	64	6,959
other intangible assets	53	698	197	1,018	453	3,716	51	6,186
property, plant and equipment	4,362	4,498	2,040	2,973	2,353	2,528	893	19,647
integral investments accounted for using the equity method	710	208	48	414	34	–	464	1,878
Liabilities	3,435	3,893	2,734	2,905	2,948	3,556	26,423	45,894
Research and development expenses	96	182	177	246	160	840	385	2,086
Additions to property, plant and equipment and intangible assets (including acquisitions)	871	1,957	331	585	510	459	156	4,869
Depreciation and amortization of property, plant and equipment and intangible assets	1,429	1,665	469	1,487	464	1,000	171	6,685
of which impairments and reversals of impairments[a]	592	800	106	1,013	53	296	20	2,880

a In 2020, impairments and reversals of impairments only included impairments.

Regions 2021
Million €

		Europe	Of which Germany	North America	Asia Pacific	South America, Africa, Middle East	BASF Group
Location of customer							
Sales		30,531	7,300	20,867	21,234	5,965	78,598
Share	%	38.8	9.3	26.5	27.0	7.6	100.0
Location of company							
Sales		31,594	12,722	21,935	20,632	4,437	78,598
Assets		46,012	30,837	19,324	18,020	4,026	87,383
of which intangible assets		6,674	3,675	5,348	1,187	292	13,499
property, plant and equipment		10,209	6,394	5,415	5,336	592	21,553
integral investments accounted for using the equity method		479	400	118	1,943	–	2,540
Additions to property, plant and equipment and intangible assets (including acquisitions)		2,484	1,512	845	1,468	83	4,881
Depreciation and amortization of property, plant and equipment and intangible assets including impairments and reversals of impairments		1,764	1,138	1,146	663	105	3,678

In the United States, sales to third parties in 2021 amounted to €19,583 million (2020: €14,352 million) according to location of companies and €18,277 million (2020: €13,414 million) according to location of customers. On December 31, 2021, intangible assets, property, plant and equipment, and investments accounted for using the equity method amounted to €10,466 million (2020: €9,967 million) in the United States.

In China, sales to third parties in 2021 amounted to €11,380 million (2020: €7,839 million) according to location of companies and €11,408 million (2020: €7,877 million) according to location of customers. On December 31, 2021, intangible assets, property, plant and equipment, and investments accounted for using the equity method amounted to €5,613 million (2020: €3,799 million) in China.

Regions 2020

Million €

		Europe	Of which Germany	North America	Asia Pacific	South America, Africa, Middle East	BASF Group
Location of customer							
Sales		23,129	5,510	15,709	15,406	4,905	59,149
Share	%	39.1	9.3	26.6	26.0	8.3	100.0
Location of company							
Sales		24,223	10,296	16,440	14,895	3,591	59,149
Assets		45,551	32,270	17,628	13,725	3,388	80,292
of which intangible assets		6,700	3,588	5,126	1,013	306	13,145
property, plant and equipment		9,550	6,192	5,275	4,220	602	19,647
integral investments accounted for using the equity method		423	391	105	1,350	–	1,878
Additions to property, plant and equipment and intangible assets (including acquisitions)		3,019	932	1,044	690	116	4,869
Depreciation and amortization of property, plant and equipment and intangible assets including impairments and reversals of impairments		3,306	2,305	2,124	1,133	122	6,685

6 Earnings per share

Earnings per share

		2021	2020
Income after taxes from continuing operations	million €	6,018	–1,471
of which noncontrolling interests	million €	459	–17
Net income from continuing operations	**million €**	**5,559**	**–1,454**
Income after taxes from discontinued operations	million €	–36	396
of which noncontrolling interests	million €	–	2
Net income from discontinued operations	**million €**	**–36**	**394**
Income after taxes	million €	5,982	–1,075
of which noncontrolling interests	million €	459	–15
Net income	**million €**	**5,523**	**–1,060**
Weighted average number of outstanding shares	1,000	918,479	918,479
Dilution effect from BASF's "plus" incentive share program	1,000	2,008	1,759
Weighted average number of shares for diluted earnings per share	**1,000**	**920,486**	**920,238**
Earnings per share	**€**		
From continuing operations	€	6.05	–1.58
Diluted	€	6.04	–1.58
From discontinued operations	€	–0.04	0.43
Diluted	€	–0.04	0.43
From continuing and discontinued operations	€	6.01	–1.15
Diluted	€	6.00	–1.15

In accordance with IAS 33, earnings per share are determined by dividing earnings attributable to shareholders of BASF SE by the weighted average of outstanding shares. Pursuant to IAS 33, a potential dilutive effect must be considered in the **diluted earnings per share** for those BASF shares that will be granted in the future as part of BASF's "plus" share program. This applies regardless of the fact that the necessary shares are acquired on the market by third parties on behalf of BASF and that there are no plans to issue new shares. A dilutive effect from the issue of "plus" shares arose in the amount of €0.01 in 2021 (2020: no dilutive effect).

7 Sales revenue

Sales revenue from contracts with customers is recognized in the amount of the consideration BASF expects to receive in exchange for the goods or services when the customer obtains control of the goods or services. Control is considered to be transferred when the customer can direct the use of the goods or services and can obtain all substantial remaining benefits from them.

BASF primarily generates income from the sale of goods. Because the customer obtains control of the goods at a specific point in time, the corresponding sales revenue is recognized based on a given point in time. Determination of this point in time occurs in the context of an overall assessment of the circumstances which considers the existence of a present claim to payment, the legal title to the goods, actual physical possession of the goods, the transfer of risks and rewards as well as customer acceptance. The transfer of risks and rewards takes into account the underlying terms of delivery (especially Incoterms) and is of particular practical significance. According to these principles, sales revenue from the sale of goods is generally recognized upon delivery. If products are delivered to a consignment warehouse, BASF normally retains control of the goods. Accordingly, sales revenue is not recognized until the customer collects the goods from the consignment warehouse. Long-term supply agreements usually contain variable prices, dependent on the development of raw materials prices and variable volumes.

Services rendered to customers by BASF are invoiced according to work completed and recognized as revenue accordingly.

BASF generates a portion of its sales revenue from license agreements. Sales revenue from license agreements is recognized based on a point in time or a period of time depending on whether the licensee is being granted a right to use (revenue recognized at a point in time) or a right to access (revenue recognized over time) the intellectual property of BASF. Sales revenue from sales and usage-based royalties is recognized in accordance with the underlying settlement agreements.

Sales revenue from the sale of precious metals to industrial customers is recognized on delivery and the corresponding purchase prices are recorded as cost of sales. In the trading of precious metals and their derivatives with traders, where there is usually no physical delivery, revenues are netted against the corresponding costs.

If a consideration that is contractually agreed upon by a customer includes variable components, BASF estimates the amount of the consideration. Variable components are recognized as revenue only to the extent that it is highly probable that previously recognized sales revenue will not have to be cancelled as soon as there is no longer uncertainty about the actual amount of the consideration. Primarily rebates and other discounts are recognized as a reduction in revenue in accordance with the principle of individual measurement. BASF grants customers rebates if the goods purchased by the customer exceed a contractually defined threshold within the period specified. Rebates are usually deducted from amounts payable by the customer. Taking into account the specific terms of the underlying contract, BASF uses the expected value method or the most likely amount to estimate a variable consideration amount. The method is selected based primarily on number of possible results such as the number of volume thresholds with rebates. All available information, particularly historical values, is used for making estimates.

In some contracts, BASF grants the customer the right to return goods within a specific period of time, even if they meet the agreed specifications (sale with right of return). The actual expected amount of the consideration BASF is entitled to receive in this case is estimated using the expected value method. Refund liabilities are recognized in the amount of considerations paid by the customer for goods that are expected to be returned.

BASF opts to apply the practical expedient in IFRS 15.63 to not adjust the amount of the agreed consideration for the effects of a material financing component if, at the beginning of a contract, no more than one year is expected to lapse between the transfer of control of the goods or services and payment by the customer.

BASF also applies the practical expedient in IFRS 15.121 of not reporting information on remaining performance obligations resulting from a contract with a maximum expected original term of one year. Furthermore, information on performance obligations is not reported if the resulting revenue is recognized in accordance with IFRS 15.B16.

Sales by division and by indication and sector
Million €

	2021	2020
Petrochemicals	9,674	5,426
Intermediates	3,904	2,645
Chemicals	**13,579**	**8,071**
Performance Materials	7,292	5,635
Monomers	7,922	5,101
Materials	**15,214**	**10,736**
Dispersions & Resins	5,681	4,869
Performance Chemicals	3,195	2,775
Industrial Solutions	**8,876**	**7,644**
Catalysts	19,219	13,570
Coatings	3,440	3,089
Surface Technologies	**22,659**	**16,659**
Care Chemicals	4,439	3,989
Nutrition & Health	2,003	2,030
Nutrition & Care	**6,442**	**6,019**
Fungicides	2,449	2,267
Herbicides	2,526	2,464
Insecticides	926	825
Seed Treatment	620	609
Seeds & Traits	1,641	1,495
Agricultural Solutions	**8,162**	**7,660**
Other	**3,666**	**2,360**
BASF Group	**78,598**	**59,149**

Sales revenue of €59 million, that was included in contract liabilities as of January 1, 2021, was recognized in 2021.

Sales revenue for the 2021 fiscal year includes €234 million from performance obligations fulfilled in prior periods in connection with sales and usage-dependent licenses.

8 Functional costs

Under the cost of sales method, functional costs incurred by the operating functions are determined on the basis of cost center accounting. The functional costs particularly contain the personnel costs, depreciation and amortization accumulated on the underlying final cost centers as well as allocated costs within the cost accounting cycle. Operating expenses that cannot be allocated to the functional costs are reported as other operating expenses.

For more information on other operating expenses, see Note 9 from page 223 onward

Cost of sales

Cost of sales includes all production and purchase costs of the company's own products as well as merchandise that has been sold in the period, particularly plant, energy and personnel costs.

Selling expenses

Selling expenses primarily include marketing and advertising costs, freight costs, packaging costs, distribution management costs, commissions and licensing costs.

General administrative expenses

General administrative expenses include the costs of the Corporate Center, of general management, the Board of Executive Directors and the Supervisory Board. They also include the costs of managing operating divisions and business units as well as the costs of the supporting services in departments such as accounting, legal, taxes and controlling.

Research and development expenses

Research and development expenses include the costs resulting from research projects as well as the necessary license fees for research activities.

For more information on research and development expenses by segment, see Note 5 from page 213 onward

9 Other operating income and expenses

Other operating income[a]
Million €

	2021	2020
Income from the adjustment and release of provisions recognized in other operating expenses	241	54
Revenue from miscellaneous other activities	180	244
Income from hedging transactions and LTI programs	30	11
Income from foreign currency transactions and the translation of financial statements in foreign currencies	49	47
Gains on divestitures and the disposal of noncurrent assets	175	62
Reversals of impairment losses on noncurrent assets	13	–
Income from the reversal of valuation allowances for business-related receivables	32	22
Gains/losses from precious metal trading	388	304
Other	784	655
Other operating income	**1,894**	**1,399**

a Income from foreign currency transactions was reported with income from the translation of financial statements in foreign currencies for the first time; it had previously been combined with income from hedging transactions and LTI programs. Furthermore, gains/expenses from precious metal trading, which had previously been recognized under Other, were reported separately. The prior-year figures have been restated accordingly.

Income from the adjustment and release of provisions recognized in other operating expenses in 2021 resulted primarily from the release of provisions in connection with the restructuring of the Global Business Services unit. In both years, income also resulted from risks from lawsuits and damage claims, closures and restructuring measures, employee obligations, and various other individual items as part of the normal course of business. Provisions were reversed or adjusted if, based on the circumstances on the balance sheet date, utilization was no longer expected, or expected to a lesser extent.

As in the previous year, **revenue from miscellaneous other activities** primarily included income from rentals, catering operations, cultural events and logistics services. In 2020, €24 million in revenue from finance leases was also recognized.

Income from hedging transactions and LTI programs resulted exclusively from currency derivatives and other hedging transactions. No income from the release of provisions for the long-term incentive (LTI) program was recognized in 2021 or 2020.

Income from foreign currency transactions and the translation of financial statements in foreign currencies related to the translation of receivables and liabilities in foreign currencies and included income from the translation of companies' financial statements whose local currency is different from the functional currency.

Gains on divestitures and the disposal of noncurrent assets in 2021 resulted from the sale of a production site in Kankakee, Illinois, the sale of the share in the condensate splitter in Port Arthur, Texas, and the sale of the precision microchemicals business. In 2020, this item included primarily income from the sale of fixed assets in the amount of €44 million.

Reversals of impairment losses on noncurrent assets arose in 2021 in connection with the planned divestiture of the production site in Quincy, Florida, and the associated attapulgite business.

Income from the reversal of valuation allowances for business-related receivables resulted both from the reversal of impairments for settled customer receivables for which impairments had been recorded previously as well as from adjusted expectations regarding default on individual customer receivables.

Other income included refunds in the amount of €211 million in 2021 and €151 million in 2020. This was due in both years to government grants in multiple countries, regional business development subsidies in China, and transaction tax refunds in Brazil. Additional income resulted in 2021 from compensation for environmental impact in the amount of €165 million and from special income from the sale of non-capitalized know-how in the amount of €50 million. In 2020, income was recognized in connection with the premature termination of a long-term supply agreement in North America in the amount of €103 million and from insurance refunds.

Other operating expenses[a]

Million €

	2021	2020
Restructuring and integration measures	461	809
Environmental protection and safety measures, costs of demolition and removal, and project costs not subject to mandatory capitalization	523	356
Depreciation, amortization and impairments of noncurrent assets and of the disposal groups	135	2,968
Costs from miscellaneous revenue-generating activities	150	213
Expenses from hedging transactions and LTI programs	62	48
Losses from foreign currency transactions and the translation of financial statements in foreign currencies	163	165
Losses from divestitures and the disposal of noncurrent assets	46	51
Expenses from the addition of valuation allowances on business-related receivables	107	69
Expenses for derecognition of obsolete inventory	290	343
Other	714	1,086
Other operating expenses	**2,650**	**6,108**

a Losses from foreign currency transactions were reported with losses from the translation of financial statements in foreign currencies for the first time; they had previously been combined with expenses from hedging transactions and LTI programs. The prior-year figures have been restated accordingly.

In 2021 and 2020, expenses from **restructuring and integration measures** were largely attributable to global restructuring activities to improve competitiveness in various operating divisions and site closures in Europe and North America (2021: €401 million, 2020: €435 million). In 2020, this item additionally contained expenses associated with the restructuring of the Global Business Services unit and site closures in Asia Pacific.

Expenses from integration measures in the amount of €21 million in 2021 related to the integration of the global polyamide business, which had been acquired from Solvay in 2020. In 2020, these expenses were €90 million. Furthermore, expenses of €7 million arose in 2021 from the integration of the battery materials business which was acquired in 2021 in China.

For more information, see Note 3 from page 207 onward

Environmental protection and safety measures, costs of demolition and removal, and project costs not subject to mandatory capitalization were expensed if requirements for mandatory capitalization pursuant to IFRS were not met. Expenses for demolition, removal and project planning totaled €257 million in 2021 and €218 million in 2020. In both years, these mainly related to the Ludwigshafen site in Germany. Furthermore, expenses of €266 million in 2021 and €138 million in 2020 arose from the addition to environmental provisions. In both years, these concerned several discontinued sites in North America and, in 2020, additionally a site in Germany.

Depreciation, amortization and impairments of noncurrent assets and of the disposal groups were €135 million in 2021 and included impairments in the amount of €116 million resulting primarily from the closure of a plant in North America, impairments of plants in Asia, and impairments of construction in progress due to discontinued investment projects. In 2020, this item amounted to €2,968 million, primarily due to impairments of €2,368 million, which resulted from the economic impact of the coronavirus pandemic and affected all segments. In 2020, there were also impairments in the amount of €377 million because of restructuring in North America, Europe and Asia Pacific.

For more information, see Note 14 from page 236 onward and Note 15 from page 240 onward

Costs from other miscellaneous revenue-generating activities relate to the items presented in other operating income.

Expenses from hedging transactions and LTI programs related to expenses from LTI programs in the amount of €37 million in 2021 and €35 million in 2020. Further expenses resulted from changes in the fair value of currency derivatives and other hedging transactions.

As in the previous year, **losses from divestitures and the disposal of noncurrent assets** were mainly in connection with the divestiture of the global pigments business.

The rise in **expenses from the addition of valuation allowances on business-related receivables** resulted mainly from a transaction tax in Brazil.

In both years, **other expenses** included expenses for litigation, for REACH, for the provision of services, for warranties and for activities related to the BASF 4.0 project and for planning the new Verbund site in Guangdong, China. Other expenses arose in connection with the coronavirus pandemic in both years, but especially due to BASF's "Helping Hands" aid campaign in 2020.

10 Investments accounted for using the equity method and other financial assets

Joint ventures and associated companies are accounted for using the equity method. The carrying amounts of shareholdings are adjusted annually based on the pro rata share of net income, dividends and other changes in equity. Should there be indications of a reduction in the value of an investment, an impairment test is conducted and, if necessary, an impairment is recognized in the income statement. Furthermore, earnings and the carrying amount are adjusted when accounting policies deviate or as a result of purchase price allocations, which primarily affects Wintershall Dea AG, Kassel/Hamburg, Germany.

Exploration and development expenses in the oil and gas business, for which the equity method is applied, are accounted for using the successful efforts method. Under this method, costs of successful exploratory drilling as well as successful and dry development wells are capitalized.

Income from integral companies accounted for using the equity method is presented in EBIT, and income from non-integral companies accounted for using the equity method is presented together with income from other financial assets in net income from shareholdings. Similarly, integral and non-integral shareholdings accounted for using the equity method are also shown separately in the balance sheet. The material equity-accounted shareholding that is classified as integral is BASF-YPC Company Ltd., Nanjing, China, in which BASF and Sinopec each hold 50%, and which operates the Verbund site in Nanjing, China. The material non-integral shareholding is the Wintershall Dea AG oil and gas company, which operated as a GmbH until July 2021, and in which BASF holds a 72.7% share of equity (voting right share 67%). Wintershall Dea was operated jointly as a joint venture by partners BASF and LetterOne until October 2021. Through the instatement of independent members to the main body responsible for decisions about relevant activities, BASF has exercised significant influence since November 1, 2021. Accordingly, Wintershall Dea has been classified as an associated company since that date.

Stahl Lux 2 S.A., Luxembourg (BASF interest: 16.32%), Quantafuel ASA, Oslo, Norway (BASF interest: 10.59%), and CIMO Compagnie industrielle de Monthey S.A., Monthey, Switzerland (BASF interest: 15%), are classified as associated companies as BASF is represented in the relevant boards and can thus exercise significant influence over the companies.

10.1 Integral companies accounted for using the equity method

Income from integral companies accounted for using the equity method
Million €

	2021	2020
Proportional income after taxes	669	234
of which joint ventures	593	193
associated companies	76	41
Other adjustments to income and expenses	6	–14
of which joint ventures	8	–5
associated companies	–2	–9
Income from integral companies accounted for using the equity method	**675**	**220**

Income from integral companies accounted for using the equity method increased by €455 million in 2021. Of the increase, €343 million related to the shareholding in BASF-YPC Company Ltd., primarily due to higher prices and volumes. In addition, the previous year had also been burdened by scheduled turnarounds of production plants.

Reconciliation of the carrying amounts of integral shareholdings accounted for using the equity method
Million €

	Joint ventures		Associated companies	
	2021	2020	2021	2020
Carrying amounts according to the equity method as of the beginning of the year	**1,297**	**1,309**	**581**	**576**
Proportional income after taxes and other adjustments to income and expenses	601	188	74	32
Proportional changes in other comprehensive income	109	–35	18	–12
Total comprehensive income	**710**	**153**	**92**	**20**
Changes in the scope of consolidation	–	–	–	–
Additions	12	–	614	–
Disposals	–	–6	–13	–8
Transfers	–180	–159	–573	–7
Carrying amounts according to the equity method as of the end of the year	**1,839**	**1,297**	**701**	**581**

Proportional income after taxes and other adjustments to income and expenses for the joint ventures increased mainly because of the improved earnings contribution of BASF-YPC Company Ltd.

Proportional changes of other comprehensive income included income and expense recognized directly in equity and related primarily to currency effects.

Additions for associated companies in 2021 related primarily to the purchase of 49.5% of Vattenfall's Hollandse Kust Zuid offshore wind farm. The total investment has been reported as a disposal group since December 2021 due to the agreement to sell shares in the wind farm to Allianz Capital Partners.

Disposals in 2021 related to decreases in capital of the associated company, Yara Freeport LLC, Wilmington, Delaware.

In 2021, **transfers** regarding joint ventures included dividend payments and regarding associated companies they included dividend payments as well as the reclassification of the shareholding in the Hollandse Kust Zuid wind farm in the amount of €565 million to the disposal group.

Additional information on the BASF-YPC Company Ltd. material integral investment accounted for using the equity method

Financial information on BASF-YPC Company Ltd., Nanjing, China (100%)

Million €

	December 31, 2021	December 31, 2020
Balance Sheet		
Noncurrent assets	960	931
Current assets	1,702	820
of which marketable securities, cash and cash equivalents	747	229
Assets	**2,662**	**1,751**
Equity	2,296	1,419
Noncurrent liabilities	3	3
of which financial indebtedness	–	–
Current liabilities	363	329
of which financial indebtedness	–	54
Total equity and liabilities	**2,662**	**1,751**

Statement of income	2021	2020
Sales revenue	3,615	1,995
Amortization/impairment and reversals of impairments	179	202
Interest income	7	3
Interest expenses	1	2
Income taxes	273	44
Income after taxes and other adjustments to income and expenses	818	132
Changes in other comprehensive income	205	–34

Reconciliation of the carrying amount of the shareholding in BASF-YPC Company Ltd.

Million €

	2021	2020
BASF interest	50%	50%
Carrying amount as of the beginning of the year	**710**	**771**
Proportional income after taxes and other adjustments to income and expenses	409	66
Proportional changes in other comprehensive income	103	–17
Dividends received	74	110
Carrying amount as of the end of the year	**1,148**	**710**

10.2 Non-integral companies accounted for using the equity method

Income from non-integral companies accounted for using the equity method

Million €

	2021	2020
Proportional income after taxes	435	–643
of which joint ventures	–	–610
associated companies	435	–33
Other adjustments to income and expenses	–739	–282
of which joint ventures	–	–280
associated companies	–739	–2
Income from the divestiture of shares in Solenis	589	–
Income from non-integral companies accounted for using the equity method	**285**	**–925**

Income from non-integral companies accounted for using the equity method increased by €1,210 million in 2021 due primarily to income from the divestiture of the shares in Solenis as well as to the improvement in the earnings contribution of Wintershall Dea. The improvement in Wintershall Dea's earnings in the amount of €545 million was largely the result of higher oil and gas prices as well as lower impairments of assets. In addition to impairments and

reversals of impairments recorded for Wintershall Dea (€161 million after tax reported in BASF's net income from shareholdings), proportional impairments arose in the amount of €680 million before taxes on the amortized fair value adjustments from 2019, which reduced the carrying amount by €420 million. Of that amount, €408 million was attributable to Argentina, and was caused by the planned disposal of operated unconventional oil activities, the increase in the corporate tax rate, an increased country risk, the implementation of a regulated gas price scheme by the Argentine government until 2028, as well as updated price assumptions. Furthermore, the latter led to minor impairments in Norway and Libya. In the previous year, impairments amounting to €791 million after taxes resulted from lower oil and gas price forecasts as well as from changed reserve estimates. The shareholding as a whole is recoverable.

Values in use were determined for the impairment test as of December 31, 2021. The underlying assumptions for production and cost trends as well as the price assumptions for 2023 to 2040 correspond with Wintershall Dea's. For 2022, BASF anticipates an oil price of $75 per bbl of Brent crude and a gas price (TTF) of $17.2 per mmBtu. After a decline in oil prices to approximately $71 per bbl in 2023, and in gas prices to around $8 per mmBtu in 2023 and 2024, a subsequent increase is assumed at a nominal rate of 2% p.a. for both oil and gas. The expected cash flows were discounted using country-specific cost of capital rates, which reflect the relevant country risks and tax rates. The cost of capital rates in euros, calculated using the capital asset pricing model, were between 3.4% and 14.3% (2021: between 3.4% and 14.4%). A decrease of 10% in oil and gas price assumptions for the entire planning period would result in the need for an impairment of about €613 million of the shareholding in Wintershall Dea as a whole. An increase in capital cost rates of one percentage point would lead to additional proportional impairments of approximately €200 million before tax which would burden net income from shareholdings by €70 million and reduce the carrying amount accordingly.

For more information on Wintershall Dea, see the chapter on Non-Integral Oil and Gas Business in the Management's Report from page 93 onward

Reconciliation of the carrying amounts of non-integral investments accounted for using the equity method

Million €

	Joint ventures		Associated companies	
	2021	2020	2021	2020
Carrying amounts according to the equity method as of the beginning of the year	**10,199**	**12,401**	**675**	**722**
Proportional income after taxes and other adjustments to income and expenses	–	–890	–304	–35
Proportional changes in other comprehensive income	–	–1,255	216	–2
Total comprehensive income	**–**	**–2,145**	**–88**	**–37**
Changes in the scope of consolidation	–	–	–18	–
Additions	–	–	–	–
Disposals	–	–	–	–10
Transfers	–10,199	–57	9,274	–
Carrying amounts according to the equity method as of the end of the year	**–**	**10,199**	**9,843**	**675**

Only the shareholding in Wintershall Dea was included in **joint ventures** in 2020. For 2021, proportional income after taxes and other adjustments to income and expenses as well as the proportional changes in other comprehensive income for Wintershall Dea are reported in full under associated companies. Until November 1, 2021, when Wintershall Dea became an associated company, proportional income after taxes and other adjustments to income and expenses amounted to €258 million; proportional changes in other comprehensive income amounted to –€757 million until that date.

The **proportional changes of other comprehensive income** in 2021 predominantly included changes in the fair value of derivatives used to hedge gas prices and currency effects of Wintershall Dea.

Changes in the scope of consolidation included the shareholding in Solenis UK International Ltd, London, United Kingdom. The former Solenis group holding company will be reported under other financial assets until its complete liquidation.

Disposals in 2020 included a capital decrease in Solenis UK International Ltd. in the amount of €10 million.

Transfers in 2021 contained primarily the reclassification of Wintershall Dea from joint ventures to associated companies. In addition, transfers regarding associated companies related to dividend payments by Wintershall Dea GmbH as well as to the reclassification of Solenis shares to the disposal group.

Additional information on the Wintershall Dea material non-integral investment accounted for using the equity method

The following table contains financial information on the Wintershall Dea material non-integral shareholding accounted for using the equity method, including adjustments for fair value made at initial recognition and the resulting effects on earnings.

Financial information on Wintershall Dea, Kassel/Hamburg, Germany (100%)

Million €

	December 31, 2021	December 31, 2020
Balance Sheet		
Noncurrent assets	27,216	27,881
of which goodwill from fair value adjustments	2,740	2,740
Current assets	4,666	2,459
of which marketable securities, cash and cash equivalents	2,106	821
Assets	**31,882**	**30,340**
Equity attributable to shareholders of Wintershall Dea AG	13,182	14,029
Subordinate bonds issued by Wintershall Dea	1,525	–
Equity	**14,707**	**14,029**
Noncurrent liabilities	12,039	14,343
of which financial indebtedness	4,055	5,886
Current liabilities	5,136	1,968
of which financial indebtedness	575	471
Total equity and liabilities	**31,882**	**30,340**

Statement of income	2021	2020
Sales revenue	7,804	3,642
Amortization/impairment and reversals of impairments	–2,765	–3,080
Interest income	135	122
Interest expenses	–39	–39
Income taxes	–1,498	–424
Income after taxes and other adjustments to income and expenses	–473	–1,224
Changes in other comprehensive income	296	–1,728

Reconciliation of the carrying amount of the shareholding in Wintershall Dea

Million €

	2021	2020
BASF interest in equity attributable to shareholders of Wintershall Dea AG	72.7%	72.7%
Carrying amount as of the beginning of the year	**10,199**	**12,402**
Proportional income after taxes and other adjustments to income and expenses	–344	–890
Proportional changes in other comprehensive income	216	–1,256
Dividends received	488	57
Carrying amount as of the end of the year	**9,583**	**10,199**

10.3 Other shareholdings and financial assets

Net income from other shareholdings
Million €

	2021	2020
Dividends and similar income	32	18
Income from the disposal of / write-up of shareholdings	14	136
Income from profit transfer agreements / tax allocation to shareholdings	1	3
Income from other shareholdings	**47**	**157**
Expenses from loss transfer agreements	–72	–63
Write-downs on / losses from the sale of shareholdings	–53	–78
Expenses from other shareholdings	**–125**	**–141**
Net income from other shareholdings	**–78**	**16**

Net income from other shareholdings in 2021 decreased year on year by €94 million due primarily to lower income from the measurement of shareholdings at fair value.

Carrying amounts of other financial assets
Million €

	Dec. 31, 2021	Dec. 31, 2020
Other shareholdings	514	533
Long-term securities	61	49
Other financial assets	**575**	**582**

11 Financial result

Financial result
Million €

	2021	2020
Interest income from cash and cash equivalents	158	146
Interest and dividend income from securities and loans	10	18
Interest income	**168**	**164**
Interest expenses	**–482**	**–537**
Interest result	**–314**	**–373**
Reversals of write-downs on / income from securities and loans	16	22
Net interest income from other long-term personnel obligations	2	–
Income from the capitalization of borrowing costs	29	30
Interest income on income taxes	42	35
Miscellaneous financial income	6	31
Other financial income	**94**	**118**
Write-downs on / losses from securities and loans	–5	–56
Net interest expense from underfunded pension plans and similar obligations	–82	–108
Net interest expense from other long-term personnel obligations	–	–2
Unwinding the discount on other noncurrent liabilities	–9	–11
Interest expenses on income taxes	–24	–20
Miscellaneous financial expenses	–96	–10
Other financial expenses	**–215**	**–207**
Other financial result	**–122**	**–89**
Financial result	**–436**	**–462**

Interest expenses decreased primarily because of the lower balance of financial indebtedness.

Write-downs on / losses from securities and loans declined mainly due to lower impairments on loans to nonconsolidated Group companies.

The **net interest expense from underfunded pension plans and similar obligations** declined year on year as a result of the lower interest rate used to determine expenses for pension benefits compared with the previous year.

The rise in **other financial expenses** was primarily due to higher net expenses associated with the translation of bonds and the valuation of the corresponding hedging instruments against interest and currency risks.

12 Income taxes

Accounting policies

In Germany, a uniform corporate income tax rate of 15.0% as well as a solidarity surcharge of 5.5% thereon are levied on all distributed and retained earnings. In addition to corporate income tax, income generated in Germany is subject to a trade tax. It varies depending on the municipality in which the company is represented. The weighted average tax rate was 14.6% in 2021 (2020: 14.5%). The 30% rate used to calculate deferred taxes for German Group companies remained unchanged in 2021. The income of foreign Group companies is assessed using the tax rates applicable in their respective countries.

Deferred taxes are recorded for temporary differences between the carrying amount of assets and liabilities in the financial statements according to IFRS and the carrying amounts for tax purposes as well as for tax loss carryforwards and unused tax credits. These also comprise temporary differences arising from business combinations, with the exception of goodwill. Deferred tax assets and liabilities are calculated using the respective country-specific tax rates applicable for the period in which the asset or liability is realized or settled. Tax rate changes enacted or substantively enacted on or before the balance sheet date are taken into consideration.

Deferred tax assets are offset against deferred tax liabilities provided they are related to the same taxation authority. Surpluses of deferred tax assets are only recognized provided that the tax benefits are likely to be realized. The valuation of deferred tax assets is based on the probability of a reversal of the differences and the assessment of the ability to utilize tax loss carryforwards and unused tax credits. This depends on whether future taxable profits will exist during the period in which temporary differences are reversed and in which tax loss carryforwards and unused tax credits can be claimed. The assessment of recoverability of deferred tax assets is based on internal projections of the future earnings of the particular Group company.

Changes in deferred taxes in the balance sheet are recorded as deferred tax expense or income unless the underlying transaction is recognized directly in equity or in income and expenses recognized in equity. For those effects which have been recognized in equity, changes to deferred tax assets and tax liabilities are also recognized directly in equity.

Deferred tax liabilities are recognized for differences between the proportional IFRS equity and the tax base of the investment in a consolidated subsidiary if a reversal of these differences is expected in the foreseeable future. Deferred tax liabilities are recognized for dividend distributions planned for the following year if these distributions lead to a reversal of temporary differences.

Provisions for German trade tax, corporate income tax and similar income taxes are calculated and recognized based on the expected taxable income of the consolidated companies less any prepayments that have been made. Provisions are set up for interest accrued. This interest is reported under other financial result, not tax expense. Other taxes to be assessed are considered accordingly.

IFRIC 23 clarifies the application of the recognition and measurement policies from IAS 12 when there is uncertainty regarding income tax-related treatment of individual transactions. They are accounted for with the assumption that tax authorities will examine the questionable transaction and have all relevant information. The amount of risk provisions is calculated and reviewed with consideration for the results of past tax audits as well as the legal assessment of not yet audited transactions and the risk of a deviating tax-related interpretation by the tax authorities. The most probable value of the individual risks is recognized.

Tax expense and tax rate

The BASF Group tax rate amounted to 19.2% in 2021 (2020: 5.8%). The relatively high tax rate in relation to 2020 resulted primarily from lower nondeductible operating expenses, caused largely in the previous year by non-tax-effective impairments of goodwill, and from the increased earnings contributions of countries with higher

tax rates. Particularly higher tax-exempt income, mainly in connection with the divestiture of the share in Solenis, had an offsetting impact.

Tax expense
Million €

	2021	2020
Current tax expense	**1,436**	**398**
Corporate income tax, solidarity surcharge and trade taxes (Germany)	38	73
Foreign income tax	1,575	739
Taxes for prior years	–176	–414
Deferred tax expense (+) / income (–)	**–6**	**–489**
From changes in temporary differences	49	–129
From changes in tax loss carryforwards/unused tax credits	–67	–372
From changes in the tax rate	–2	32
From valuation allowances on deferred tax assets	14	–20
Income taxes	**1,430**	**–91**

Reconciliation of income taxes and the effective tax rate

	2021		2020	
	Million €	%	Million €	%
Income before income taxes	7,448		–1,562	
Expected tax based on German corporate income tax rate (15%)	1,117	15.0	–234	15.0
Solidarity surcharge	0	0.0	2	–0.1
Trade taxes	78	1.1	–255	16.3
Foreign tax rate differential	548	7.4	55	–3.5
Tax-exempt income	–211	–2.8	–64	4.1
Nondeductible expenses	140	1.9	339	–21.7
Income of companies accounted for using the equity method (income after taxes)	–56	–0.7	106	–6.8
Taxes for prior years (current and deferred taxes)	–176	–2.4	–103	6.6
Deferred tax liabilities for the future reversal of temporary differences associated with shares in participating interests	–6	–0.1	–66	4.2
Changes in the tax rate	–2	0.0	32	–2.1
Other	–3	0.0	97	–6.2
Income taxes / effective tax rate	**1,430**	**19.2**	**–91**	**5.8**

Deferred taxes result from temporary differences between tax balances and the measurement of assets and liabilities according to IFRS as well as from tax loss carryforwards and unused tax credits. The remeasurement of all the assets and liabilities associated with acquisitions according to IFRS 3 has resulted in significant deviations between fair values and the values in the tax accounts. This primarily leads to deferred tax liabilities.

Deferred taxes

Deferred tax assets and liabilities 2021
Million €

	January 1, 2021, net	Effects recognized in income	Effects recognized in equity (OCI)	Business combinations	Other	December 31, 2021, net	Deferred tax assets	Deferred tax liabilities
Intangible assets	–955	–37	–26	–22	–6	–1,045	41	–1,086
Property, plant and equipment	–1,068	–18	–64	–3	22	–1,131	303	–1,434
Financial assets	–74	8	–26	–	25	–67	43	–109
Inventories and accounts receivable	–169	–187	–53	–1	37	–372	292	–664
Provisions for pensions and similar obligations	2,851	18	–790	–	6	2,085	2,781	–695
Other provisions and liabilities	831	148	78	2	3	1,062	1,168	–106
Tax loss carryforwards	505	69	4	1	1	580	580	–
Other	18	4	–3	–	–31	–11	63	–75
Deferred tax assets (liabilities) before netting	**1,939**	**6**	**–878**	**–23**	**57**	**1,101**	**5,270**	**–4,169**
Netting	–	–	–	–	–	–	–2,670	2,670
Deferred tax assets (liabilities) after netting	**1,939**	**6**	**–878**	**–23**	**57**	**1,101**	**2,600**	**–1,499**

Deferred tax assets and liabilities 2020

Million €

	January 1, 2020, net	Effects recognized in income	Effects recognized in equity (OCI)	Business combinations	Other	December 31, 2020, net	Deferred tax assets	Deferred tax liabilities
Intangible assets	–934	–8	33	–42	–4	–955	89	–1,044
Property, plant and equipment	–1,081	–65	101	–36	13	–1,068	246	–1,314
Financial assets	–136	64	5	–	–7	–74	44	–118
Inventories and accounts receivable	–199	82	–31	–3	–18	–169	232	–401
Provisions for pensions and similar obligations	2,424	28	384	14	1	2,851	3,342	–491
Other provisions and liabilities	841	42	–91	3	36	831	986	–155
Tax loss carryforwards	193	332	–11	1	–10	505	505	–
Other	15	14	–9	2	–4	18	82	–64
Deferred tax assets (liabilities) before netting	**1,123**	**489**	**381**	**–61**	**7**	**1,939**	**5,526**	**–3,587**
Netting	–	–	–	–	–	–	–2,140	2,140
Deferred tax assets (liabilities) after netting	**1,123**	**489**	**381**	**–61**	**7**	**1,939**	**3,386**	**–1,447**

Deferred tax assets on deductible temporary differences in the amount of €245 million were not recognized in 2021 (2020: €182 million), as their utilization at reversal was not reasonably certain.

Undistributed earnings of subsidiaries resulted in temporary differences of €11,587 million in 2021 (2020: €10,398 million) for which deferred tax liabilities were not recognized, as they are either not subject to taxation on payout or they are expected to be reinvested for an indefinite period of time.

Tax loss carryforwards

No deferred tax assets were recognized for tax loss carryforwards of €172 million in 2021 (2020: €257 million). Of these, €3 million will expire in 2022, €4 million in 2023, €2 million in 2024, €12 million in 2025, €52 million in 2026, and €20 million in 2027 and thereafter. The remaining €79 million will not expire.

Surpluses of deferred tax assets for companies that reported tax losses in 2021 or 2020 totaled €2,379 million as of December 31, 2021 (December 31, 2020: €2,645 million). Deferred taxes were recognized because, due to planned earnings, the use of temporary differences or loss carryforwards is expected.

Tax liabilities

Tax liabilities primarily include assessed income taxes and other taxes as well as estimated income taxes not yet assessed for the current year.

13 Noncontrolling interests

Noncontrolling interests in profits and losses
Million €

	2021	2020
Noncontrolling interests in profits	480	90
Noncontrolling interests in losses	–21	–105
Total	**459**	**–15**

Noncontrolling interests in profits rose year on year in 2021, especially at BASF PETRONAS Chemicals Sdn. Bhd., Petaling Jaya, Malaysia, and BASF TotalEnergies Petrochemicals LLC, Wilmington, Delaware, resulting mainly from considerably higher sales prices and volumes.

Noncontrolling interests in losses were recognized in 2020, primarily at BASF PETRONAS Chemicals Sdn. Bhd. due to the impairments of assets.

Income and expenses recognized in equity that were attributable to noncontrolling interests totaled €90 million in 2021 and –€49 million in 2020. These effects resulted from currency translation in both years.

Noncontrolling interests

		December 31, 2021		December 31, 2020	
		Equity interest		Equity interest	
Group company	**Partner**	**%**	**Million €**	**%**	**Million €**
BASF India Limited, Mumbai, India	Free float	26.67	71	26.67	52
BASF PETRONAS Chemicals Sdn. Bhd., Petaling Jaya, Malaysia	PETRONAS Chemicals Group Berhad, Kuala Lumpur, Malaysia	40.00	184	40.00	81
BASF Shanghai Coatings Co., Ltd., Shanghai, China	Shanghai Huayi Fine Chemical Co., Ltd, Shanghai, China	40.00	96	40.00	78
BASF TODA Battery Materials, LLC, Yamaguchi, Japan	TODA KOGYO CORP., Hiroshima, Japan	34.00	32	34.00	29
BASF TotalEnergies Petrochemicals LLC, Wilmington, Delaware	Total Petrochemicals & Refining USA, Inc., Houston, Texas	40.00	265	40.00	256
BASF Shanshan Battery Materials Co., Ltd., Changsha, China	Ningbo Yongxiang Investment Co., Ltd., Ningbo, China	49.00	342	–	–
Shanghai BASF Polyurethane Company Ltd., Shanghai, China	Shanghai Hua Yi (Group) Co (SHYG), Schanghai, China, and Sinopec Shanghai Gaoqiao Petrochemical Company Limited, Beijing, China	30.00	146	30.00	98
Other			153		76
Total			**1,289**		**670**

14 Intangible assets

Accounting policies

Acquired intangible assets (excluding goodwill) with defined useful lives are generally measured at cost less straight-line amortization. The useful life is determined using the period of the underlying contract or the period of time over which the intangible asset can be expected to be used.

Impairments are recognized if the recoverable amount of the asset is lower than the carrying amount. The recoverable amount is the higher of either the fair value less costs to sell or the value in use. The value in use is determined on the basis of future cash inflows and outflows, and the weighted average cost of capital after taxes, depending on tax rates and country-related risks. If the reasons for an impairment no longer exist, the write-downs are reversed up to the value of the asset, had an impairment not been recognized. Depending on the type of intangible asset, amortization is reported under cost of sales, selling expenses, research and development expenses or other operating expenses.

Intangible assets with indefinite useful lives are trade names and trademarks that have been acquired as part of acquisitions. These are measured at cost and tested for impairment annually, or if there is an indication that their value has declined.

Internally generated intangible assets primarily comprise internally developed software. Such software and other internally generated intangible assets are measured at cost and amortized over their estimated useful lives. Impairments are recognized if the carrying amount of an asset exceeds the recoverable amount. In addition to those costs directly attributable to the asset, costs of internally generated intangible assets also include an appropriate portion of overhead costs.

The expected useful lives and amortization methods of intangible assets are based on historical values, plans and estimates. The weighted average amortization periods of intangible assets were as follows:

Weighted average amortization in years

	2021	2020
Distribution and similar rights	15	14
Product rights, licenses and trademarks	25	30
Know-how, patents and production technologies	16	16
Internally generated intangible assets	5	4
Other rights and values	8	5

Emission rights: Emission certificates, which are granted free of charge by the German Emissions Trading Authority (Deutsche Emissionshandelsstelle) or a similar authority in other countries, are recognized in the balance sheet with a value of zero. Emission rights purchased on the market are capitalized at cost as intangible assets. Emissions generated create an obligation to surrender the emission certificates. Intangible assets purchased on the market are subsequently measured at fair value, up to a maximum of the amount of the acquisition costs. If the fair value is lower than the carrying amount on the balance sheet date, the emission rights are impaired.

Goodwill is only written down in the case of an impairment. Impairment testing for goodwill is performed once a year and whenever there is an indication of impairment. Goodwill impairments are not reversed.

BASF's goodwill is allocated to 20 cash-generating units (2020: 20), which are defined either on the basis of business units or at a higher level.

The respective recoverable amounts were determined using the value in use. Plans approved by company management and their respective cash flows for the next five years were used. For the period thereafter, a terminal value was calculated using a forward projection from the last detailed planning year as a perpetual annuity. Planning is based on experience, current performance and management's best possible estimates on the future development of individual parameters, such as raw materials prices and profit margins. Market assumptions regarding, for example, economic development, inflation expectations and market growth are included based on external macroeconomic and industry-specific sources.

The fundamental transformation of the automotive industry will have a significant impact on the emissions catalyst business, which belongs to the Catalysts (excluding battery materials) cash-generating unit. In the planning period, the demand for catalysts is initially expected to remain stable as a result of higher environmental standards. In the medium term, the transition from combustion engines to electromobility will lead to a steady decline in demand. For this reason, the growth rate for perpetual annuity was adjusted from 2.0% in 2020 to –0.7% in 2021.

For more information on the Surface Technologies segment, which the cash-generating Catalysts (excluding battery materials) unit is allocated to, see the Management's Report from page 82 onward

The required discounting of cash flows for impairment testing is calculated using the weighted average cost of capital rate after tax, which is determined using the capital asset pricing model.

For more information on the weighted cost of capital rate, see Note 1 from page 200 onward

Goodwill of cash-generating units
Million €

	2021			2020		
Cash-generating unit	**Goodwill**	**Weighted cost of capital after taxes**	**Growth rate[a]**	**Goodwill**	**Weighted cost of capital after taxes**	**Growth rate[a]**
Agricultural Solutions division	3,187	5.54%	2.0%	3,039	4.86%	2.0%
Catalysts division (excluding battery materials)	1,306	6.63%	–0.7%	1,244	6.43%	2.0%
Catalysts division (battery materials)	338	6.51%	2.0%	63	6.76%	2.0%
Personal Care Ingredients in the Care Chemicals division	507	5.54%	2.0%	493	5.21%	2.0%
Surface Treatment in the Coatings division	712	6.67%	2.0%	696	6.42%	2.0%
Other cash-generating units	1,470	5.51%–6.67%	0.0–2.0%	1,424	5.21%–6.92%	0.0–2.0%
Goodwill as of December 31	**7,520**			**6,959**		

a Growth rates used in impairment tests to determine terminal values in accordance with IAS 36

The annual impairment tests of the 20 cash-generating units were performed in the fourth quarter of 2021. The calculation also takes into account capital structure and the beta factor of the respective peer group as well as the average tax rate of each cash-generating unit. Impairment tests were performed on the units assuming a weighted average cost of capital rate after taxes of between 5.51% and 6.67% (2020: between 4.86% and 6.92%). This corresponds to a weighted average cost of capital rate before taxes of between 6.53% and 8.94% (2020: between 6.50% and 8.85%).

After determining the recoverable amounts for the cash-generating units, the conclusion was that reasonable possible deviations from the key assumptions would not lead to the carrying amount of any unit except the Surface Treatments unit exceeding the respective recoverable amounts.

In 2020, a goodwill impairment for the cash-generating Surface Treatment unit was recognized in the amount of €786 million in other expenses due to the significant drop in demand from effects of the coronavirus pandemic and expectations for slow recovery. The outcome of the annual impairment test in 2021 was that the recoverable amount for the cash-generating unit exceeded the carrying amount by €408 million. The recoverable amount would be equal to the carrying amount if the weighted average cost of capital rate rose by 1.05 percentage points or the growth rate were 1.46 percentage points lower.

Development of intangible assets

Development of intangible assets 2021
Million €

	Distribution and similar rights	Product rights, licenses and trademarks	Know-how, patents and production technologies	Internally generated intangible assets	Other rights and values[a]	Goodwill	Total
Cost							
As of January 1, 2021	2,731	1,387	4,182	234	973	7,734	17,241
Changes in the scope of consolidation	0	6	0	–	0	–	6
Additions	2	1	16	32	28	–	78
Additions from acquisitions	45	–	89	–	5	254	392
Disposals	–335	–17	–142	–3	–82	–60	–638
Transfers	0	0	–17	5	8	–	–4
Transfers to disposal groups	–	–	0	–	0	–13	–13
Currency effects	105	42	176	1	16	400	739
As of December 31, 2021	2,547	1,419	4,304	268	949	8,314	17,802
Accumulated amortization							
As of January 1, 2021	1,340	275	1,185	140	381	775	4,096
Changes in the scope of consolidation	0	7	0	0	0	–	7
Additions	171	44	260	26	113	–	614
of which impairments	0	–	1	1	–	–	2
Disposals	–320	–17	–142	–3	–74	–26	–581
Transfers	0	–	0	0	0	–	0
Transfers to disposal groups	0	–	0	–	0	–	0
Currency effects	52	7	52	0	10	45	167
As of December 31, 2021	1,243	316	1,356	164	430	794	4,303
Net carrying amount as of December 31, 2021	**1,304**	**1,103**	**2,949**	**104**	**520**	**7,520**	**13,499**

a Including licenses to such rights and values

Additions from acquisitions resulted in the amount of €392 million from the acquisition of the 51% share in BASF Shanshan Battery Materials Co., Ltd., Changsha, China. It is allocated to the Surface Technologies segment.

For more information on acquisitions, see Note 3 from page 207 onward

Disposals of intangible assets amounting to €638 million primarily concerned fully amortized distribution and similar rights in the Industrial Solutions and Nutrition & Care segments. Furthermore, customer relationships in the amount of €72 million and goodwill in the amount of €8 million were derecognized in connection with a divestiture in the Nutrition & Care segment. In addition, goodwill was derecognized through a divestiture in the Surface Technologies segment.

Transfers to disposal groups related to the adjustment of reclassified amounts of the divested pigments business and goodwill of the kaolin minerals business held for sale.

In 2021, additions to **accumulated amortization** contained impairments of €2 million. They primarily related to unrealized IT projects not allocated to an operational segment.

Development of intangible assets 2020

Million €

	Distribution and similar rights	Product rights, licenses and trademarks	Know-how, patents and production technologies	Internally generated intangible assets	Other rights and values[a]	Goodwill	Total
Cost							
As of January 1, 2020	2,891	1,433	4,319	196	611	8,105	17,555
Changes in the scope of consolidation	–	–	–59	–	–	–	–59
Additions	2	0	40	37	24	–	103
Additions from acquisitions	123	–	171	0	376	21	691
Disposals	–147	0	–67	–7	–28	–	–249
Transfers	–6	0	–34	8	24	–	–8
Transfers to disposal groups	7	0	13	–	–14	–	6
Currency effects	–139	–46	–201	0	–20	–392	–798
As of December 31, 2020	2,731	1,387	4,182	234	973	7,734	17,241
Accumulated amortization							
As of January 1, 2020	1,323	238	1,072	112	285	–	3,030
Changes in the scope of consolidation	–	–	–57	–	–	–	–57
Additions	217	44	281	33	135	786	1,496
of which impairments	15	2	15	3	0	786	821
Disposals	–143	0	–59	–6	–27	–	–235
Transfers	6	0	–1	1	–2	–	4
Transfers to disposal groups	–5	0	0	0	1	–	–4
Currency effects	–58	–7	–51	0	–11	–11	–138
As of December 31, 2020	1,340	275	1,185	140	381	775	4,096
Net carrying amount as of December 31, 2020	**1,391**	**1,112**	**2,997**	**94**	**592**	**6,959**	**13,145**

a Including licenses to such rights and values

15 Property, plant and equipment

Accounting policies

Property, plant and equipment are measured at cost less depreciation and impairment over their useful lives. The revaluation method is not applied. Low-value assets are fully expensed in the year of acquisition.

The cost of self-constructed plants includes direct costs, appropriate allocations of material and production overhead costs, and a share of the general administrative costs of the divisions involved in the construction of the plants.

Expenses related to the scheduled maintenance of large-scale plants are capitalized separately and depreciated using the straight-line method over the period until the next planned turnaround. Costs for the replacement of components are recognized as assets if an additional future benefit is expected. The carrying amount of the replaced components is derecognized. Costs for maintenance and repair as part of normal business operations are recognized as an expense.

As lessee, BASF generally recognizes all leases in the balance sheet. The right-of-use assets from leases and lease liabilities are measured at the present value of the financial commitments entered.

For more information, see Note 16 from page 244 onward

Investment properties held to realize capital gains or rental income are immaterial. They are valued at the lower of fair value or cost less depreciation.

Both movable and immovable fixed assets are principally depreciated using the straight-line method. The estimated useful lives and depreciation methods of property, plant and equipment are based on historical values, plans and estimates. The depreciation methods, useful lives and residual values are reviewed at each balance sheet date.

The weighted average depreciation periods of continuing operations were as follows:

Weighted average depreciation in years

	2021	2020
Buildings and structural installations	18	16
Machinery and technical equipment	11	10
Miscellaneous equipment and fixtures	7	6

If there is indication of a possible cause for impairment, an impairment test is performed. Impairments to property, plant and equipment are recognized if the recoverable amount of the asset is lower than the carrying amount. The measurement is based on fair value less costs to sell or the value in use. An impairment is recognized for the difference between the carrying amount and the recoverable amount. If the reasons for an impairment no longer exist, the write-downs are reversed up to the value of the asset, had an impairment not been recognized. Impairments and reversals of impairments are reported in other operating income and expenses.

For more information on the value in use and the weighted cost of capital rate, see Note 1 from page 200 onward

Borrowing costs: If borrowing costs are directly incurred as part of the acquisition, construction or production of a qualifying asset, they are capitalized as part of the acquisition or production cost of that asset. A qualifying asset is an asset for which the process necessary to make it ready for its intended use or sale is longer than one year. Borrowing costs are capitalized up to the date the asset is ready for its intended use. Borrowing costs were calculated based on a rate of 1.25% (previous year: 1.5%) and adjusted on a country-specific basis, if necessary. All other borrowing costs are recognized as an expense in the period in which they are incurred.

Government grants: Government grants related to the acquisition or construction of property, plant and equipment reduce the acquisition or construction cost of the respective assets. Other government grants or government assistance are recognized immediately as other operating income or treated as deferred income and released over the underlying period.

Development of property, plant and equipment including right-of-use assets arising from leases in 2021

Million €

	Land	Right-of-use land	Buildings	Right-of-use buildings	Machinery and technical equipment	Right-of-use machinery and technical equipment	Miscellaneous equipment and fixtures	Right-of-use miscellaneous equipment and fixtures	Advance payments and construction in progress	Advance payments for right-of-use assets	Total
Cost											
As of January 1, 2021	947	451	10,749	834	43,902	505	4,773	690	3,164	–	66,015
Changes in the scope of consolidation	0	–2	–2	0	–2	–	–2	–1	0	–	–10
Additions	7	11	141	168	814	98	203	186	2,301	150	4,078
Additions from acquisitions	–	39	104	–	149	–	3	–	38	–	332
Disposals	–8	–1	–97	–49	–556	–12	–171	–134	–140	–	–1,168
Transfers	–5	10	310	–	1,392	–	118	–	–1,723	–	102
Transfers to disposal groups	–59	0	–60	–2	–360	0	–15	–5	–9	0	–510
Currency effects	25	37	350	31	1,442	33	150	20	104	–	2,193
As of December 31, 2021	905	544	11,495	982	46,781	624	5,058	756	3,735	150	71,030
Accumulated depreciation											
As of January 1, 2021	66	100	6,689	292	34,882	229	3,576	357	177	–	46,368
Changes in the scope of consolidation	–	–2	–2	0	–1	–	–3	–1	0	–1	–9
Additions	–3	17	380	129	1,921	80	331	173	35	–	3,064
of which impairments	–3	–	27	8	72	–	3	–	35	–	142
Disposals	0	–1	–83	–27	–517	–8	–163	–103	–132	–	–1,033
Transfers	–	2	3	–1	131	–	–1	–	–32	–	102
Transfers to disposal groups	–13	0	–45	–1	–336	–	–11	–3	0	0	–409
Currency effects	4	9	174	16	1,058	14	104	11	5	–	1,395
As of December 31, 2021	54	125	7,115	408	37,138	316	3,833	435	53	–	49,477
Net carrying amount as of December 31, 2021	**852**	**419**	**4,380**	**574**	**9,642**	**308**	**1,225**	**321**	**3,681**	**150**	**21,553**

Additions to property, plant and equipment arising from investment projects (excluding leases) amounted to €3,465 million in 2021. Investments were made at the following sites in particular: Ludwigshafen, Germany; Antwerp, Belgium; Zhanjiang, China; Geismar, Louisiana; and Freeport, Texas. Material investments included engineering services and the procurement of technical equipment in connection with development of the new Verbund site in Zhanjiang, China, as well as construction and expansion of ethylene oxide and polyethylene oxide production plants in Antwerp, Belgium, and Ludwigshafen, Germany. Investments also included modernization measures, particularly at the Ludwigshafen site. Government grants for funding investment measures reduced asset additions by €5 million. The additions to advance payments for right-of-use assets related only to the acquisition of land use rights at the new Verbund site in Zhanjiang, China.

Additions from acquisitions resulted from the acquisition of the 51% share in BASF Shanshan Battery Materials Co., Ltd.

For more information on acquisitions, see Note 3 from page 207 onward

In 2021, **impairments** of €155 million and reversals of impairments of €13 million were included in **accumulated depreciation.** Impairments of €49 million related to machinery and technical equipment as well as buildings at a production site in Asia in the Industrial Solutions segment. The value in use of €2 million was calculated applying a pre-tax cost of capital rate of 6.89%. This corresponds to a cost of capital rate of 9.05%. Furthermore, there was a complete write-down in the amount of €17 million due a plant closure at a production site in North America in the Materials segment, which related almost entirely to machinery and technical equipment. Impairments to construction in progress mainly related to discontinued investment projects. Reversals of impairments in the amount of €13 million resulted primarily from an increase in the fair value of plants impaired at a site in North America in 2020.

Disposals of property, plant and equipment mainly included the sale of the production site in Kankakee, Illinois, and the disposal of BASF's share in the condensate splitter in Port Arthur, Texas.

Transfers related mainly to the reclassification of operation-ready assets from construction in progress to other asset categories.

Transfers to disposal groups related largely to reclassified amounts in connection with the divested kaolin minerals business.

For more information on divestitures, see Note 3 from page 207 onward

Currency effects raised property, plant and equipment by €798 million and resulted mainly from appreciation of the U.S. dollar and the Chinese renminbi against the euro.

Development of property, plant and equipment including right-of-use assets arising from leases in 2020

Million €

	Land	Right-of-use land	Buildings	Right-of-use buildings	Machinery and technical equipment	Right-of-use machinery and technical equipment	Miscellaneous equipment and fixtures	Right-of-use miscellaneous equipment and fixtures	Advance payments and construction in progress	Advance payments for right-of-use assets	Total
Cost											
As of January 1, 2020	950	440	10,757	808	43,783	399	4,808	551	3,006	6	65,508
Changes in the scope of consolidation	1	–	–	–	–	–	2	1	37	–	41
Additions	18	40	161	120	787	147	199	202	1,842	–	3,516
Additions from acquisitions	12	–	82	3	400	10	3	1	48	–	559
Disposals	–3	–13	–129	–53	–590	–13	–145	–36	–216	–	–1,198
Transfers	5	–	282	1	1,123	6	77	–1	–1,515	–6	–28
Transfers to disposal groups	3	–2	–	–3	–34	–	–4	–2	60	–	18
Currency effects	–39	–14	–404	–42	–1,567	–44	–167	–26	–98	–	–2,401
As of December 31, 2020	947	451	10,749	834	43,902	505	4,773	690	3,164	–	66,015
Accumulated depreciation											
As of January 1, 2020	53	65	6,374	144	33,110	144	3,472	196	158	–	43,716
Changes in the scope of consolidation	–	–	–	–	–	–	1	–	–	–	1
Additions	19	40	614	188	3,401	106	392	195	234	–	5,189
of which impairments	18	23	250	50	1,396	25	49	14	234	–	2,059
Disposals	–2	–1	–112	–27	–546	–8	–135	–25	–214	–	–1,070
Transfers	–	–	–2	–	34	–	–45	–1	–10	–	–24
Transfers to disposal groups	–	–	2	2	7	–	–1	3	10	–	23
Currency effects	–4	–4	–187	–15	–1,124	–13	–108	–11	–1	–	–1,467
As of December 31, 2020	66	100	6,689	292	34,882	229	3,576	357	177	–	46,368
Net carrying amount as of December 31, 2020	**881**	**351**	**4,060**	**542**	**9,020**	**276**	**1,197**	**333**	**2,987**	**–**	**19,647**

16 Leases

Accounting policies

A lease is an agreement that conveys the right to control the use of identified asset for a defined period of time in return for a payment.

Leases in which BASF is a lessee mainly relate to real estate and transportation and technical equipment.

Leases can be embedded within other contracts. If separation is required under IFRS, the embedded lease is recorded separately from its host contract and each component of the contract is accounted and measured in accordance with the applicable regulations.

As lessee, BASF accounts for nearly all leases, recognizing right-of-use assets for leased assets and liabilities for lease agreements. The following principles are considered:

- BASF exercises the exemption for lease agreements with a maximum term of 12 months from the date of provision and low-value assets. Low-value assets are generally defined as leased assets worth a maximum of €5,000.
- Lease liabilities are measured at the present value of the remaining lease payments, taking into account the incremental borrowing rate.
- As a general rule, BASF separates non-lease components, such as services, from lease payments.
- A right-of-use asset is generally recognized at the same amount as the lease liability. Differences may arise from the lease payments made prior to the provision of the leased asset, less any lease incentives received.
- After capitalization at commencement date, whereby the right-of-use asset is measured at cost, the right-of-use asset is generally depreciated over the lease term using the straight-line method.
- A number of leases, particularly for real estate and barges, include extension and termination options. Extension and termination options are taken into account on recognition of the lease liability only if BASF is reasonably certain that these options will be exercised in the future. When contract terms are being determined, consideration is given to all facts and circumstances that offer an economic incentive for exercising extension options or not exercising termination options. Changes in lease terms arising from the exercise of an extension option or non-exercise of a termination option are only considered if sufficient certainty exists. Estimates and expectations which are asserted at the commencement date of the lease liability and the right-of-use asset and pertain to future payments not yet determined on the date of provision are assessed continuously during the lease term. If subsequently improved or changed knowledge influences the expected payment profile over time, the lease liability is remeasured.
- If an existing lease contract is modified, the lease liability and right-of-use asset must be remeasured, provided the modification changes the payment profile (pursuant to the interest and principal plan) or the scope (either quantitatively or time-related) of use of the asset.

BASF presents the interest component of lease payments in cash flows from operating activities and the repayment portion in cash flows from financing activities. Lease payments under short-term agreements, agreements with low-value assets or variable payments are presented in cash flows from operating activities.

BASF as lessee

Lease liabilities

Million €

	December 31, 2021			December 31, 2020		
	Lease liabilities	Interest portion	Future lease payments	Lease liabilities	Interest portion	Future lease payments
2022	336	30	366	334	29	363
2023	219	27	246	233	28	261
2024	153	29	182	156	23	179
2025	100	25	125	109	24	133
2026	74	20	94	74	18	92
2027 and thereafter	532	167	699	455	151	606
Total	**1,414**	**298**	**1,712**	**1,361**	**273**	**1,634**

Expenses and income in the statement of income from leases for BASF as lessee

Million €

	2021	2020
Interest expenses for lease liabilities	–36	–36
Expenses for variable lease payments not included in the measurement of lease liabilities	–30	–13
Income from sublease agreements	–	1
Expenses for short-term leases	–129	–131
Expenses for leases for low-value assets	–27	–43
Gains and losses from sale and leaseback transactions	–	–
Total	**–222**	**–222**

In 2021 and 2020, no material sale and leaseback transactions occurred.

A rental agreement for a building representing a volume of €60 million was concluded in December 2021. The rental term begins at the end of 2022.

BASF as lessor

BASF acts as a lessor for finance leases to a minor extent only. Receivables on finance leases were €44 million in 2021 (2020: €44 million). The leased assets pertained primarily to buildings and production facilities.

Claims arising from operating leases amounted to €190 million in 2021 (2020: €172 million). As in the previous year, there were no material operating leases for property, plant and equipment.

Future lease payments to BASF from operating lease contracts

Million €

	December 31, 2021	December 31, 2020
2022	35	32
2023–2026	106	92
2027 and thereafter	49	48
Total	**190**	**172**

Income from leases for BASF as lessor

Million €

	2021	2020
Income from finance leases	3	25
of which gains and losses from sales	1	24
financial income from net investment in the lease	2	1
income from variable lease payments not included in measurement of net investment	–	–
Income from operating leases	35	31
of which income from variable lease payments not dependent upon an index or interest rate	–	–
Total	**38**	**56**

17 Inventories

Accounting policies

Inventories are measured at acquisition cost or cost of conversion based on the weighted average method. If the market price or the fair value of the sales products, which are based on the net realizable values, is lower, then the sales products are written down to this lower value. The net realizable value is the estimated price in the ordinary course of business less the estimated costs of completion and the estimated selling costs.

In addition to direct costs, cost of conversion includes an appropriate allocation of production overhead costs based on normal utilization rates of the production plants, provided that they are related to the production process. Pensions, social services and voluntary social benefits are also included, as well as allocations for administrative costs, provided they relate to the production. Borrowing costs are not included in cost of conversion.

Inventories may be impaired if the prices for the sales products decline, or in cases of a high rate of days sales of inventory (DSI). Write-downs on inventories are reversed if the reasons for them no longer apply.

The exception made by IAS 2 for traders is applied to the measurement of precious metals. Accordingly, inventories held exclusively for trading purposes are measured at fair value less costs to sell and recognized in the precious metal trading item (carrying amount as of December 31, 2021: €1,554 million; as of December 31, 2020: €1,604 million) under miscellaneous current assets. All changes in value are immediately recognized in the statement of income.

Inventories
Million €

	Dec. 31, 2021	Dec. 31, 2020
Raw materials and factory supplies	4,414	3,105
Work in progress, finished goods and merchandise	9,337	6,784
Advance payments and services in progress	117	121
Inventories	**13,868**	**10,010**

Work in progress, finished goods and merchandise are combined into one item due to production conditions in the chemical industry. Services in progress mainly relate to services not invoiced as of the balance sheet date.

Cost of sales included inventories recognized as an expense amounting to €44,244 million in 2021, and €30,379 million in 2020.

Write-downs on inventory were recognized in the amount of €97 million in 2021, and in the amount of €65 million in 2020.

18 Receivables and miscellaneous assets

Other receivables and miscellaneous assets
Million €

	December 31, 2021		December 31, 2020	
	Noncurrent	Current	Noncurrent	Current
Loans and interest receivables	93	149	127	123
Derivatives with positive fair values	335	610	105	414
Receivables from finance leases	40	4	41	3
Receivables from capital equipment of nonconsolidated subsidiaries	–	167	–	122
Receivables from bank acceptance drafts	–	387	–	288
Other	270	376	287	261
Other receivables and assets that qualify as financial instruments	**738**	**1,692**	**560**	**1,211**
Prepaid expenses	77	327	79	257
Defined benefit assets	661	–	126	–
Tax refund claims	198	1,610	104	1,158
Employee receivables	0	24	0	21
Precious metal trading items	–	1,554	–	1,604
Other	48	361	43	422
Other receivables and assets that do not qualify as financial instruments	**984**	**3,876**	**352**	**3,462**
Other receivables and miscellaneous assets	**1,722**	**5,568**	**912**	**4,673**

The changes in noncurrent **loans and interest receivables** were predominantly due to reimbursements of loans to nonconsolidated subsidiaries. Current loan receivables increased because of the sale of assets to a joint venture partner in North America.

The rise in noncurrent **derivatives with positive fair values** primarily affected the market valuation of combined interest rate and currency swaps. The change in current derivatives with positive fair market values was largely attributable to the increase in fair values of commodity derivatives for precious metals.

Bank acceptance drafts are used as an alternative form of payment in China. Bank acceptance drafts are issued at a discount from their par value. They can be held to maturity, traded or redeemed prematurely at a discount. If BASF discounts a bank acceptance draft with recourse, a liability toward the credit institution is recognized in the amount of the payment received. The increase relates to higher sales and broader use of this form of payment.

Prepaid expenses in 2021 mainly included prepayments of €41 million related to operating activities compared with €28 million in 2020, as well as €93 million in prepayments for insurance in 2021 compared with €79 million in 2020. Prepayments for license costs decreased from €70 million in 2020 to €49 million in 2021. Prepaid expenses in 2021 included higher advance payments for received precious metal catalysts to be refurbished.

As in the previous year, **defined benefit assets** were recognized in 2021 mainly at Group companies in Switzerland and the United Kingdom.

The change in current **tax refund claims** was largely attributable to the rise in value-added tax receivables in Germany as well as the rise in income tax/other tax receivables at South American Group companies.

The rise in current other receivables and assets, which represent financial instruments, was due to higher deposits on commodity derivatives and increased receivables for other refunds.

Precious metal trading items primarily comprise physical items, precious metal accounts as well as long positions in precious metals, which are largely hedged through forward sales or derivatives.

Expected losses of **trade accounts receivable** at BASF are calculated primarily on the basis of internal or external customer ratings and the associated probability of default.

The following table presents the gross values and credit risks for trade accounts receivable measured at amortized cost as of December 31, 2021.

Accounts receivable, trade
Million €

Creditworthiness as of December 31, 2021	Equivalence to external rating[a]	Gross carrying amounts
High/medium credit rating	from AAA to BBB–	7,325
Low credit rating	from BB– to D	4,707

a Standard & Poor's rating

There are currently no significant credit risks (or a concentration thereof) associated with other financial instruments. BASF generally monitors the credit risk associated with counterparties with which receivables exist representing financial instruments. In accordance with IFRS 9, impairments for expected credit losses on receivables are recognized based on this.

Valuation allowances on receivables (financial instruments) 2021
Million €

	As of January 1, 2021	Additions	Releases	Reclassification between stages	Translation effect	As of December 31, 2021
Accounts receivable, trade	**299**	**120**	**110**	**–**	**1**	**310**
of which stage 2	42	52	47	–	–	47
stage 3	257	68	63	–	1	263
Other receivables	**122**	**28**	**40**	**–**	**2**	**112**
of which stage 1	2	15	14	–	0	3
stage 2	0	0	0	–	0	0
stage 3	120	13	26	–	2	109
Total	**421**	**148**	**150**	**–**	**3**	**422**

At BASF, a comprehensive, global credit insurance program covers accounts receivable, trade. Under a global excess of loss policy, future bad debts are insured for essentially all BASF Group companies excluding joint ventures. The program has no impact on the calculation of valuation allowances in accordance with IFRS 9. No compensation claims were incurred in either 2021 or 2020.

Payment terms are generally agreed upon individually with customers and, as a rule, are within 90 days. In 2021, valuation allowances of €120 million (2020: €142 million) were added for trade accounts receivable, and valuation allowances of €110 million (2020: €124 million) were reversed.

In 2021, valuation allowances of €28 million were recognized for **other receivables** representing financial instruments, and valuation allowances of €40 million were reversed. In the previous year, valuation allowances of €98 million were recognized and valuation allowances of €13 million were reversed.

Additions included valuation allowances of €1 million due to a change in valuation parameters. Additions primarily included valuation allowances of loans to former and current Group companies.

19 Capital, reserves and retained earnings

Authorized capital

BASF SE has only issued fully paid-up registered shares with no par value. There are no preferential voting rights or other restrictions. BASF SE does not hold any treasury shares.

In accordance with the resolution of the Annual Shareholders' Meeting on May 3, 2019, the Board of Executive Directors was authorized, with the consent of the Supervisory Board, to increase, until May 2, 2024, on a one-off basis or in portions on a number of occasions, the company's share capital by a total of up to €470 million by issuing new shares against contributions in cash or in kind. In principle, shareholders are entitled to a subscription right. However, the Board of Executive Directors is authorized, with the approval of the Supervisory Board, to exclude shareholders' statutory subscription rights in the cases specified in the authorizing resolution. The Board of Executive Directors is authorized, with the consent of the Supervisory Board, to lay down the further contents of the share rights and the details of the execution of the capital increase. The total shares issued on the basis of the above authorization with the exclusion of the shareholders' subscription right in the case of capital increases in return for contributions in cash or in kind must not exceed 10% of the share capital at the time that this authorization comes into effect or – if this value is lower – at the time of its exercise. The proportionate amount of the share capital of those shares that are to be issued on the basis of conversion or option bonds granted during the term of this authorization under the exclusion of the subscription right, must be credited against the aforementioned ceiling of 10%. This authorization has not been exercised to date.

Conditional capital

By way of a resolution of the Annual Shareholders' Meeting of May 12, 2017, the Board of Executive Directors was authorized, with the approval of the Supervisory Board, to issue, on a one-off basis or in portions on more than one occasion, bearer or registered convertible bonds and/or bonds with warrants, or combinations of these instruments, with or without maturity limitations up to a nominal value of €10 billion until May 11, 2022. The notional interest in the share capital attributable to the BASF shares to be issued in connection with the debt instruments issued under this authorization may not exceed 10% of the share capital.

In this connection, the share capital was increased conditionally by up to €117,565,184 by issuing a maximum of 91,847,800 new registered BASF shares. The conditional capital increase will only be carried out to the extent to which holders of convertible bonds, or warrants attached to bonds with warrants issued, exercise their conversion or option rights. This authorization had not been exercised as of the end of the 2021 fiscal year.

Authorization of share buybacks

By way of a resolution of the Annual Shareholders' Meeting of May 12, 2017, the Board of Executive Directors was authorized to buy back shares until May 11, 2022, in accordance with section 71(1) no. 8 of the German Stock Corporation Act (AktG). The buyback may not exceed 10% of the company's share capital at the time the resolution was passed and can take place via the stock exchange, a public purchase offer addressed to all shareholders, or a public invitation to the shareholders to submit sales offers. This authorization has not been exercised.

On January 4, 2022, the Board of Executive Directors approved a share buyback program with a maximum volume of €3 billion to be implemented between January 2022 and December 2023. The share buyback program is based on the previously described authorization from May 12, 2017. A proposal to renew the authorization to buy back own shares is planned for the 2022 Annual Shareholders' Meeting, which would authorize the continuation of the share buyback program already underway.

Subscribed capital

Subscribed capital remained unchanged year on year at €1,176 million and comprises 918,478,694 qualifying shares.

Capital reserves

Capital reserves include effects from BASF's share program, premiums from capital increases and consideration for warrants and negative goodwill from the capital consolidation resulting from acquisitions of subsidiaries in exchange for the issue of BASF SE shares at par value.

Retained earnings

The acquisition of shares in companies that BASF already controls or that are included in the Consolidated Financial Statements as a joint arrangement is treated as a transaction between shareholders, as long as this does not lead to a change in the consolidation method. There were no material transactions of this type in 2021, as in the previous year.

Retained earnings
Million €

	December 31, 2021	December 31, 2020
Legal reserves	958	901
Other retained earnings	39,407	37,010
Retained earnings	**40,365**	**37,911**

Legal reserves rose by €57 million in 2021 and by €70 million in 2020 due to reclassifications from retained earnings.

Other retained earnings include, among other things, earnings generated in the past by companies included in the Consolidated Financial Statements. Because of the disposal of the pigments business on June 30, 2021, the amount of €48 million for the remeasurement of defined benefit plans, plus an additional €6 million resulting from the disposal of the operational companies held

by Solenis UK International Ltd., London, United Kingdom, which had been accounted for using the equity method until that date, was reclassified, in equity, from other comprehensive income to retained earnings. Moreover, deferred taxes in the amount of –€18 million arising from an adjustment in connection with the introduction of IAS 19 were offset against retained earnings in equity.

Payment of dividends

In accordance with the resolution of the Annual Shareholders' Meeting on April 29, 2021, BASF SE paid a dividend of €3.30 per qualifying share from the retained profit of the 2020 fiscal year. With 918,478,694 qualifying shares, this represented total dividends of €3,030,979,690.20. The remaining €914,882,378.80 in retained profits was allocated to retained earnings.

20 Other comprehensive income

Accounting policies

The expenses and income shown in other comprehensive income are divided into two categories: Items that will be recognized in the income statement in the future (known as "recycling") and items that will not be reclassified to the income statement in the future. The first category includes gains and losses from currency translation, the measurement of certain securities classified as debt instruments, and changes in the fair value of derivatives held to hedge future cash flows. Items that will not be reclassified to the income statement at a future date include effects from the remeasurement of defined benefit plans.

Remeasurement of defined benefit plans

Changes in the value of defined benefit plans led to an increase in other comprehensive income of €2,709 million in 2021 and to a decrease of €973 million in the previous year (after taxes in both years). Of that, €44 million was attributable to investments accounted for using the equity method in 2021 (2020: –€19 million). Deferred taxes amounted to –€811 million in 2021 and to €422 million in 2020.

Because of the disposal of the pigments business on June 30, 2021, the amount of €48 million for the remeasurement of defined benefit plans, plus an additional €6 million resulting from the disposal of the operational companies of Solenis UK International Ltd., London, United Kingdom, which had been accounted for using the equity method until that date, was reclassified, in equity, from other comprehensive income to retained earnings. Moreover, deferred taxes in the amount of –€18 million arising from an adjustment in connection with the introduction of IAS 19 were offset against retained earnings in equity.

For more information on the remeasurement of defined benefit plans, see Note 22 from page 254 onward

Currency translation

Differences resulting from currency translation increased equity by a total of €2,205 million and decreased equity by €2,598 million in the previous year. This included deferred taxes in the amount of –€19 million in 2021 (2020: €19 million). At-equity investments accounted for €697 million (2020: –€1,125 million). The differences resulted primarily from the appreciation of the U.S. dollar and the Chinese renminbi relative to the euro in 2021.

Furthermore, as a result of divestitures and other changes in the scope of consolidation, €52 million after taxes was reclassified to the income statement in 2021 and €71 million after taxes in 2020.

Cash flow hedges

Changes in the fair value of derivatives designated in hedging relationships (cash flow hedges) adjusted for deferred taxes in the amount of –€10 million (2020: €24 million) reduced equity by a total of €329 million (2020: €108 million). In 2021, –€381 million (2020: –€163 million) was attributable to the hedging of future cash flows at shareholdings accounted for using the equity method.

For more information on cash flow hedge accounting, see Note 26.5 from page 274 onward

21 Liabilities

Financial indebtedness
Million €

		Currency	Nominal value (million, currency of issue)[a]	Effective interest rate	Carrying amounts based on effective interest method: December 31, 2021	Carrying amounts based on effective interest method: December 31, 2020
BASF SE						
Commercial paper		USD	280		248	178
Commercial paper		GBP	–		–	1,112
1.875%	Bond 2013/2021	EUR	1,000	1.47%	–	1,000
2.5%	Bond 2017/2022	USD	500	2.65%	441	407
1.375%	Bond 2018/2022	GBP	250	1.52%	297	277
2%	Bond 2012/2022	EUR	1,250	1.93%	1,251	1,252
0.925%	Bond 2017/2023	USD	850	0.83%	739	673
0.101%	Bond 2020/2023	EUR	1,000	0.14%	999	999
0.875%	Bond 2016/2023	GBP	250	1.06%	297	277
2.5%	Bond 2014/2024	EUR	500	2.60%	499	499
1.750%	Bond 2017/2025	GBP	300	1.87%	356	332
0.875%	Bond 2018/2025	EUR	750	0.97%	748	747
3.675%	Bond 2013/2025	NOK	1,450	3.70%	145	138
0.250%	Bond 2020/2027	EUR	1,000	0.32%	996	996
0.875%	Bond 2017/2027	EUR	1,000	1.04%	990	989
2.670%	Bond 2017/2029	NOK	1,600	2.69%	160	153
0.875%	Bond 2019/2029	EUR	250	1.01%	248	247
1.5%	Bond 2018/2030	EUR	500	1.63%	495	495
1.5%	Bond 2016/2031	EUR	200	1.58%	199	199
0.875%	Bond 2016/2031	EUR	500	1.01%	494	493
2.37%	Bond 2016/2031	HKD	1,300	2.37%	147	137
1.450%	Bond 2017/2032	EUR	300	1.57%	297	296

a As of the balance sheet date

Continued on next page

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Financial indebtedness

Million €

					Carrying amounts based on effective interest method	
		Currency	Nominal value (million, currency of issue)	Effective interest rate	December 31, 2021	December 31, 2020
3%	Bond 2013/2033	EUR	500	3.15%	493	493
2.875%	Bond 2013/2033	EUR	200	2.96%	198	198
4%	Bond 2018/2033	AUD	160	4.24%	100	98
1.625%	Bond 2017/2037	EUR	750	1.73%	739	738
3.25%	Bond 2013/2043	EUR	200	3.27%	200	199
1.025%	Bond 2018/2048	JPY	10,000	1.03%	77	79
3.89%	U.S. private placement series A 2013/2025	USD	250	3.92%	221	203
4.09%	U.S. private placement series B 2013/2028	USD	700	4.11%	617	570
4.43%	U.S. private placement series C 2013/2034	USD	300	4.45%	264	244
BASF Finance Europe N.V.						
3.625%	Bond 2018/2025	USD	200	3.69%	176	163
0.75%	Bond 2016/2026	EUR	500	0.88%	497	496
Other bonds					**110**	**102**
Bonds and other liabilities to the capital market					**13,737**	**15,479**
Liabilities to credit institutions					3,447	3,735
Financial indebtedness					**17,184**	**19,214**

Breakdown of financial indebtedness by currency
Million €

	Dec. 31, 2021	Dec. 31, 2020
Euro	11,611	12,684
U.S. dollar	3,255	3,166
Pound sterling	950	1,998
Norwegian krone	305	291
Chinese renminbi	168	250
Indian rupee	154	86
Hong Kong dollar	147	137
Japanese yen	119	136
Australian dollar	100	98
Argentinian peso	99	66
Turkish lira	63	34
Brazilian real	61	62
Thai baht	55	27
Indonesian rupiah	45	18
South African rand	33	95
Ukrainian hryvnia	9	38
Other currencies	10	28
Total	**17,184**	**19,214**

Maturities of financial indebtedness
Million €

	Dec. 31, 2021	Dec. 31, 2020
Following year 1	3,420	3,395
Following year 2	2,208	2,310
Following year 3	1,280	2,121
Following year 4	1,892	1,351
Following year 5	1,177	1,787
Following year 6 and maturities beyond this year	7,207	8,250
Total	**17,184**	**19,214**

Other bonds

Other bonds consisted primarily of a bond issued by BASF Corporation that was used to finance investments in the United States. Both the nominal interest rate and effective interest rate of this bond were 6.95% in 2021. Its remaining term to maturity is 78 months.

Liabilities to credit institutions

Liabilities to credit institutions decreased from €3,735 million as of December 31, 2020 to €3,447 million as of December 31, 2021. The weighted average interest rate on loans amounted to 2.7% in 2021, compared with 2.1% in 2020.

Unused credit lines

BASF SE had committed and unused credit lines with variable interest rates amounting to €6,000 million as of December 31, 2021, and €9,000 million as of December 31, 2020.

Other liabilities
Million €

	December 31, 2021		December 31, 2020	
	Noncurrent	Current	Noncurrent	Current
Derivatives with negative fair values	131	438	284	674
Liabilities from leases	1,078	334	1,026	334
Loan and interest liabilities	35	505	37	583
Advances received on orders	–	949	–	679
Miscellaneous liabilities	26	753	41	464
Other liabilities that qualify as financial instruments	**1,270**	**2,978**	**1,388**	**2,734**
Liabilities related to social security	63	79	55	76
Employee liabilities	22	294	22	238
Liabilities from precious metal trading positions	–	201	–	200
Contract liabilities	201	40	210	52
Deferred income	17	32	7	26
Miscellaneous liabilities	28	56	29	114
Other liabilities that do not qualify as financial instruments	**330**	**701**	**323**	**706**
Other liabilities	**1,600**	**3,679**	**1,711**	**3,440**

Other liabilities

Contract liabilities include mainly customer payments entitling them to access licenses over an agreed period of time. The majority of existing contracts have terms of up to six years. Of the contract liabilities reported as of December 31, 2021, €40 million are expected to be recognized as revenue in 2022.

For more information on financial risks and derivative instruments, see Note 26 from page 263 onward

For more information on liabilities arising from leases, see Note 16 from page 244 onward

Carrying amounts of assets used to secure liabilities
Million €

	Dec. 31, 2021	Dec. 31, 2020
To secure		
liabilities to credit institutions	64	13
accounts payable, trade	11	2
other liabilities	170	264
Carrying amounts of assets used	**245**	**279**

Liabilities to credit institutions were secured primarily with registered land charges. Secured **other liabilities** relate primarily to derivatives with negative fair values that are secured with other receivables and miscellaneous assets.

22 Provisions for pensions and similar obligations

Accounting policies

In addition to state pension plans, most employees are granted company pension benefits from either defined contribution or defined benefit plans. Benefits generally depend on years of service, contributions or compensation, and take into consideration the legal framework of labor, tax and social security laws of the countries where the companies are located. To limit the risks of changing financial market conditions as well as demographic developments, employees have, for a number of years now, been almost exclusively offered defined contribution plans for future years of service.

The Group Pension Committee monitors the risks of all pension plans of the Group with regard to the financing of pension commitments and the portfolio structure of existing plan assets. The organization, responsibilities, strategy, implementation and reporting requirements are documented for the units involved.

The accounting policies presented in the following relate to defined benefit pension obligations.

Provisions for pensions are calculated on an actuarial basis in accordance with the projected unit credit method. Assumptions relating to the following valuation parameters, among others are used: future developments in compensation, pensions and inflation, employee turnover, and the life expectancy of beneficiaries. Obligations are discounted based on the market yields on high-quality corporate fixed-rate bonds.

Similar obligations, especially those arising from commitments by North American Group companies to pay the healthcare costs and life insurance premiums of retired staff and their dependents, are reported under provisions for similar obligations.

Actuarial reports are used to calculate the amount of pension provisions.

Actuarial gains and losses from changes in estimates relating to the actuarial assumptions used to calculate defined benefit obligations, the difference between standardized and actual returns on plan assets, as well as the effects of the asset ceiling are recognized directly in equity as other comprehensive income.

Economic and legal environment of the plans

In some countries – especially in Germany, in the United States, in the United Kingdom and in Switzerland – there are pension obligations subject to government supervision or similar legal restrictions. For example, there are minimum funding requirements to cover pension obligations, which are based on actuarial assumptions that differ from those pursuant to IAS 19. Furthermore, there are qualitative and quantitative restrictions on allocating plan assets to certain asset categories. This could result in annual fluctuations in employer contributions, financing measures and the assumption of obligations in favor of the pension funds to comply with regulatory requirements.

The obligations and the plan assets used to fund the obligations are exposed to demographic, legal and economic risks. Economic risks are primarily due to unforeseen developments on commodity and capital markets. They affect, for example, pension adjustments based on the level of inflation in Germany and in the United Kingdom, as well as the impact of discount rates on the amount of the defined benefit obligation. In previous years, measures taken to close plans with defined benefits for future service, especially benefits based on final pay promises and the assumption of healthcare costs for former employees, led to a reduction in risk with regard to future benefit levels.

The strategy of the BASF Group with regard to financing pension commitments takes into account country-specific supervisory and tax regulations.

In some countries, pension benefits were granted for which the employer has a subsidiary liability. Pension benefits in a number of countries include minimum interest guarantees to a limited extent. If the pension fund cannot generate the income needed to provide the minimum guarantee, this must be provided by the employer under the subsidiary liability. To the extent that recourse to the employer is unlikely based on the structure and execution of the pension benefits as well as the asset situation of the pension fund, these plans are treated as defined contribution plans.

Description of the defined benefit plans

The following section describes the typical plan structure in the individual countries. Different arrangements may exist, in particular due to the assumption of plans as part of acquisitions; however, these do not have any material impact on the description of plans in the individual countries.

Germany
For BASF SE and German Group companies, a basic level of benefits is provided by BASF Pensionskasse VVaG, a legally independent plan, which is financed by employer and employee contributions as well as the return on plan assets. BASF SE ensures the necessary contributions to adequately finance the benefits promised by BASF Pensionskasse VVaG. Some of the benefits financed via BASF Pensionskasse VVaG are subject to adjustments that must be borne by its member companies to the extent that these cannot be borne by BASF Pensionskasse VVaG due to the regulations imposed by the German supervisory authority. In 2004, the basic benefit plan was closed for newly hired employees at German BASF companies and replaced by a defined contribution plan. A new defined contribution plan was introduced as of July 1, 2021, for new hires in the German BASF companies. At BASF SE, occupational pension promises that exceed the basic level of benefits are financed under a contractual trust arrangement by BASF Pensionstreuhand e.V.; at German Group companies, these benefits are financed primarily via pension provisions. The benefits are largely based on cash balance plans. Furthermore, employees are given the option of participating in various deferred compensation schemes.

United States
Employees are granted benefits based on defined contribution plans.

Effective 2010, the existing defined benefit plans were closed to further increases in benefits based on future years of service, and benefits earned in the past were frozen. There is no entitlement to pension adjustments to compensate for cost-of-living increases.

The legal and regulatory frameworks governing the plans are based on the U.S. Employee Retirement Income Security Act (ERISA), which requires the plan sponsor to ensure a minimum funding level. Any employer contributions necessary to meet the minimum funding level are based on the results of an actuarial valuation. Furthermore, there are unfunded pension plans that are not subject to ERISA requirements.

Additional similar obligations arise from plans that assume the healthcare costs and life insurance premiums of retired employees and their dependents. Such plans have been closed to new entrants since 2007. In addition, the amount of the benefits for such plans has been frozen.

Switzerland

The employees of the BASF Group in Switzerland receive a company pension, which is financed through a pension fund by employer and employee contributions as well as the return on plan assets. The pension plans are accounted for as defined benefit plans, as the obligatory minimum pension guaranteed by law under the Swiss Pension Fund Act (BVG) is included in the scheme. All benefits vest immediately. According to government regulations, the employer is obligated to make contributions, so that the pension funds are able to grant the minimum benefits guaranteed by law. The pension funds are managed by boards, where employer and employees are equally represented, which steer and monitor the benefit plans and asset allocation.

United Kingdom

Employees are granted benefits based on a defined contribution plan.

The BASF Group also maintains defined benefit plans in the United Kingdom, which have been closed for further increases based on future years of service. Adjustments to compensate for increases in the cost of living until the beginning of retirement are legally required for beneficiaries of defined benefit plans.

The financing of the pension plans is determined by the provisions of the regulatory authority for pensions and the relevant social and labor law requirements. The defined benefit plans are administered by a trust company, whose Board of Trustees, according to the trustee agreement and law, represents the interests of the beneficiaries and ensures that the benefits can be paid in the future. The required funding is determined using technical valuations according to local regulations every three years.

Other countries

For Group companies in other countries, defined benefits are covered in some cases by pension provisions, but mainly by external insurance companies or pension funds.

Actuarial assumptions

The valuation of the defined benefit obligation is based on the following key assumptions:

Assumptions used to determine the defined benefit obligation as of December 31

	Germany		United States		Switzerland		United Kingdom	
	2021	2020	2021	2020	2021	2020	2021	2020
Discount rate	1.10	0.70	2.70	2.30	0.40	0.10	2.00	1.50
Projected pension increase	1.60	1.50	–	–	–	–	3.50	3.10

Assumptions used to determine expenses for pension benefits in the respective business year

	Germany		United States		Switzerland		United Kingdom	
	2021	2020	2021	2020	2021	2020	2021	2020
Discount rate	0.70	1.10	2.30	3.10	0.10	0.20	1.50	2.20
Projected pension increase	1.50	1.50	–	–	–	–	3.10	3.00

The assumptions used to ascertain the defined benefit obligation as of December 31 are used in the following year to determine the expenses for pension plans.

A Group-wide, uniform procedure is used to determine the discount rates applied for valuation of material pension obligations of the BASF Group. Accordingly, the discount rates were derived from the yields on corporate bonds in the respective currency zones with an issue volume of more than 100 million units of the respective currency with a minimum rating of AA– to AA+ from at least one of the following three rating agencies: Fitch, Moody's, or Standard & Poor's.

The valuation of the defined benefit obligation is generally performed using the most recent actuarial mortality tables as of December 31 of the respective business year, which in Germany and the United States are derived from the BASF Group population and were last updated in 2019 for the pension obligations in Germany and in 2018 for the pension obligations in the United States. The actuarial mortality tables for the pension obligations in Switzerland were adjusted in 2021.

Actuarial mortality tables (significant countries) as of December 31, 2021

Germany	Heubeck Richttafeln 2018G (modified)
United States	RP-2018 (modified) with MP-2018 generational projection
Switzerland	BVG 2020 generational with CMI 2018 mortality improvement
United Kingdom	S2PxA (standard actuarial mortality tables for self-administered plans (SAPS))

Sensitivity analysis

A change in the material actuarial assumptions would have the following effects on the defined benefit obligation:

Sensitivity of the defined benefit obligation as of December 31
Million €

	Increase by 0.5 percentage points		Decrease by 0.5 percentage points	
	2021	2020	2021	2020
Discount rate	–2,115	–2,221	2,420	2,553
Projected pension increase	1,533	1,666	–1,267	–1,411

An alternative valuation of the defined benefit obligation was performed to determine how changes in the underlying assumptions influence the amount of the defined benefit obligation. A linear extrapolation of these amounts based on alternative changes in the assumptions as well as an addition of combined changes in the individual assumptions is not possible.

Explanation of the amounts in the statement of income and balance sheet

Composition of expenses for pension benefits
Million €

	2021	2020
Expenses for defined benefit plans	423	430
Expenses for defined contribution plans	308	306
Expenses for pension benefits (recognized in income from operations)	**731**	**736**
Net interest expense from underfunded pension plans and similar obligations	85	108
Net interest income from overfunded pension plans	–3	0
Expenses for pension benefits (recognized in the financial result)	**82**	**108**

The interest on the net defined benefit liability at the beginning of the year is recognized in the financial result. This is the difference between the interest cost of the defined benefit obligation and the standardized return on plan assets as well as the interest cost for the asset ceiling. The expected contribution payments and benefits paid over the course of the fiscal year are taken into account when determining net interest.

Net interest expense of the respective fiscal year is based on the discount rate and the defined benefit obligation at the beginning of the year.

Development of defined benefit obligations
Million €

	2021	2020
Defined benefit obligation as of January 1	29,840	28,423
Current service cost	419	419
Past service cost	1	6
Plan settlements	–21	–60
Interest cost	276	395
Benefits paid	–1,084	–1,095
Employee contributions	37	41
Actuarial gains/losses	–1,496	2,131
of which adjustments relating to financial assumptions	–1,505	2,106
adjustments relating to demographic assumptions	–117	8
experience adjustments	126	17
Effects from acquisitions and divestitures	171	54
Other changes	–19	–4
Currency effects	505	–470
Defined benefit obligation as of December 31	**28,629**	**29,840**

As of December 31, 2021, the weighted average duration of the defined benefit obligation amounted to 16.6 years (previous year: 16.6 years).

BASF tendered and reissued the mandate for the actuarial valuation of indirect obligations at BASF Pensionskasse VVaG and of direct obligations of the German group, effective as of May 1, 2021. In this context, some of the previous assumptions and valuation methods were modified. This led to actuarial losses totaling €8 million, which were included in adjustments relating to financial assumptions.

Development of plan assets
Million €

	2021	2020
Plan assets as of January 1	21,400	20,863
Standardized return on plan assets	194	286
Deviation between actual and standardized return on plan assets	1,935	765
Employer contributions	151	615
Employee contributions	37	41
Benefits paid	–952	–769
Effects from acquisitions and divestitures	216	2
Past service cost	–	–
Plan settlements	–21	–60
Other changes	–264	–11
Currency effects	434	–332
Plan assets as of December 31	**23,130**	**21,400**

The **standardized return on plan assets** is calculated by multiplying plan assets at the beginning of the year with the discount rate used for existing defined benefit obligations at the beginning of the year, taking into account benefit and contribution payments to be made during the year.

BASF SE made pension payments which are covered by the assets of BASF Pensionstreuhand e.V. BASF Pensionstreuhand e.V. reimbursed BASF SE in 2021 with €250 million in pension payments relating to 2020. This transaction is presented in **other changes** in plan assets.

Effects from **plan settlements** resulted in 2021 primarily from the transfer of benefit entitlements and the corresponding assets from the pension plan in Canada to an external insurer.

Employer contributions were €151 million in 2021. In 2020, BASF's employer contributions totaled €615 million, including special contributions to BASF Pensionstreuhand e.V. in the amount of €401 million and €58 million to American plan assets.

BASF's remaining obligations and the proportional plan assets of benefit recipients in Switzerland relating to the divestiture of the pigments business are presented in **effects from acquisitions and divestitures**. This item also includes the amount of €43 million, which was deposited into Swiss plan assets in the same context.

Through continuous monitoring of financing requirements of its pension plans, BASF strives to achieve the necessary yields to fill financing gaps over the course of time. Company contributions for 2022 are currently expected to be around €130 million.

Development of net defined benefit liability
Million €

	2021	2020
Net defined benefit liability as of January 1	–8,440	–7,560
Current service cost	–419	–419
Past service cost	–1	–6
Plan settlements	0	0
Interest cost	–276	–395
Standardized return on plan assets	194	286
Deviation between actual and standardized return on plan assets	1,935	765
Actuarial gains/losses of the defined benefit obligation	1,496	–2,131
Benefits paid by unfunded plans	132	326
Employer contributions	151	615
Effects from acquisitions and divestitures	45	–52
Other changes	–245	–7
Currency effects	–71	138
Net defined benefit liability as of December 31	**–5,499**	**–8,440**
of which defined benefit assets	661	126
provisions for pensions and similar obligations	6,160	8,566

Regional allocation of defined benefit plans as of December 31
Million €

	Pension obligations		Plan assets		Net defined benefit liability	
	2021	2020	2021	2020	2021	2020
Germany	20,400	21,535	15,498	14,426	–4,902	–7,109
United States	3,563	3,596	2,610	2,404	–953	–1,192
Switzerland	1,812	1,816	2,212	1,851	400	35
United Kingdom	1,967	1,986	2,178	2,026	211	40
Other	887	907	632	693	–255	–214
Total	**28,629**	**29,840**	**23,130**	**21,400**	**–5,499**	**–8,440**

Explanations regarding plan assets

The target asset allocation has been defined by using asset liability studies and is reviewed regularly. Accordingly, plan assets are aligned with the long-term development of the obligations, taking into consideration the risks associated with the specific asset classes and the regulations relating to the investment of plan assets. The existing portfolio structure is based on the target asset allocation. In addition, current market assessments are taken into consideration. In order to mitigate risks and maximize returns, a widely spread global portfolio of individual assets is held.

Liability-driven investment (LDI) techniques, such as hedging the risk of changes in interest rates and inflation, are used in some pension plans, especially for U.K. and U.S. plans.

Structure of plan assets

%

	2021	2020
Equities	26	28
Debt instruments	45	47
of which for government debtors	18	19
for other debtors	27	28
Real estate	6	5
Alternative investments	21	17
Cash and cash equivalents	2	3
Total	**100**	**100**

The asset class **debt instruments** comprises promissory notes and debentures (Pfandbriefe) as well as corporate and government bonds. Government bonds primarily relate to bonds from countries with very high credit ratings, such as the United States, the United Kingdom, Germany and Switzerland. Government bonds from emerging countries are also held to a limited extent. Corporate bonds mainly comprise bonds from creditworthy debtors, although particular high-yield bonds are also held to a limited extent. In connection with the continuous monitoring of default risk based on a given risk budget and on the observation of the development of the creditworthiness of issuers, the plan asset allocation may be adjusted in the case of a revised market assessment. **Alternative investments** largely comprise investments in private and infrastructure equity, absolute return funds and senior secured loans.

Almost all of the **equities** are priced on active markets. The category **debt instruments** includes promissory notes and debentures (Pfandbriefe) acquired through private placements with a market value in the amount of €188 million as of December 31, 2021, and €110 million as of December 31, 2020. For such securities, especially those held by domestic pension plans, there is no active market. There is also no fungible market price for the additional amount of €387 million, especially in the category of **alternative investments** and **real estate**. The capital market compensates for this lack of fungibility with yield premiums depending on the maturity.

Plan assets as of the balance sheet date contained securities issued by BASF Group companies with a market value of €0 million in 2021 and €1 million in 2020. The market value of the properties of legally independent pension funds rented to BASF Group companies remained unchanged from the previous year at €112 million.

Since 2010, an agreement has existed between BASF SE and BASF Pensionskasse VVaG on the granting of profit participation capital with a nominal value of €80 million to strengthen the financing of the BASF Pensionskasse VVaG. The existing profit participation capital was paid back to BASF SE in 2021. To enable Pensionskasse VVaG to meet future regulatory solvency requirements and strengthen its risk-bearing capacity, BASF SE temporarily provided the pension fund with capital in the form of a retrospective initial fund loan with a nominal value of €220 million in 2021. The pension fund utilized €80 million of that amount in 2021. Furthermore, BASF Pensionstreuhand e.V. reimbursed BASF SE in 2021 with €250 million in pension payments relating to 2020.

The funding of the plans was as follows:

Current funding situation of the pension plans as of December 31

Million €

	2021		2020	
	Defined benefit obligation	Pension assets	Defined benefit obligation	Pension assets
Unfunded pension plans	2,121	–	1,840	–
Funded pension plans	26,508	23,130	28,000	21,400
Total	**28,629**	**23,130**	**29,840**	**21,400**

Defined contribution plans and government pensions

The contributions to defined contribution plans recognized in income from operations amounted to €308 million in 2021 and €306 million in 2020.

Contributions to government pension plans were €578 million in 2021 and €557 million in 2020.

23 Other provisions

Accounting policies

Other provisions are recognized when there is a present obligation as a result of a past event and when there is a probable outflow of resources whose amount can be reliably estimated. Provisions are recognized at the probable settlement value.

Provisions for **environmental protection and remediation costs** are recognized for expected costs for rehabilitating contaminated sites, recultivating landfills, removal of environmental contamination at existing production or storage sites and similar measures.

In addition, other provisions also cover expected costs for **restoration obligations** for dismantling existing plants and buildings. If BASF is the only responsible party that can be identified, the provision covers the entire expected obligation. At sites operated together with one or more partners, the provision generally covers only BASF's share of the expected obligation. The amount of the provision is determined based on the available technical information on the site, the technology used, legal regulations, and official requirements. The calculation accounts for expected significant changes in obligations.

Provisions for **restructuring measures** include severance payments to departing employees or similar personnel expenses as well as expected costs for site closures, including the costs for demolition and similar measures. Provisions are recognized for these expenses when the relevant measures have been planned and announced by management.

Provisions for **employee obligations** primarily consist of variable compensation including associated social security contributions, as well as obligations for granting long-service bonuses. The latter are predominantly calculated based on actuarial principles.

Provisions for **obligations from sales and purchase contracts** largely comprise obligations arising from rebates granted and other price discounts in the Agricultural Solutions segment, warranties and product liabilities, sales commissions and expected losses on contracts.

Provisions for **litigation, damage claims, warranties and similar obligations** contain anticipated expenses from lawsuits in which BASF is the defendant party, as well as obligations under damage claims against BASF and fines. In order to determine the amount of the provisions, the company takes into consideration the facts related to each case, the size of the claim, compensation awarded in similar cases and independent expert advice as well as assumptions regarding the probability of a successful claim and the range of possible claims. Actual costs can deviate from these estimates.

For more information, see Note 24 on page 262

The probable amount required to settle noncurrent provisions is discounted if the effect of discounting is material. In this case, the provision is recognized at present value. Assumptions must be made in determining the discount rate (2021: 1.25%; 2020: 1.5%) used for calculating noncurrent provisions. Financing costs related to unwinding the discount of provisions in subsequent periods are shown in other financial result.

Other provisions

Million €

	December 31, 2021		December 31, 2020	
		Of which current		Of which current
Restoration obligations	158	21	148	21
Environmental protection and remediation costs	926	94	693	114
Employee obligations	2,368	1,907	1,174	754
Obligations from sales and purchase contracts	1,423	1,379	1,134	1,114
Restructuring measures	279	229	414	371
Litigation, damage claims, warranties and similar obligations	79	26	205	161
Other	486	279	541	290
Total	**5,717**	**3,935**	**4,309**	**2,825**

The increase in provisions for **employee obligations** was mainly attributable to higher accruals for variable compensation components.

The increase in provisions for **obligations from sales and purchase contracts** resulted from higher accruals for rebate programs.

The increase in provisions for **environmental protection and remediation costs** resulted primarily from additions for contamination at several discontinued sites in North America.

Other includes interest on noncurrent tax provisions.

The following table shows the development of other provisions by category. Other changes include reclassifications to disposal groups, changes in the scope of consolidation, acquisitions, divestitures, currency effects and the reclassification of obligations to liabilities when the amount and timing of these obligations become known.

Development of other provisions in 2021

Million €

	January 1, 2021	Additions	Unwinding of discount	Utilization	Releases	Other changes	December 31, 2021
Restoration obligations	148	26	2	–8	–1	–9	158
Environmental protection and remediation costs	693	268	3	–64	–8	34	926
Employee obligations	1,174	1,943	1	–687	–60	–2	2,368
Obligations from sales and purchase contracts	1,134	1,142	–	–894	–83	125	1,423
Restructuring measures	414	90	–	–93	–167	34	279
Litigation, damage claims, warranties and similar obligations	205	29	–	–128	–37	9	79
Other	541	184	–	–139	–66	–37	486
Total	**4,309**	**3,681**	**7**	**–2,013**	**–421**	**154**	**5,717**

24 Risks from litigation and claims

BASF Corporation has potential liability under the Comprehensive Response, Compensation and Liability Act of 1980, as amended, and related state laws for investigation and cleanup at certain sites. The Lower Passaic River Study Area (LPRSA) is one such site comprising the lower 17 miles of the Passaic River in New Jersey. BASF Corporation and more than 60 other companies (collectively, the Lower Passaic River Study Area Cooperating Parties Group or CPG) agreed to complete a remedial investigation / feasibility study (RI/FS) of the LPRSA. In 2016, the United States Environmental Protection Agency (USEPA) selected a final remedy for the lower eight miles of the LPRSA. A decision from USEPA on a targeted approach for the upper portion of the LPRSA was issued on September 30, 2021. BASF Corporation established a provision covering BASF's currently estimated share of the remediation costs.

Since August 2019, BASF Corporation has been served in various U.S. federal and state lawsuits alleging property and resource damages and personal injuries from possible exposure to per- and polyflouroalkyl substances (PFAS). In December 2018, a multi-district litigation (MDL) was created to coordinate claims brought against manufacturers, distributors, and suppliers of Aqueous Film Forming Foam (AFFF) in particular, which plaintiffs allege contains toxic levels of certain PFAS compounds including perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). Plaintiffs typically allege that exposure to AFFF has caused loss of use and enjoyment of property, diminished property value, remediation costs, and personal injuries including various types of cancers. The complaints name BASF as a defendant in connection with its 2009 acquisition of Ciba Specialty Chemicals Inc. and the legacy Ciba/BASF Lodyne fluorochemical product lines. BASF has been named in over 1,200 suits as of January 2022 and is defending all litigation.

At this time, BASF cannot predict the outcomes of resolving these matters or what potential actions may be taken by regulatory agencies. An adverse outcome in any one or more of these matters could be material to BASF's financial results.

Furthermore, BASF SE and its affiliated companies are defendants in or parties to a variety of legal or regulatory proceedings on a recurring basis. To our current knowledge, none of these proceedings will have a material effect on the economic situation of BASF.

25 Other financial obligations

The figures listed below are stated at nominal value:

Other financial obligations
Million €

	Dec. 31, 2021	Dec. 31, 2020
Bills of exchange	3	2
Guarantees	383	347
Warranties	58	79
Collateral granted on behalf of third-party liabilities	1	–
Initiated investment projects	4,761	3,921
of which purchase commitments	1,481	1,052
for the purchase of intangible assets	10	15
Payment and loan commitments and other financial obligations	263	75

BASF SE provides a guarantee to Abu Dhabi National Oil Corporation covering all obligations of Wintershall Dea Middle East GmbH related to the Ghasha concession in the United Arab Emirates. Furthermore, BASF SE assumed guarantees to the Danish Energy Agency covering all obligations of Wintershall Dea International GmbH and Wintershall Noordzee B.V. related to licenses for exploration and production of hydrocarbons in the Danish concession area. The guarantees do not stipulate a maximum amount. The risk of a claim being exercised against the guarantees is classified as low. In addition, guarantees by BASF SE existed until January 12, 2022, for restoration obligations of Wintershall Dea Norge AS for various oil and gas facilities acquired from Equinor.

The rise in obligations from **initiated investment projects** is mainly attributable to large-scale projects which began in 2021.

Obligations arising from purchase contracts

Obligations from purchase contracts resulted primarily from long-term purchase obligations for raw materials as well as supply agreements for renewable energy. The increase is mainly due to long-term energy supply agreements concluded in 2021, including about €3.5 billion for green energy from the Hollandse Kust Zuid wind farm.

For more information on long-term energy supply agreements, see the chapter on Energy and climate protection in the Management's Report from page 126 onward

Firm purchase obligations as of December 31, 2021, were as follows:

Obligations arising from purchase contracts
Million €

	Dec. 31, 2021	Dec. 31, 2020
Following year 1	9,686	8,003
Following year 2	4,963	5,347
Following year 3	1,832	3,419
Following year 4	1,716	1,317
Following year 5	1,720	1,238
Following year 6 and maturities beyond this year	11,823	4,165
Total	**31,741**	**23,489**

26 Supplementary information on financial instruments

26.1 Accounting policies

Financial assets and financial liabilities are recognized in the consolidated balance sheet when the BASF Group becomes a party to a financial instrument. Financial assets are derecognized when BASF no longer has a contractual right to the cash flows from the financial asset or when the financial asset is transferred together with all material risks and rewards of ownership and BASF does not have control of the financial asset after it has been transferred. For example, receivables are derecognized when they are definitively found to be uncollectible such as in the event of concluded insolvency proceedings. Financial liabilities are derecognized when the contractual obligations expire, are discharged or cancelled. Regular-way purchases and sales of financial instruments are accounted for using the settlement date; in precious metal trading, the trade date is used.

The fair value of a financial instrument is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. If pricing on an active market is available, for example in the form of exchange prices, these are used as the basis for the measurement. Otherwise, the measurement is based on either internal measurement models using current market parameters or external measurements, for example, from banks. These internal measurements rely predominantly on the net present value method and option pricing models. These models incorporate, for example, expected future cash flows as well as discount factors adjusted for term and, potentially, risk. Depending on the availability of market parameters, BASF assigns financial instruments' market values one of the three levels of the fair value hierarchy pursuant to IFRS 13. Reassignment to a different level during a fiscal year is only carried out if the availability of observable market parameters for identical or similar items changes.

The classification and measurement of financial assets is based on the one hand on the cash flow condition (the "solely payments of principle and interest" criterion), that is, the contractual cash flow characteristics of an individual financial asset. On the other hand, it also depends on the business model used for managing financial asset portfolios. Based on these two criteria, BASF uses the following measurement categories for financial assets:

– **Financial assets at fair value through profit or loss** include all financial assets whose cash flows are not solely payments of principal and interest in accordance with the cash flow condition established in IFRS 9. At BASF, derivatives, for example, are allocated to this measurement category. In general, BASF does not exercise the fair value option in IFRS 9, which permits the allocation of financial instruments not to be measured at fair value through profit or loss on the basis of the cash flow condition or the business model criterion to the above category under certain circumstances.

– **Financial assets measured at amortized cost** include all assets with contractual terms that give rise to cash flows on specific dates, provided that these cash flows are solely payments of principal and interest on the principal amount outstanding in accordance with the cash flow condition in IFRS 9, to the extent that the asset is held with the intention of collecting the expected contractual cash flows over its term. At BASF, this measurement category includes trade accounts receivable, as well as receivables reported under other receivables and miscellaneous assets and certain securities.

  Initial measurement of these assets is generally at fair value, which usually corresponds to the transaction price at the time of acquisition or, in the case of trade accounts receivable, to the transaction price pursuant to IFRS 15. Subsequent measurement effects are recognized in income using the effective interest method.

  Impairments are recognized for expected credit losses in both initial and subsequent measurement, even before the occurrence of any default event. Counterparties are generally considered to default when they become insolvent, become a debtor in a creditor protection program or are in a finance-related legal dispute with BASF, or more than half of BASF's receivables portfolio with them is more than 90 days overdue. In these cases, individual impairments are recognized for the financial assets measured at amortized cost that are then considered to be credit impaired.

  The extent of expected credit losses is determined based on the credit risk of a financial asset, as well as any changes to this credit risk: If the credit risk of a financial asset has increased significantly since initial recognition, expected credit losses are generally recognized over the lifetime of the asset. If, however, the credit risk has not increased significantly in this period, impairments are generally only recognized as 12-month expected credit losses. By contrast, under the simplified approach for determining expected credit losses permitted by IFRS 9, impairments for receivables such as lease receivables and trade accounts receivable always cover the lifetime expected credit losses of the receivable concerned.

  At BASF, the credit risk of a financial asset is assessed using both internal information and external rating information on the respective counterparty. A significant increase in the counterparty's credit risk is assumed if its rating is lowered by a certain number of notches. It is generally assumed that the credit risk for a counterparty with a high credit rating will not have increased significantly.

  Regional and, in certain circumstances, industry-specific factors and expectations are taken into account when assessing the extent of impairment as part of the calculation of expected credit losses and individual impairments. In addition, BASF uses internal and external ratings and the assessments of debt collection agencies and credit insurers, when available. Individual impairments are also based on experience relating to customer solvency and customer-specific risks. Factors such as credit insurance, which covers a portion of receivables measured at amortized cost, are likewise considered when calculating impairments. Bank guarantees and letters of credit are used to an immaterial extent. Expected credit losses and individual impairments are only calculated for those receivables that are not covered by insurance or other collateral. Impairments on receivables whose insurance includes a deductible are not recognized in excess of the amount of the deductible.

  A decrease in impairment due, for example, to a reduction in the credit risk of a counterparty or an objective event occurring after the impairment is recorded in profit or loss. Reversals of impairments may not exceed amortized cost, less any expected future credit losses.

– **Financial assets at fair value through other comprehensive income** include all assets with contractual terms that give rise to cash flows on specified dates that are solely payments of principal and interest on the principal amount outstanding, in accordance with the cash flow condition in IFRS 9. Furthermore, the assets in this measurement category may not just be held with the intention of collecting the expected contractual cash flows over their term, but also generating cash flows from their sale. At BASF, certain securities that are reported as other financial assets or marketable securities are allocated to this category. BASF does not exercise the option to subsequently measure equity instruments through other comprehensive income.

  Assets measured at fair value through other comprehensive income are initially measured at fair value, which usually corresponds to the transaction price of the securities allocated to this category at the time of acquisition. Subsequent measurement is likewise at fair value. Changes in the fair value are recognized in other comprehensive income and reclassified to the statement of income when the asset is disposed of.

  Impairments on financial assets measured at fair value through other comprehensive income are calculated in the same way as impairments on financial assets measured at amortized cost and recognized in profit or loss.

The following measurement categories are used for financial liabilities:

– **Financial liabilities measured at amortized cost** generally include all financial liabilities, provided these do not represent derivatives. They are generally measured at fair value at the time of initial recognition, which usually corresponds to the value of the consideration received. Subsequent measurement is recognized in profit or loss at amortized cost using the effective interest method. At BASF, for example, bonds and liabilities to banks reported under financial indebtedness are measured at amortized cost.
– **Financial liabilities at fair value through profit or loss** contain derivative financial liabilities. These are likewise measured at the value of the consideration received as the fair value of the liability on the date of initial recognition. Fair value is also applied as a measurement basis for these liabilities in subsequent measurement. The option to subsequently measure non-derivative financial liabilities at fair value is not exercised.
  Derivative financial instruments can be embedded within other contracts, creating a hybrid financial instrument. If IFRS policies require separation, the embedded derivative is accounted for separately from its host contract and measured at fair value. If IFRS 9 does not provide for separation, the hybrid instrument is accounted for at fair value in its entirety.

Financial guarantees of the BASF Group are contracts that require compensation payments to be made to the guarantee holder if a debtor fails to make payment when due under the terms of a transaction entered into with the holder of the guarantee. Financial guarantees issued by BASF are measured at fair value upon initial recognition. In subsequent periods, these financial guarantees are carried at the higher of amortized cost or the best estimate of the present obligation as of the reporting date.

In **cash flow hedges,** future cash flows and the related income and expenses are hedged against the risk of changes in fair value. To this end, future underlying transactions and the corresponding hedging instruments are designated in a cash flow hedge accounting relationship for accounting purposes. The effective portion of the change in fair value of the hedging instrument, which often meets the definition of a derivative, and the cost of hedging are recognized directly in equity under other comprehensive income over the term of the hedge, taking deferred taxes into account. The ineffective portion is recognized immediately in the income statement. In the case of future transactions that lead to recognition of a nonfinancial asset or a nonfinancial liability, the cumulative fair value changes of the hedge in equity are generally charged against the cost of the hedged item on its initial recognition. For hedges based on financial assets, financial liabilities or future transactions, cumulative fair value changes of the hedges are transferred from equity to the income statement in the reporting period in which the hedged item is recognized in the income statement. The maturity of the hedging instrument is aligned with the effective date of the future transaction.

When **fair value hedge** accounting is used, the asset or liability recognized is hedged against the risk of a change in fair value. The hedging instruments used, which often take the form of a derivative, are measured at fair value and changes in fair value are recognized in the statement of income. The carrying amounts of the assets or liabilities designated as the underlying transaction are also measured at fair value through the statement of income.

26.2 Financial risks

Market risks

Foreign currency risks: Changes in exchange rates could lead to losses in the value of financial instruments and adverse changes in future cash flows from planned transactions. Foreign currency risks from financial instruments result from the translation at the closing rate of financial receivables, loans, securities, cash and financial liabilities into the functional currency of the respective Group company. Foreign currency contracts in various currencies are used to hedge foreign exchange risks from nonderivative financial instruments and planned transactions.

The foreign currency risk exposure corresponds to the net amount of the nominal volume of the primary and the derivative financial instruments that are exposed to currency risks. In addition, planned purchase and sales transactions of the respective following year are included if they fall under the currency risk management system. Long and short positions in the same currency are offset against each other.

The sensitivity analysis was conducted by simulating a 5% and 10% appreciation of the respective functional currency against the other currencies. A 5% appreciation of the respective functional currency would have reduced BASF's income before income taxes by €174 million as of December 31, 2021. A 10% appreciation of the respective functional currency would have resulted in a negative effect on BASF's income before income taxes in the amount of €326 million. A 5% appreciation of the respective functional currency resulted in an effect on BASF's income in the amount of –€203 million as of December 31, 2020 (–€390 million with a 10% appreciation). The effect from the items designated under hedge accounting would have decreased shareholders' equity before income taxes by €3 million applying 5% appreciation to the functional currency, and increased it by €2 million applying 10% appreciation to the functional currency as of December 31, 2021 (2020: increase of €36 million applying 5% appreciation to the functional currency and increase of €78 million applying 10% appreciation to the functional currency). This only refers to transactions in U.S. dollars.

Exposure and sensitivity by currency

Million €

	December 31, 2021			December 31, 2020		
	Exposure	Sensitivity		Exposure	Sensitivity	
		+5%	+10%		+5%	+10%
USD	1,712	–128	–231	1,965	–101	–190
Other	1,011	–49	–94	1,117	–66	–123
Total	**2,723**	**–177**	**–324**	**3,082**	**–167**	**–313**

Due to the use of options to hedge currency risks, the sensitivity analysis is not a linear function of the assumed changes in exchange rates.

Interest rate risks: Interest rate risks arise from changes in prevailing market interest rates, which can lead to changes in the fair value of fixed-rate instruments and in interest payments for variable-rate instruments. Interest rate swaps and combined interest rate and currency derivatives are used in individual cases to hedge these risks. The derivatives are presented in Note 26.5. Interest rate risks are relevant to BASF's financing activities but are not of material significance for BASF's operating activities.

The variable interest risk exposure, which also includes fixed rate bonds maturing in the following year, amounted to –€2,408 million as of December 31, 2021 (2020: –€1,659 million). An increase in all relevant interest rates by one half of a percentage point would have lowered income before income taxes by €4 million as of December 31, 2021. An increase in all relevant interest rates by one percentage point would have lowered income before income taxes by €9 million as of the same date. An increase in all relevant interest rates by one half of a percentage point would have lowered income before income taxes by €5 million as of December 31, 2020 (an increase of one percentage point would have lowered income before income taxes by €10 million). Because no interest derivatives were designated in hedge accounting relationships as of December 31, 2021, a change in interest rates would not have had an effect on shareholders' equity. There were also no interest derivatives designated in a hedge accounting relationship as of December 31, 2020.

Carrying amounts of nonderivative interest-bearing financial instruments

Million €

	December 31, 2021		December 31, 2020	
	Fixed interest rate	Variable interest rate	Fixed interest rate	Variable interest rate
Loans	109	129	75	115
Securities	60	209	51	206
Financial indebtedness	14,446	2,738	17,742	1,472

Nominal and fair values of combined interest rate and currency swaps

Million €

	December 31, 2021		December 31, 2020	
	Nominal value	Fair value	Nominal value	Fair value
Combined interest rate and currency swaps	**4,183**	**102**	**4,183**	**–163**
of which fixed rate	4,183	102	4,183	–163

Central benchmark interest rates are being comprehensively revised as part of what is known as the IBOR reform. Accordingly, the interest rates affected by the reform will be phased out and replaced by new ones. The publication of all GBP, EUR, CHF and JPY LIBORs as well as USD LIBORs with maturities of one week and two months was discontinued as of December 31, 2021. Publication of the remaining USD LIBORs is expected to continue until June 30, 2023.

BASF is continuously monitoring developments arising from the IBOR reform to ensure the timely adjustment of existing contracts as well as to identify potential financial risks at an early stage. Particular consideration is given to the carrying amounts or nominal values (derivatives) of contracts that reference an interest rate affected by the reform and therefore may still have to be converted to an alternative interest rate (contracts yet to be adjusted). As of

December 31, 2021, financial liabilities related to contracts yet to be adjusted were identified in the amount of €302 million. These are mainly variable-rate bank loans referenced to a USD LIBOR (€187 million) or EONIA (€115 million). Furthermore, financial assets related to contracts yet to be adjusted were identified in the amount of €85 million. These are mainly short-term loans, particularly to nonconsolidated subsidiaries, that are referenced to a USD LIBOR (€85 million). No derivatives were identified that are associated with contracts yet to be adjusted.

Commodity price risks: Some of BASF's divisions are exposed to strong fluctuations in raw materials prices. These result primarily from raw materials (for example naphtha, benzene, natural gas, LPG condensate) as well as from precious metals. BASF takes the following measures to reduce price risks associated with the purchase of raw materials:

- BASF uses commodity derivatives to hedge risks from the volatility of raw materials prices. These are primarily options on crude oil, oil products and natural gas.
- The Catalysts division enters into both short-term and long-term purchase contracts with precious metal and battery metal producers. It also buys precious metals on spot markets from various business partners. The price risk from metals purchased to be sold on to third parties, or for use in the production of catalysts and battery materials, is hedged using derivative instruments. This is mainly performed using forward contracts, which are settled by either entering into offsetting contracts or by delivering the precious metal.
- In the Agricultural Solutions division, the sales prices of products are sometimes pegged to the price of certain agricultural commodities. To hedge the resulting risks, derivatives on agricultural commodities are concluded.

In addition, BASF holds limited unhedged precious metal and oil product positions, which can also include derivatives, for trading on its own account. The value of these positions is exposed to market price volatility and is subject to constant monitoring.

By holding commodity derivatives and precious metal trading positions, BASF is exposed to price risks. The valuation of commodity derivatives and precious metal trading positions at fair value means that adverse changes in market prices could negatively affect the earnings and equity of BASF.

BASF concluded several physical power purchase agreements (physical PPAs) in Europe with terms of up to 25 years in 2021. Under the physical PPAs, BASF procures electricity and associated green electricity certificates, known as guarantees of origin (GoOs), at a fixed price. Some physical PPAs are not eligible for the own use exemption and are therefore recognized as derivatives in the balance sheet. In addition, BASF concluded what is known as a virtual power purchase agreement (virtual PPA) with a term of 15 years in the United States in 2021. The virtual PPA contains an embedded contract for difference for electricity that is recognized separately as a derivative in the balance sheet.

BASF performs value-at-risk analyses for all commodity derivatives and precious metal trading positions. Using the value-at-risk analysis enables continual quantification of market risk and forecasting of the maximum possible loss within a given confidence interval over a defined period. The value-at-risk calculation is based on a confidence interval of 95% and a holding period of one day. BASF uses the variance-covariance approach.

BASF uses value at risk in conjunction with other risk management tools. Besides value at risk, BASF sets volume-based limits as well as exposure and stop-loss limits.

Exposure due to commodity derivatives

Million €

	December 31, 2021		December 31, 2020	
	Exposure	Value at risk	Exposure	Value at risk
Crude oil, oil products and natural gas	97	18	56	5
Precious metals	51	1	88	1
Agricultural commodities	58	0	37	0
Electricity and green electricity certificates	388	7	–	–

The exposure corresponds to the net amount of all long and short positions of the respective commodity category.

For more information on BASF's financial risks and risk management, see Opportunities and Risks from page 151 onward

Default and credit risk

Default and credit risks arise when customers and debtors do not fulfill their contractual obligations. BASF regularly analyzes the creditworthiness of the counterparties and grants credit limits on the basis of this analysis. Due to the global activities and diversified customer structure of the BASF Group, there is no significant concentration of default risk. The carrying amount of all receivables, loans and interest-bearing securities plus the nominal value of financial obligations stemming from contingent liabilities not to be recognized represents the maximum default risk for BASF.

For more information on credit risks, see Note 18 from page 247 onward

Liquidity risks

BASF promptly recognizes any risks from cash flow fluctuations as part of liquidity planning. BASF has ready access to sufficient liquid funds from the ongoing commercial paper program and confirmed lines of credit from banks.

26.3 Maturity analysis

The interest and principal payments as well as other payments for derivative financial instruments are relevant for the presentation of the maturities of the contractual cash flows from financial liabilities. Future cash flows are not discounted here.

Derivatives are included using their net cash flows, provided they have negative fair values and therefore represent a liability. Derivatives with positive fair values are assets and are therefore not taken into account.

Maturities of contractual cash flows from financial liabilities as of December 31, 2021

Million €

	Bonds and other liabilities to the capital market	Liabilities to credit institutions	Accounts payable, trade	Derivative liabilities	Miscellaneous liabilities	Total
2022	2,462	1,200	7,820	459	762	12,703
2023	2,230	190	4	37	251	2,712
2024	675	796	2	3	182	1,658
2025	1,812	258	–	52	126	2,248
2026	629	684	–	0	94	1,407
2027 and thereafter	7,608	382	–	57	706	8,753
Total	**15,416**	**3,510**	**7,826**	**608**	**2,121**	**29,481**

Maturities of contractual cash flows from financial liabilities as of December 31, 2020

Million €

	Bonds and other liabilities to the capital market	Liabilities to credit institutions	Accounts payable, trade	Derivative liabilities	Miscellaneous liabilities	Total
2021	2,531	1,128	5,276	76	749	9,760
2022	2,161	295	12	287	267	3,022
2023	2,150	301	3	103	178	2,735
2024	673	868	–	28	132	1,701
2025	1,749	215	–	70	91	2,125
2026 and thereafter	8,133	1,035	–	80	605	9,853
Total	**17,397**	**3,842**	**5,291**	**644**	**2,022**	**29,196**

26.4 Classes and categories of financial instruments

For trade accounts receivable, other receivables and miscellaneous assets, cash and cash equivalents, as well as trade accounts payable and other liabilities, the carrying amount approximates the fair value.

The fair value of financial indebtedness is determined on the basis of interbank interest rates. The difference between carrying amounts and fair values results primarily from changes in market interest rates.

The financial instruments reported under Derivatives – no hedge accounting, of which fair value level 3, in the table **"Carrying amounts and fair values of financial instruments"** relate to a contract for difference for electricity embedded in a virtual power purchase agreement (virtual PPA). The expected contractual capacity of the solar power plant in Texas, United States, is 50 megawatts. The solar park is scheduled to go into operation in 2023. The level 3 fair value is determined as the present value of the expected cash flows from the contract for difference. The key valuation parameters are the expected electricity prices and expected production volumes. A change in the key valuation parameters as of December 31, 2021 would have affected the fair value of the contract for difference as follows:

Sensitivities virtual PPA contract for difference for electricity (United States)

Million €

Change in expected electricity prices		Change in expected production volumes	
+10%	–10%	+10%	–10%
5	–5	1	–1

At the time of initial recognition, the fair value of the contract for difference, which was calculted using a valuation model, was higher than the transaction price. As this is a level 3 fair value, the difference of €12 million is deferred and reported in the balance sheet together with the positive or negative fair value of the contract for difference, according to the valuation model, under other receivables and miscellaneous assets or other liabilities. The difference is reversed using the straight-line method over the term of the contract. Income from the reversal of the difference will be recognized in profit or loss under other operating income. The changes in fair value according to the valuation model are recognized in profit or loss as other operating income or other operating expenses.

The financial instruments reported under Derivatives – hedge accounting, of which fair value level 3, in the table **"Carrying amounts and fair values of financial instruments"** relate to two physical power purchase agreements (physical PPAs) concluded in Europe. The physical PPAs are based on wind turbines in the Netherlands with an expected proportional capacity of 35 megawatts each. The wind farm is scheduled to go into operation in 2022 or 2023. Unlike virtual PPAs, physical PPAs provide for actual supply of electricity volumes to BASF. In addition to electricity, BASF receives certificates verifying the "green properties" of the electricity, known as guarantees of origin (GoOs). BASF purchases both the electricity and the GoOs at a fixed price under the physical PPAs. Because the physical PPAs described here are not eligible for the own use exemption, they are to be recognized in the balance sheet as derivatives and measured at fair value. Level 3 fair value is determined as the present value of the difference between the agreed fixed price and the expected market prices for electricity or GoOs. The key valuation parameters are the expected electricity and GoO prices as well as the expected production volumes.

Sensitivities physical PPAs (Europe)

Million €

Change in expected electricity prices		Change in expected GoO prices		Change in expected production volumes	
+10%	–10%	+10%	–10%	+10%	–10%
42	–42	1	–1	8	–8

At the time of initial recognition, the physical PPAs' fair values, which were calculated using a valuation model, were higher or lower, respectively, than the transaction prices. As these are level 3 fair values, the differences amounting to €14 million and –€5 million were deferred and recognized in the balance sheet together with the positive fair values of the contracts, according to the valuation model, under assets of disposal groups. The differences are reversed over the term of the contract using the straight-line method. The resulting gains and losses are reported in profit or loss under other operating income or other operating expenses.

The physical PPAs were designated in a cash flow hedge accounting relationship. Accordingly, the effective portion of the change in fair value of the hedging instruments is recognized directly in equity (other comprehensive income). Possible ineffectiveness is recognized in profit or loss as other operating income or other operating expenses.

Carrying amounts and fair values of financial instruments as of December 31, 2021

Million €

	Carrying amount	Total carrying amount within scope of application of IFRS 7	Valuation category in accordance with IFRS 9[b]	Fair value	Of which fair value level 1[c]	Of which fair value level 2[d]	Of which fair value level 3[e]
Shareholdings[a]	514	514	FVTPL	0	–	0	–
Receivables from finance leases	44	44	n/a	44	–	–	–
Accounts receivable, trade	11,723	11,723	AC	11,723	–	–	–
Accounts receivable, trade	219	219	FVTPL	219	–	219	–
Derivatives – no hedge accounting	729	729	FVTPL	729	13	716	–
Derivatives – hedge accounting	287	287	n/a	296	0	216	80[g]
Other receivables and miscellaneous assets[f]	6,211	1,351	AC	1,351	–	–	–
Other receivables and miscellaneous assets[f]	90	90	FVTPL	90	–	90	–
Securities	9	9	AC	9	–	–	–
Securities	0	0	FVTOCI	0	–	0	–
Securities	260	260	FVTPL	260	207	53	–
Cash equivalents	236	236	FVTPL	236	236	–	–
Cash and cash equivalents	2,388	2,388	AC	2,388	–	–	–
Total assets	**22,710**	**17,850**		**17,345**	**456**	**1,294**	**80**
Bonds	13,489	13,489	AC	14,617	12,819	1,798	–
Commercial paper	248	248	AC	248	–	–	–
Liabilities to credit institutions	3,447	3,447	AC	3,447	–	–	–
Liabilities from leases	1,412	1,412	n/a	1,412	–	–	–
Accounts payable, trade	7,826	7,826	AC	7,826	–	–	–
Derivatives – no hedge accounting	568	568	FVTPL	557	2	566	–11[h]
Derivatives – hedge accounting	1	1	n/a	1	0	1	–
Other liabilities[f]	3,298	2,267	AC	2,267	–	–	–
Total liabilities	**30,289**	**29,258**		**30,375**	**12,821**	**2,365**	**–11**

a In general, only significant shareholdings are measured at fair value. All insignificant shareholdings are measured at cost (carrying amount: €514 million). Fair value level 1 is applied to publicly listed shareholdings. Level 2 is applied to shareholdings for which valuation is based on parameters observable in the market to the greatest extent possible. These may be adjusted to reflect valuation-relevant characteristics of the respective shareholding in the fair value.
b AC: amortized cost; FVTOCI: fair value through other comprehensive income; FVTPL: fair value through profit or loss; a more detailed description of the categories can be found in Note 26.1 from page 263 onward.
c Fair value was determined based on quoted, unadjusted prices on active markets.
d Fair value was determined based on parameters for which directly or indirectly quoted prices on active markets were available.
e Fair value was determined based on parameters for which there was no observable market data.
f Does not include separately shown derivatives or receivables and liabilities from finance leases. If miscellaneous receivables are valued at fair value through profit or loss, their valuation is generally based on parameters observable on the market. These are adjusted to reflect valuation-relevant characteristics of the respective assets in the fair value.
g The carrying amount of the physical PPAs reported in the balance sheet under assets of disposal groups is €71 million after subtracting the differences of €14 million and –€5 million described on page 269.
h The carrying amount of the contract for difference for electricity reported in the balance sheet under other liabilities is €1 million after subtracting the difference of €12 million described on page 269.

Carrying amounts and fair values of financial instruments as of December 31, 2020

Million €

	Carrying amount	Total within application scope of IFRS 7	Valuation category in accordance with IFRS 9[b]	Fair value	Of which fair value level 1[c]	Of which fair value level 2[d]	Of which fair value level 3[e]
Shareholdings[a]	533	533	FVTPL	94	93	1	–
Receivables from finance leases	44	44	n/a	44	–	–	–
Accounts receivable, trade	9,422	9,422	AC	9,422	–	–	–
Accounts receivable, trade	44	44	FVTPL	44	–	44	–
Derivatives – no hedge accounting	387	387	FVTPL	387	1	386	–
Derivatives – hedge accounting	132	132	n/a	132	0	132	–
Other receivables and miscellaneous assets[f]	4,889	1,075	AC	1,075	–	–	–
Other receivables and miscellaneous assets[f]	133	133	FVTPL	133	–	133	–
Securities	8	8	AC	8	–	–	–
Securities	0	0	FVTOCI	0	–	0	–
Securities	249	249	FVTPL	249	207	42	–
Cash equivalents	145	145	FVTPL	145	145	–	–
Cash and cash equivalents	4,185	4,185	AC	4,185	–	–	–
Total assets	**20,171**	**16,357**		**15,918**	**446**	**738**	**–**
Bonds	14,189	14,189	AC	15,500	–	15,500	–
Commercial paper	1,290	1,290	AC	1,290	–	–	–
Liabilities to credit institutions	3,735	3,735	AC	3,735	–	–	–
Liabilities from leases	1,360	1,360	n/a	1,360	–	–	–
Accounts payable, trade	5,291	5,291	AC	5,291	–	–	–
Derivatives – no hedge accounting	957	957	FVTPL	957	25	932	–
Derivatives – hedge accounting	1	1	n/a	1	–	1	–
Other liabilities[f]	2,833	1,804	AC	1,804	–	–	–
Total liabilities	**29,656**	**28,627**		**29,938**	**25**	**16,433**	**–**

a In general, only significant shareholdings are measured at fair value. All insignificant shareholdings are measured at cost (carrying amount: €439 million). Fair value level 1 is applied to publicly listed shareholdings. Level 2 is applied to shareholdings for which valuation is based on parameters observable in the market to the greatest extent possible. These may be adjusted to reflect valuation-relevant characteristics of the respective shareholding in the fair value.
b AC: amortized cost; FVTOCI: fair value through other comprehensive income; FVTPL: fair value through profit or loss; a more detailed description of the categories can be found in Note 26.1 from page 263 onward.
c Fair value was determined based on quoted, unadjusted prices on active markets.
d Fair value was determined based on parameters for which directly or indirectly quoted prices on active markets were available.
e Fair value was determined based on parameters for which there was no observable market data.
f Does not include separately shown derivatives or receivables and liabilities from finance leases. If miscellaneous receivables are valued at fair value through profit or loss, their valuation is generally based on parameters observable on the market. These are adjusted to reflect valuation-relevant characteristics of the respective assets in the fair value.

Offsetting of derivative assets and liabilities as of December 31, 2021

Million €

	Offset amounts			Potential netting volume		
	Gross amount	Amount offset	Net amount	Due to global netting agreements	Relating to financial collateral	Potential net amount
Derivatives with positive fair values	459	–12	447	–209	–125	112
Derivatives with negative fair values	459	–12	447	–209	–116	121

Offsetting of derivative assets and liabilities as of December 31, 2020

Million €

	Offset amounts			Potential netting volume		
	Gross amount	Amount offset	Net amount	Due to global netting agreements	Relating to financial collateral	Potential net amount
Derivatives with positive fair values	415	–18	397	–134	–61	202
Derivatives with negative fair values	563	–18	545	–134	–233	178

The table “Offsetting of derivative assets and liabilities” shows the extent to which assets and liabilities were offset in the balance sheet, as well as potential effects from the offsetting of derivatives subject to a legally enforceable global netting agreement (primarily in the form of an ISDA agreement) or similar agreement. For positive fair values of combined interest rate and currency swaps, the respective counterparties provided cash collaterals in an amount comparable to the outstanding fair values.

Deviations from the derivatives with positive fair values and derivatives with negative fair values reported in other receivables and other liabilities at the end of 2021 and 2020 arose from derivatives not subject to any netting agreements as well as from embedded derivatives. These are not included in the table above.

In addition to the offsetting of derivatives presented in the table above, trade accounts receivable in 2021 were offset against trade accounts payable and advance payments received on orders, which were included in current other liabilities, provided specific netting agreements with customers existed. As a result, trade accounts receivable were reduced by €805 million. The reduction in trade accounts payable was €36 million and the reduction in advance payments received on orders was €769 million. Accordingly, the net amount for trade accounts receivable was €11,942 million (gross amount before offsetting: €12,747 million). The resulting net amount for trade accounts payable was €7,826 million (gross amount before offsetting: €7,862 million). The net amount for advance payments received on orders was €949 million (gross amount before offsetting: €1,718 million). In 2020, trade accounts receivable were also offset against trade accounts payable and the advance payments received on orders included in current other liabilities. This reduced trade accounts receivable by €616 million. The reduction in trade accounts payable was €45 million and the reduction in advance payments received on orders was €571 million. Accordingly, the net amount for trade accounts receivable was €9,466 million (gross amount before offsetting: €10,082 million). The resulting net amount for trade accounts payable was €5,291 million (gross amount before offsetting: €5,336 million). The net amount for advance payments received on orders was €679 million (gross amount before offsetting: €1,250 million).

The net gains and losses from financial instruments shown in the following table comprise the results of valuations, the amortization of discounts, the recognition and reversal of impairments, results from the translation of foreign currencies as well as interest, dividends and all other effects on the earnings resulting from financial instruments. The line item financial instruments at fair value through profit or loss contains only gains and losses from instruments that are not designated as hedging instruments in a hedging relationship in accordance with IFRS 9.

Gains and losses from the valuation of securities recognized in equity are shown in development of income and expense recognized in equity attributable to shareholders of BASF SE on page 195

For more information, see the Statement of Changes in Equity on page 199

Net gains and losses from financial instruments

Million €

	2021	2020
Financial assets measured at amortized cost	318	–282
of which interest result	19	32
Financial instruments at fair value through profit or loss	608	691
of which interest result	58	65
Financial assets at fair value through other comprehensive income	2	2
of which interest result	2	1
Financial liabilities measured at amortized cost	–726	–326
of which interest result	–324	–403

26.5 Derivative financial instruments and hedging relationships

The use of derivative financial instruments

BASF is exposed to foreign currency, interest rate and commodity price risks during the normal course of business. These risks are hedged using derivative instruments as necessary in accordance with a centrally determined strategy. Hedging is employed for existing underlying transactions from the product business, cash investments and financing as well as for planned sales, raw material purchases and capital measures. Furthermore, hedging may also be used for cash flows from acquisitions and divestitures. The risks from the hedged items and the derivatives are continually monitored. Where derivatives have a positive market value, BASF is exposed to credit risks from derivative transactions in the event of nonperformance of the other party. To minimize the default risk on derivatives with positive market values, transactions are exclusively conducted with creditworthy banks and partners and are subject to predefined credit limits.

To ensure efficient risk management, risk positions are centralized at BASF SE and certain Group companies. The contracting and execution of derivative financial instruments for hedging purposes are conducted according to internal guidelines, and subject to strict control mechanisms.

The fair values of derivative financial instruments are calculated using valuation models that, if available, use input parameters observable on the market. Exceptions to this are some commodity derivatives, whose valuation is based directly on market prices.

In addition to the derivative instruments presented in the following table, BASF also had derivatives that were embedded in other financial instruments. This primarily related to options embedded in a loan on the borrower's equity instruments. The fair value of these derivatives was €33 million as of December 31, 2020. The options were exercised in 2021.

Fair value of derivative instruments
Million €

	December 31, 2021	December 31, 2020
Foreign currency forward contracts	21	10
Foreign currency options	1	35
Foreign currency derivatives	**22**	**45**
of which designated hedging instruments as defined by IFRS 9 (hedge accounting)	0	35
Combined interest rate and currency swaps	102	–163
of which designated hedging instruments as defined by IFRS 9 (hedge accounting)	179	90
Interest derivatives	**102**	**–163**
Commodity derivatives	**324**	**–321**
of which designated hedging instruments as defined by IFRS 9 (hedge accounting)	107 [a]	7
Derivative financial instruments	**447**	**–439**

a Of which €71 million reported in the balance sheet under assets of disposal groups

Hedge accounting

BASF is exposed to commodity price risks in the context of procuring naphtha. Some of the planned purchases of naphtha are hedged using swaps and options on oil and oil products. The main contractual elements of these items are aligned with the characteristics of the hedged item. Cash flow hedge accounting was employed for a portion of these hedging relationships in 2021 and 2020. The average exercise price of the designated options was $675.54 per metric ton as of December 31, 2021 (December 31, 2020: $454.45 per metric ton). Cash flows from designated hedging instruments and hedged transactions occur in the following year and are also recognized in profit or loss for that year.

Furthermore, cash flow hedge accounting continued to be employed to a minor extent for procuring natural gas, which is likewise exposed to commodity price risks. Commodity price-based options serve as hedging instruments, for which contract terms are defined to reflect the risks of the hedged item. Depending on where trading took place, the average exercise price of the designated options was €32.60 per MWh or $3.74 per mmBtu as of December 31, 2021. The average exercise price of the designated options was €13.35 per MWh or $2.74 per mmBtu as of December 31, 2020. Cash flows from the hedging transaction and hedged item are generally recognized in profit or loss for the following year.

The change in the options' time value is recognized separately in equity as costs of transaction-related hedging and, in the year during which the hedged items mature, it is initially derecognized against the carrying amount of the procured assets and recognized in profit or loss when the assets are consumed. In 2021, a decrease in fair value of €27 million was recognized in equity, and €24 million was initially derecognized against the carrying amount of the inventories procured and then recognized upon consumption in profit or loss. In 2020, a decrease in fair value of €17 million was recognized as a reduction in equity, and €13 million was derecognized against the carrying amount of the assets.

BASF's planned soybean procurement is also exposed to commodity price risks. These commodity price risks are hedged with soybean futures. The contractual conditions for these hedging transactions correspond to the respective hedged item, and some are designated in cash flow hedge accounting relationships. The average price hedged using these instruments was $13.35 per bushel as of December 31, 2021 (December 31, 2020: $12.52 per bushel). Cash flows from these futures and the hedged expected future transactions are generally recognized in profit or loss for the following year.

The physical power purchase agreements that were reported as derivatives in the balance sheet were designated as hedging instruments to a cash flow hedge accounting relationship. The average price hedged using these instruments was €45.44 per MWh of electricity and €1.83 per GoO as of December 31, 2021. The realized hedging results are recognized in profit or loss upon occurrence of the hedged underlying transactions in the years 2022 to 2048.

Due to planned sales in U.S. dollars, BASF is exposed to foreign currency risks, which are partially hedged with currency options and designated in a cash flow hedge accounting relationship. The hedged transaction – the designated share of expected sales in U.S. dollars – is calculated based on internal thresholds. The hedged volume is always below the total amount of expected sales in U.S. dollars for the following fiscal year. The average hedged rate was $1.1630 per euro as of December 31, 2021, and $1.1583 per euro in the previous year. The impact on earnings from designated transactions in 2021 will be recognized in the following year. The decrease in the options' time value component arising in the amount of €14 million in 2021 was recognized separately in equity as the cost of hedging and resulted in a reduction in equity. Due to the maturity of hedged items, accumulated changes in the options' time values were reclassified as a reduction in earnings in the amount of €19 million. In 2020, €30 million was recognized as a change in the options' time value component, thereby reducing equity; and €34 million was reclassified as a reduction in earnings.

Furthermore, BASF SE's fixed-rate U.S. private placement of $1.25 billion, issued in 2013, was converted to euros using cross-currency swaps, as the private placement exposes BASF to a combined interest/currency risk. The hedged interest rate was 4.13% in the fiscal years 2021 and 2020. The hedged foreign exchange rate in both years was $1.3589 per euro. This hedge was designated as a cash flow hedge.

Furthermore, BASF was exposed to foreign currency risks in 2021 through U.S. dollar-denominated commercial paper. These risks are hedged with foreign currency forward contracts and designated in a cash flow hedge accounting relationship. The changes in the value of the hedging instruments in the amount of €11 million resulting from the change in the forward rate were recognized as time-period-related hedging costs. Because all underlying transactions and hedging instruments had expired by December 31, 2021, the amount of €11 million, which was initially recognized in equity, was reclassified in full as an increase in earnings. There was no ineffectiveness at any time during the year.

The expected sales price associated with the disposal of the pigments business was partially hedged against exchange rate fluctuations in 2021 and 2020. The occurrence of the hedged transactions was, due to contractual agreements, considered highly probable; and the transaction and derivatives used for hedging were designated in a cash flow hedge accounting relationship. The hedge was initially achieved through foreign currency forward contracts and, following the discontinuation of this hedging relationship, with foreign currency options. This was a transaction-related hedge. The change in the forward rate and the change in the time value component were recognized as hedging costs at a point in time. This reduced equity by €3 million in 2021, and by €8 million in 2020. Upon disposal of the pigments business as of June 30, 2021, €11 million was reclassified as a reduction in earnings and included in disposal losses from the global pigments business. There was no ineffectiveness at any time during the year.

BASF used currency options in 2021 to hedge the foreign currency risk resulting from the U.S. dollar-denominated sales price for the sale of the shares in Solenis. These were designated in a cash flow hedge accounting relationship. As this was a transaction-related hedge, the change in the time value component was recognized as hedging costs at a point in time. Accordingly, €10 million was initially recognized as a reduction in equity. Upon disposal of the shares in Solenis in November 2021, the amount recognized in equity was reclassified to profit or loss and reported under net income from shareholdings. There was no ineffectiveness at any time during the year.

Furthermore, BASF used foreign currency options in 2021 to hedge the Chinese renminbi denominated purchase price for 51% of the shares in BASF Shanshan Battery Materials Co., Ltd. The options used for hedging were designated in a cash flow hedge accounting relationship. This was a transaction-related hedge; accordingly, the change in the time value component was recognized as hedging costs at a point in time. For this purpose, €2 million was recognized as a reduction in equity. Upon closing of the transaction in August 2021, the amount recognized in equity as hedging costs was derecognized thereby increasing the purchase price. There was no ineffectiveness at any time during the year.

The effects of the hedging relationships on the balance sheet, the cash flow hedge reserve, hedged nominal value and ineffectiveness to be determined are presented in the following tables by fiscal year.

Cash flow hedge accounting effects in 2021

Million €

	Carrying amount of hedging instruments				Cash flow hedge reserve				Change in fair values for assessing ineffectiveness		Recognized ineffectiveness	
	Financial assets	Financial liabilities	Balance sheet item	Nominal value	Accumulated amounts for continuing hedging relationships	Hedging effects recognized in other comprehensive income	Amounts reclassified to profit or loss for realized hedging transactions	Income statement item for recognition of reclassification	Hedging instrument	Hedged transaction	Ineffectiveness amount	Income statement item
Foreign currency risks	1	–1	Other receivables and miscellaneous assets / other liabilities	508	0	83	–125	Other operating income	0	0	–	n/a
Combined interest/ foreign currency risks	179	–	Other receivables and miscellaneous assets	920	–4	89	–85	Other financial income	179	187	–	n/a
Commodity price risks	107	0	Other receivables and miscellaneous assets / assets of disposal groups / other liabilities	488	73	154	–[a]	n/a	100	100	–	n/a
Total	**287**	**–1**		**1,916**	**69**	**326**	**–210**		**279**	**287**	**–**	

a €59 million was derecognized from the cash flow hedge reserve against the cost of inventories and recognized in profit or loss upon consumption.

Cash flow hedge accounting effects in 2020

Million €

	Carrying amount of hedging instruments				Cash flow hedge reserve				Change in fair values for assessing ineffectiveness		Recognized ineffectiveness	
	Financial assets	Financial liabilities	Balance sheet item	Nominal value	Accumulated amounts for continuing hedging relationships	Hedging effects recognized in other comprehensive income	Amounts reclassified to profit or loss for realized hedging transactions	Income statement item for recognition of reclassification	Hedging instrument	Hedged transaction	Ineffectiveness amount	Income statement item
Foreign currency risks	35	–	Other receivables and miscellaneous assets	1,142	27	114	–77	Other operating income	27	27	–	n/a
Interest risks	–	–	Other liabilities	–	–	–3	4	Interest income	0	0	–	n/a
Combined interest/ foreign currency risks	90	–	Other receivables and miscellaneous assets	920	5	–48	94	Other financial income	90	102	–	n/a
Commodity price risks	7	0	Other receivables and miscellaneous assets / other liabilities	65	5	9	–[a]	n/a	5	5	–	n/a
Total	**132**	**0**		**2,127**	**37**	**72**	**21**		**122**	**134**	**–**	

a €6 million was derecognized from the cash flow hedge reserve against the cost of inventories and recognized in profit or loss upon consumption.

The occurrence of all forecasted transactions was considered to be highly probable at all times during fiscal years 2021 and 2020. Amounts accumulated in the cash flow hedge reserve for commodity price risks are derecognized against the carrying amount of acquired assets once the hedged transaction occurs. Thus, there is no immediate reclassification of the amounts recognized in the cash flow hedge reserve to profit or loss in these cases.

In connection with its catalyst production, BASF is exposed to commodity price risks associated with holding physical precious metal items. These production-related precious metal inventories are hedged with forward contracts in accordance with a defined hedging strategy. In 2021, a portion of these precious metal inventories was designated in a fair value hedge accounting relationship with forward contracts on the precious metals. Changes in the forward rate were considered costs of hedging, and €2 million was recognized in other comprehensive income and reclassified successively to profit or loss, being a time-period-related hedge. All hedging instruments expired in 2021. The hedged precious metals were sold. Cash flows in connection with the hedging instruments were recognized in profit or loss in 2021. All hedging relationships were fully effective.

27 Statement of cash flows and capital structure management

Statement of cash flows

Cash flows from operating activities contained the following payments:

Statement of cash flows
Million €

	2021	2020
Income taxes	–1,707	–595
of which income tax refunds	95	273
income tax payments	–1,802	–868
Interest payments	–318	–341
of which interest received	151	146
interest paid	–469	–487
Dividends received	711	244

In 2021, cash flows from investing activities included €600 million in payments made for acquisitions in connection with the purchase of BASF Shanshan Battery Materials Co., Ltd. (2020: €1,240 million for the acquisition of Solvay's polyamide business).

Payments received for divestitures in the amount of €1,030 million were mainly from the sale of the pigments business. That included project-related tax payments of €65 million and special contributions to Swiss pension plan assets of €43 million. Payments received from the disposal of the equity-accounted investment in Solenis (€1,066 million) are reported in cash flows from investing activities under payments received from the disposal of noncurrent assets and securities. Gains on divestitures in the amount of €589 million was reclassified from cash flows from operating activities to cash flows from investing activities via gains (–) / losses (+) from the disposal of noncurrent assets and securities.

In 2020, payments received for divestitures resulted in the amount of €2,520 million from the sale of the construction chemicals business. These included tax payments in the amount of €150 million that were directly associated with the transaction. Further tax payments were accounted for in the amount of €31 million in 2021.

For more information on acquisitions and divestitures, see Note 3 from page 207 onward

Payments made for property, plant and equipment and intangible assets amounted to €3,532 million, €403 million higher than in the previous year.

In 2020, BASF SE transferred securities in the amount of €401 million to BASF Pensionstreuhand e.V., Ludwigshafen am Rhein, Germany. This transfer was not cash effective and therefore had no effect on the statement of cash flows.

Cash and cash equivalents consist primarily of cash on hand and bank balances with maturities of less than three months.

The cash and cash equivalents presented in the statement of cash flows may deviate from the figures in the balance sheet if the relevant amounts were reclassified to assets of disposal groups. As of January 1, 2021, cash and cash equivalents in the amount of €4,335 million reported in the statement of cash flows consisted of the balance sheet value (€4,330 million) and the value reclassified to the pigments business disposal group (€5 million). No cash and cash equivalents were reclassified to the disposal groups as of December 31, 2021; their balance in the statement of cash flows is therefore identical to that in the balance sheet. As of January 1, 2020, cash and cash equivalents in the amount of €2,455 million reported in the statement of cash flows consisted of the balance sheet value (€2,427 million) and the values reclassified to the disposal groups for the construction chemicals business (€21 million) and the pigments business (€7 million).

As in the previous year, cash and cash equivalents were not subject to any utilization restrictions.

The reconciliation according to IAS 7 breaks down the changes in financial and similar liabilities and their hedging transactions into cash-effective and non-cash-effective changes. The cash-effective

Reconciliation according to IAS 7 for 2021

Million €

	Dec. 31, 2020[a]	Cash effective in cash flows from financing activities	Non-cash-effective changes: Acquisitions/ divestitures/ changes in the scope of consolidation	Currency effects	Additions from lease contracts	Other effects	Changes in fair value	Dec. 31, 2021[a]
Financial indebtedness	19,214	–2,575	97	411	–	37	–	17,184
Loan liabilities	559	–63	–53	6	–	–8	–	441
Lease liabilities	1,369	–551[b]	–17	52	622	–61[c]	–	1,414
Other financing-related liabilities	228	52	54	2	–	6	–	342
Financial and similar liabilities	**21,370**	**–3,137**	**80**	**471**	**622**	**–26**	**–**	**19,381**
Assets/liabilities from hedging transactions	–43	–8	–	–	–	–	56	5
Total	**21,327**	**–3,145**	**80**	**471**	**622**	**–26**	**56**	**19,386**

a Balances as of December 31, 2021 and 2020 also include contributions reclassified to the disposal groups and therefore deviate from balance sheet values.
b Lease payments totaled €437 million in 2021. The principal component in the amount of €401 million is presented in cash flows from financing activities. BASF reports interest payments in cash flows from operating activities; these items amounted to €36 million. Advance payments for land use rights at the new Verbund site in Zhanjiang, China, in the amount of €150 million are also included in cash flows from financing activities.
c Includes mainly disposals from lease contracts.

Reconciliation according to IAS 7 for 2020

Million €

	Dec. 31, 2019[a]	Cash effective in cash flows from financing activities	Non-cash-effective changes: Acquisitions/ divestitures/ changes in the scope of consolidation	Currency effects	Additions from lease contracts	Other effects	Changes in fair value	Dec. 31, 2020[a]
Financial indebtedness	18,392	1,615	–7	–789	–	3	–	19,214
Loan liabilities	526	45	–10	–3	–	1	–	559
Lease liabilities	1,478	–415[b]	–54	–85	519	–74[c]	–	1,369
Other financing-related liabilities	284	–36	–19	2	–	–3	–	228
Financial and similar liabilities	**20,680**	**1,209**	**–90**	**–875**	**519**	**–73**	**–**	**21,370**
Assets/liabilities from hedging transactions	–49	371	–	–	–	–	–365	–43
Total	**20,631**	**1,580**	**–90**	**–875**	**519**	**–73**	**–365**	**21,327**

a Balances as of December 31, 2020 and 2019 also include contributions reclassified to the disposal groups and therefore deviate from balance sheet values.
b Lease payments totaled €453 million in 2020. The principal component in the amount of €415 million is presented in cash flows from financing activities. BASF reports interest payments in cash flows from operating activities; these items amounted to €38 million.
c Includes mainly disposals from lease contracts.

changes presented on the left correspond to the figures in cash flows from financing activities.

Loan liabilities do not contain any interest components.

Other financing-related liabilities primarily comprise liabilities from accounts used for cash pooling with BASF companies not included in the Consolidated Financial Statements. They are reported in miscellaneous liabilities within the balance sheet item other liabilities that qualify as financial instruments.

Assets/liabilities from hedging transactions form part of the balance sheet items derivatives with positive and negative fair values respectively and include only those transactions which hedge risks arising from financial indebtedness and financing-related liabilities secured by micro hedges.

For more information on receivables and miscellaneous assets, see Note 18 from page 247 onward
For more information on liabilities, see Note 21 from page 251 onward
For more information on the statement of cash flows, see the Management's Report from page 65 onward

Capital structure management

The aim of capital structure management is to maintain the financial flexibility needed to further develop BASF's business portfolio and take advantage of strategic opportunities. The objectives of the company's financing policy are to ensure solvency, limit financial risks and optimize the cost of capital.

Capital structure management focuses on meeting the requirements needed to ensure unrestricted access to the capital market and a solid A rating. The capital structure is managed using selected financial ratios, such as dynamic debt ratios, as part of the company's financial planning.

The equity of the BASF Group as reported in the balance sheet amounted to €42,081 million as of December 31, 2021 (December 31, 2020: €34,398 million); the equity ratio was 48.2% on December 31, 2021 (December 31, 2020: 42.8%).

BASF prefers to access external financing on the capital markets. A commercial paper program is used for short-term financing, while corporate bonds are used for financing in the medium and long term. These are issued in euros and other currencies with different maturities. The goal is to create a balanced maturity profile, achieve a diverse range of investors and optimize BASF's debt capital financing conditions. Since 2020, BASF has employed green corporate bonds to finance the development of sustainable products and projects with a clear environmental benefit.

BASF currently has the following ratings, which were most recently confirmed by Fitch on June 11, 2021, and by Moody's on January 5, 2022. Standard & Poor's adjusted its outlook for the A rating from "negative" to "stable" on July 16, 2021, and confirmed the rating on January 6, 2022.

Ratings as of December 31, 2021

	Noncurrent financial indebtedness	Current financial indebtedness	Outlook
Fitch	A	F1	stable
Moody's	A3	P-2	stable
Standard & Poor's	A	A-1	stable

Ratings as of December 31, 2020

	Noncurrent financial indebtedness	Current financial indebtedness	Outlook
Fitch	A	F1	stable
Moody's	A3	P-2	stable
Standard & Poor's	A	A-1	negative

BASF strives to maintain a solid A rating, which ensures unrestricted access to financial and capital markets.

For more information on BASF's financing policy, see the Management's Report from page 64 onward

28 Personnel expenses and employees

Personnel expenses

The BASF Group's expenses for wages and salaries, social security contributions and assistance, as well as for pensions in 2021 totaled €11,097 million. In 2020, these expenses amounted to €10,576 million and included personnel expenses from the disposal group for the construction chemicals business in the amount of €291 million until the date of the divestiture. The rise in personnel expenses in 2021 was mainly due to higher bonus provisions. Particularly the lower average number of employees had an offsetting impact.

Personnel expenses

Million €

	2021	2020
Wages and salaries	8,847	8,416
Social security contributions and assistance expenses	1,519	1,424
Pension expenses	732	736
Personnel expenses	**11,097**	**10,576**

Number of employees

As of December 31, 2021, the number of employees increased to 111,047 employees compared with 110,302 employees as of December 31, 2020. The rise was primarily due to staff increases in Asia Pacific, especially in connection with the formation of BASF Shanshan Battery Materials Co., Ltd., as well as for the new Verbund site in Zhanjiang, China. The divestiture of the pigments business, which comprised around 2,500 employees, had an offsetting impact.

As of December 31, 2021, a total of 1,175 employees (2020: 1,137 employees) worked at joint operations.

The development of the number of employees was distributed over the regions as follows:

Number of employees as of December 31

	2021	2020
Europe	67,532	68,849
of which Germany	51,026	51,961
North America	16,753	16,948
Asia Pacific	19,976	17,753
South America, Africa, Middle East	6,786	6,752
BASF Group	**111,047**	**110,302**
of which apprentices and trainees	3,028	3,120
temporary staff	2,329	2,128

The average number of employees was distributed over the regions as follows:

Average number of employees

	2021	2020
Europe	67,788	71,329
of which Germany	51,144	53,080
North America	16,765	18,599
Asia Pacific	18,464	18,719
South America, Africa, Middle East	6,799	7,326
BASF Group	**109,815**	**115,973**
of which apprentices and trainees	2,750	2,821
temporary staff	2,400	2,518

The average number of employees decreased to 109,815 employees in 2021 (2020: 115,973 employees). This decline was primarily due to the divestiture of the construction chemicals business in the previous year and to the divestiture of the pigments business in the year under review. Employees from joint operations are included in the average number of employees relative to BASF's share in the company. On average, these had a total of 1,143 employees (2020: 1,055 employees).

For more information on acquisitions and divestitures, see Note 3 from page 207 onward

29 Share price-based compensation programs and BASF incentive share program

Share price-based compensation programs

In 2021, the BASF Group continued offering its share price-based compensation program (the long-term incentive (LTI) program), known as Strive!, which was launched in 2020. The share price-based compensation program known as "BOP" (BASF Option Program), which had existed since 1999, was offered for the last time in 2020. All option rights granted during the BOP program years remain valid until the end of their respective exercise periods.

Generally, members of the Board of Executive Directors and all senior executives are entitled to participate in the LTI programs.

Strive!

Strive! is based on a performance share plan and takes into account the achievement of strategic goals and the development of the BASF share and dividend (total shareholder return) over a period of four years.

Participation in Strive! is voluntary for senior executives and is linked to a share ownership obligation. Strive! offers rolling eligibility, without a deadline for participation. Approximately 700 people were eligible to participate in Strive! in 2021. About 90% of eligible senior executives and the Members of the Board of Executive Directors participated. Unlike for senior executives, participation is not voluntary for the members of the Board of Executive Directors and is outlined in their service contracts. The same plan conditions generally apply to members of the Board of Executive Directors.

A Strive! plan includes a four-year performance period with a fixed disbursement date. A target amount is determined at the beginning of each new Strive! plan for every participant. This target amount is converted into a preliminary number of virtual performance share units (PSUs) by dividing it by the average BASF share price in the fourth quarter of the previous year. The number of PSUs that are

ultimately paid out at the end of the performance periods for Strive!2021 and Strive!2020 depends on the achievement of the three strategic targets: growth (volume growth compared with global chemical production), profitability (increase in EBITDA before special items) and sustainability (CO_2 emissions).

Achievement of each strategic target is calculated for each year of the four-year performance period. Upon conclusion of the performance period, the average degree of target achievement for each strategic goal is equal to the arithmetic mean of the degrees of target achievement for the four years. The total target achievement for the respective Strive! plan is determined by adding the target achievement degree for the three strategic targets after having multiplied each by the corresponding weighting factor. To calculate the final number of PSUs, this weighted target achievement is multiplied by the preliminary number of PSUs. The payment amount upon conclusion of the four-year performance period is calculated by multiplying the final number of PSUs by the average BASF share price for the fourth quarter of the last year of the performance period, plus the accumulated dividend payments in the four fiscal years. The payment occurs in May of the following year and is capped at 200% of the target amount. The payment amount therefore not only reflects achievement of the strategic targets, but performance of BASF's dividend and share price as well (total shareholder return).

A personal investment in BASF shares is the prerequisite for participation in Strive!. Participants are required to own BASF shares amounting to a predetermined percentage of their base salary for the duration of the performance period. A set-up phase applies to first-time participants. During this period, they are required to hold a percentage of shares as their predetermined personal investment. The set-up phase for the 2021 Strive! program ends on December 31, 2024. The 2021 Strive! program has the same fundamental structure as the 2020 Strive! program.

Fair value of PSUs and parameters used as of December 31, 2021

		Strive! program of the year	
		2021	2020
Number of PSUs granted		892,146	724,405
Number of PSUs vested		223,037	362,203
Fair value including fluctuation / PSU	€	78.59	82.06
Fair value excluding fluctuation / PSU	€	88.83	89.04
Weighted target achievement	%	158.3	137.5
Base price	€	57.15	67.85

In 2021, the number of PSUs granted under the 2021 Strive! program amounted to 892,146 and under the 2020 Strive! program to 724,405. PSUs vested by the deadline totaling 223,037 for the 2021 Strive! program and 362,203 for the 2020 Strive! program were measured at fair value. Fair value is determined using the BASF share price of €61.78 on the balance sheet date plus expected dividend payments during the term of the program. The weighted target achievement degrees of 158.3% for the 2021 Strive! program and 137.5% for the Strive! program 2020 are also taken into account. A fluctuation rate of 4% is assumed in the fair value calculation for senior executives.

The LTI provision for Strive! rose from €11 million as of December 31, 2020, to €48 million as of December 31, 2021, due to the increased number of vested PSUs and higher fair values. The expense from the addition of provisions totaled €37 million in 2021 and €11 million in 2020. No provisions were attributable to the disposal groups as of December 31, 2021, or December 31, 2020.

BASF Option Program (BOP)

The "BOP" LTI program last offered in 2020, grants virtual option rights. When exercised, the option rights are settled in cash.

Participation in BOP was voluntary. In order to take part in the program, a participant had to make a personal investment: Participants were required to hold BASF shares representing between 10% and 30% of their respective variable compensation for a two-year period from the granting of the option (holding period). The number of shares to be held was determined by the amount of variable compensation and the volume-weighted average share price on the first trading day after the Annual Shareholders' Meeting.

Participants received four option rights per invested share. Each option consists of two parts, right A and right B, which may be exercised if defined thresholds have been met: The threshold of right A is met if the price of the BASF share has increased by more than 30% in comparison with the base price on the option grant date (absolute threshold). The value of right A is the difference between the market price of BASF shares on the exercise date and the base price; it is limited to 100% of the base price. Right B may be exercised (relative threshold) if the cumulative percentage performance of BASF shares exceeds the percentage performance of the MSCI World Chemicals Index^{SM} (MSCI Chemicals). The value of right B is the base price of the option multiplied by twice the percentage by which the BASF share outperforms the MSCI Chemicals Index on the exercise date. It is limited to the closing price on the date of exercise less the calculated nominal value of the BASF share. Right B may only be exercised if the price of the BASF share equals at least the base price. When a two-year vesting period is over, options granted can be exercised until the end of the respective exercise period. During the exercise period, there are certain times (closed periods) during which the options may not be exercised. Each option can only be exercised in full, and one of the thresholds must be exceeded. If the other threshold is not exceeded, the other option right lapses. A participant's maximum gain from

exercising an option is limited to five times the original individual investment. Option rights are nontransferable and are forfeited if the option holders no longer work for the BASF Group or have sold part of their individual investment before the expiry of the two-year vesting period. They remain valid in the case of retirement. For the members of the Board of Executive Directors, the long-term orientation of the program was significantly strengthened compared with the conditions applying to the other participants. Members of the Board of Executive Directors were required to participate in the BOP program with at least 10% of their actual annual variable compensation. In view of this binding personal investment (in the form of BASF shares), an extended holding period of four years applies. Members of the Board of Executive Directors may only exercise their option rights four years after they have been granted at the earliest (vesting period).

The models used in the valuation of the option plans are based on the arbitrage-free valuation model according to Black-Scholes. The fair values of the options were determined using the binomial model. Volatility was determined on the basis of the monthly closing prices over a historical period corresponding to the remaining term of the options.

As a result of a resolution by the Board of Executive Directors in 2002 to settle option rights in cash, all outstanding option rights under the 2014 to 2020 programs were valued at fair value as of December 31, 2021. A proportionate provision is recognized for programs in the vesting period.

The LTI provision for BOP decreased from €115 million as of December 31, 2020, to €110 million as of December 31, 2021, due to lower fair values and a lower number of outstanding option rights. No utilizations were recognized in 2020, whereas €3 million was utilized in 2021 due to senior executives leaving the company. Income from the reduction in provisions totaled €2 million in 2021. The expense from the addition of provisions totaled €25 million in 2020. €1 million was attributable to the disposal group for the pigments business as of December 31, 2020.

The exercisable options had no intrinsic value as of December 31, 2021, or December 31, 2020.

BASF “Plus” Incentive Share Program

The “plus” incentive share program was introduced in 1999 and is currently available to employees in Germany, other European countries and Mexico. Simultaneous participation in both the “plus” program and an LTI program is not permitted.

Employees who participate in BASF’s “plus” incentive share program and acquire shares in BASF as a personal investment from their variable compensation. For every 10 BASF shares purchased in the program, a participant receives one BASF share at no cost after one, three, five, seven and 10 years of holding these shares. As a rule, the first and second block of 10 shares entitles the participant to receive one BASF share at no extra cost in each of the next 10 years.

The right to receive free BASF shares lapses if a participant sells the individual investment in BASF shares, if the participant stops working for a Group company or one year after retirement. The number of free shares to be granted has developed as follows:

Number of free shares to be granted

Shares

	2021	2020
As of January 1	3,251,576	3,025,462
Newly acquired entitlements	498,765	942,685
Bonus shares issued	–547,960	–490,050
Lapsed entitlements	–123,258	–226,521
As of December 31	3,079,123	3,251,576

The free shares to be provided by the company are measured at the fair value on the grant date. Fair value is determined on the basis of the BASF share price, taking into account the present value of dividends, which are not paid during the term of the program. The weighted-average fair value on the grant date amounted to €67.71 for the 2021 program, and €45.30 for the 2020 program.

The fair value of the free shares to be granted is recognized as an expense with a corresponding increase in capital reserves over the term of the program.

Personnel expenses for BASF’s “plus” incentive share program totaled €27 million in 2021 and €28 million in 2020.

30 Compensation of the Board of Executive Directors and Supervisory Board

Compensation of the Board of Executive Directors and Supervisory Board
Million €

	2021	2020
Non-performance-related and performance-related cash compensation of the Board of Executive Directors	31.1	9.7
Fair value of options and performance share units allocated to the Board of Executive Directors in the fiscal year as of allocation date[a]	12.3	12.1
Total compensation of the Board of Executive Directors	**43.4**	**21.8**
Service costs for members of the Board of Executive Directors	3.6	3.7
Compensation of the Supervisory Board	3.3	2.9
Total compensation of former members of the Board of Executive Directors and their surviving dependents	14.3	12.5
Pension provisions for former members of the Board of Executive Directors and their surviving dependents	196.9	209.0
Guarantees assumed for members of the Board of Executive Directors and the Supervisory Board	–	–

a Members of the Board of Executive Directors were allocated option rights under the long-term incentive (LTI) program for the last time in 2020.

The STI performance bonus is based on the performance of the Board of Executive Directors as a whole and the return on capital employed (ROCE) of the BASF Group. Subject to certain conditions, ROCE is adjusted for special items from acquisitions and divestitures. The conditions for a ROCE adjustment were not met in 2021.

In the final allocation of options under the BOP LTI program in 2020, 166,272 option rights were allocated to the Board of Executive Directors.

Market valuation of the option rights of active and former members of the Board of Executive Directors resulted in income totaling €0.8 million in 2021. In 2020, option rights led to an expense in the amount of €1.1 million.

In 2021, members of the Board of Executive Directors were allocated 187,618 performance share units (PSUs) under the LTI performance share program (2020: 151,247 PSUs). Market valuation of the PSUs of members of the Board of Executive Directors resulted in an expense totaling €9.6 million in 2021 (2020: €2.9 million).

The Compensation Report is available at basf.com/compensationreport

For more information on the members of the Supervisory Board and Board of Executive Directors, including their memberships on other boards, see page 174 onward

31 Related party transactions

Related parties are legal or natural entities that can exert influence on the BASF Group or over which the BASF Group exercises control or joint control, or a significant influence. These primarily include nonconsolidated subsidiaries, joint ventures and associated companies.

The following tables show the volume of business with related parties that are included in the Consolidated Financial Statements at amortized cost or accounted for using the equity method. The values include sales, receivables, other receivables, liabilities and other liabilities with respect to the disposal groups and/or discontinued operations.

Sales and trade accounts receivable from and trade accounts payable to related parties mainly included business with own products and merchandise, agency and licensing businesses, and other operating businesses.

Other receivables and liabilities primarily arose from financing activities, from accounts used for cash pooling, outstanding dividend payments, profit and loss transfer agreements, and other finance-related and operating activities and transactions.

The increase in other receivables from nonconsolidated subsidiaries as well as the decrease from associated companies resulted primarily from other finance-related receivables.

The decline in other liabilities to associated companies resulted from other finance-related liabilities and contract liabilities.

Sales to related parties
Million €

	Services rendered		Services received	
	December 31, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Nonconsolidated subsidiaries	872	691	340	295
Joint ventures	1,386	921	1,703	935
Associated companies	459	432	1,294	586

Trade accounts receivable from / trade accounts payable to related parties
Million €

	Accounts receivable, trade		Accounts payable, trade	
	December 31, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Nonconsolidated subsidiaries	266	213	136	98
Joint ventures	210	149	189	136
Associated companies	34	64	221	43

Other receivables from / liabilities to related parties
Million €

	Other receivables		Other liabilities	
	December 31, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Nonconsolidated subsidiaries	237	192	214	198
Joint ventures	19	47	35	62
Associated companies	4	55	106	240

Balances outstanding to related parties were generally not hedged and were settled in cash.

The balance of valuation allowances on other receivables from nonconsolidated subsidiaries declined from €105 million as of December 31, 2020, to €100 million as of December 31, 2021.

The balance of valuation allowances on trade accounts receivable from nonconsolidated subsidiaries was, as in the previous year, €3 million as of December 31, 2021.

BASF had obligations from guarantees and other financial obligations in favor of nonconsolidated subsidiaries in the amount of €21 million as of December 31, 2021 (December 31, 2020: €8 million), and in favor of associated companies in the amount of €389 million as of December 31, 2021 (December 31, 2020: €28 million). Furthermore, there were obligations from guarantees in the amount of €341 million favoring a joint venture as of December 31, 2020.

Obligations arising from purchase contracts with joint ventures amounted to €4 million as of December 31, 2021, and €6 million as of December 31, 2020.

Annual minimum rental payments for an office building including a parking area payable by BASF SE to BASF Pensionskasse VVaG for the nonterminable basic rental period until 2029 amounted to €7 million.

BASF SE had other finance-related receivables from BASF Pensionskasse VVaG in the amount of €83 million as of December 31, 2021, and €3 million as of December 31, 2020.

There were no reportable related party transactions with members of the Board of Executive Directors or the Supervisory Board and their related parties in 2021.

For more information on subsidiaries, joint ventures and associated companies, see the 2021 BASF Group list of shares held on page 213

For more information about defined benefit plans, the division of risk between Group companies, see Provisions for pensions and similar obligations from page 254 onward

For more information on the members of the Board of Executive Directors and the Supervisory Board, see Management and Supervisory Boards from page 174 onward

The Compensation Report is available at basf.com/compensationreport

32 Services provided by the external auditor

BASF Group companies used the following services from KPMG:

Services provided by the external auditor
Million €

	2021	2020
Annual audit	19.2	19.6
of which domestic	6.8	7.1
Audit-related services	0.7	1.0
of which domestic	0.5	0.8
Tax consultation services	0.2	0.2
of which domestic	0	0
Other services	–	–
of which domestic	–	–
Total	**20.1**	**20.8**

The services provided by the external auditor mainly include services for the annual audit and, to a lesser extent, confirmation services and tax consultation services.

The line item annual audit relates to expenses for the audit of the Consolidated Financial Statements of the BASF Group, the legally required financial statements of BASF SE and of the subsidiaries and joint operations included in the Consolidated Financial Statements as well as the review of subgroups. Fees for audit-related services primarily include audits in connection with regulatory demands as well as other confirmation services. Domestic tax consultation services related primarily to tax declaration adjustments for the Chemetall companies until the 2015 tax period.

33 Declaration of Conformity with the German Corporate Governance Code

Declaration pursuant to section 161 of the German Stock Corporation Act (AktG)

The annual Declaration of Conformity with the German Corporate Governance Code according to section 161 AktG was submitted by the Board of Executive Directors and the Supervisory Board of BASF SE in December 2021 and is published online.

For more information, see basf.com/en/corporategovernance

34 Non-adjusting events after the balance sheet date

On January 4, 2022, the Board of Executive Directors approved a share buyback program with a maximum volume of €3 billion to be implemented between January 2022 and December 2023. The share buyback program is based on the authorization from May 12, 2017. A proposal to renew the authorization to buy back own shares is planned for the 2022 Annual Shareholders' Meeting, which would authorize the continuation of the share buyback program already underway.

For more information on the share buyback program, see Note 19 from page 249 onward

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Ten-Year Summary

Million €

	2012[a]	2013[b]	2014	2015	2016	2017	2018	2019	2020	2021
Statement of income										
Sales	72,129	73,973	74,326	70,449	57,550	61,223[c]	60,220[d]	59,316	59,149	78,598
Income from operations (EBIT)	6,742	7,160	7,626	6,248	6,275	7,587[c]	5,974[d]	4,201	–191	7,677
Income before income taxes	5,977	6,600	7,203	5,548	5,395	6,882[c]	5,233[d]	3,302	–1.562	7,448
Income after taxes from continuing operations	–	–	–	–	–	5,592	4,116[d]	2,546	–1.471	6,018
Income after taxes from discontinued operations	–	–	–	–	–	760	863[d]	5,945	396	–36
Income after taxes	5,067	5,113	5,492	4,301	4,255	6,352	4,979	8,491	–1.075	5,982
Net income	4,819	4,792	5,155	3,987	4,056	6,078	4,707	8,421	–1.060	5,523
Income from operations before depreciation and amortization (EBITDA)	10,009	10,432	11,043	10,649	10,526	10,765[c]	8,970[d]	8,185	6,494	11,355
EBIT before special items	6,647	7,077	7,357	6,739	6,309	7,645[c]	6,281[d]	4,643	3,560	7,768
Capital expenditures, depreciation and amortization										
Additions to property, plant and equipment and intangible assets	5,263	7,726	7,285	6,013	7,258	4,364	10,735	4,097	4,869	4,881
of which property, plant and equipment	4,084	6,428	6,369	5,742	4,377	4,028	5,040	3,842	4,075	4,410
Depreciation and amortization of property, plant and equipment and intangible assets	3,267	3,272	3,417	4,401	4,251	4,202	3,750[d]	4,146	6,685	3,678
of which property, plant and equipment	2,594	2,631	2,770	3,600	3,691	3,586	3,155[d]	3,408	5,189	3,064
Employees at year-end	**110,782**	**112,206**	**113,292**	**112,435**	**113,830**	**115,490**	**122,404**	**117,628**	**110,302**	**111,047**
Personnel expenses	**8,963**	**9,285**	**9,224**	**9,982**	**10,165**	**10,610**	**10,659**	**10,924**	**10,576**	**11,097**
Research and development expenses	**1,732**	**1,849**	**1,884**	**1,953**	**1,863**	**1,843[c]**	**1,994[d]**	**2,158**	**2,086**	**2,216**

a We have applied International Reporting Standards IFRS 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated; no restatement was made for 2011 and earlier.
b Figures for 2013 have been adjusted to reflect the dissolution of the natural gas trading business disposal group.
c Figures for 2017 were restated with the presentation of the oil and gas activities as discontinued operations. For more information, see Note 1.4 to the Consolidated Financial Statements from page 203 onward
d Figures for 2018 were restated with the presentation of the construction chemicals activities as discontinued operations. For more information, see Note 1.4 to the Consolidated Financial Statements from page 203 onward

Million €

		2012[a]	2013[b]	2014	2015	2016	2017	2018	2019	2020	2021
Balance sheet (IFRS)											
Total assets		62,726	64,204	71,359	70,836	76,496	78,768	86,556	86,950	80,292	87,383
Noncurrent assets		35,259	38,253	43,939	46,270	50,550	47,623	43,335	55,960	50,424	52,332
of which intangible assets		12,193	12,324	12,967	12,537	15,162	13,594	16,554	14,525	13,145	13,499
of which property, plant and equipment		16,610	19,229	23,496	25,260	26,413	25,258	20,780	21,792	19,647	21,553
Current assets		27,467	25,951	27,420	24,566	25,946	31,145	43,221	30,990	29,868	35,051
of which inventories		9,581	10,160	11,266	9,693	10,005	10,303	12,166	11,223	10,010	13,868
of which accounts receivable, trade		9,506	10,233	10,385	9,516	10,952	10,801	10,665	9,093	9,466	11,942
of which cash and cash equivalents		1,647	1,827	1,718	2,241	1,375	6,495	2,300	2,427	4,330	2,624
Equity		25,621	27,673	28,195	31,545	32,568	34,756	36,109	42,350	34,398	42,081
Total liabilities		37,105	36,531	43,164	39,291	43,928	44,012	50,447	44,600	45,894	45,301
of which financial indebtedness		12,798	14,407	15,384	15,197	16,312	18,032	20,841	18,377	19,214	17,184
Key data											
Earnings per share	€	5.25	5.22	5.61	4.34	4.42	6.62[c]	5.12	9.17	–1.15	6.01
Adjusted earnings per share	€	5.64	5.31	5.44	5.00	4.83	6.44[c]	5.87	4.00	3.21	6.76
Cash flows from operating activities		6,602	8,100	6,958	9,446	7,717	8,785	7,939	7,474	5,413	7,245
EBITDA margin	%	13.9	14.1	14.9	15.1	18.3	17.6[c]	14.9[d]	13.8	11.0	14.4
Return on assets	%	11.0	11.5	11.7	8.7	8.2	9.5[c]	7.1	4.5	–1.2	9.5
Return on equity after tax	%	19.9	19.2	19.7	14.4	13.3	18.9	14.1	21.6	–2.8	15.6
Return on capital employed (ROCE)	%	–	–	–	–	–	15.4	12.0[d]	7.7	1.7	13.5
Appropriation of profits											
Net income of BASF SE[e]		2,880	2,826	5,853	2,158	2,808	3,130	2,982	3,899	3,946	3,928
Dividend		2,388	2,480	2,572	2,664	2,755	2,847	2,939	3,031	3,031	3,123[f]
Dividend per share	€	2.60	2.70	2.80	2.90	3.00	3.10	3.20	3.30	3.30	3.40
Number of shares at year-end	**million**	**918.5**	**918.5**	**918.5**	**918.5**	**918.5**	**918.5**	**918.5**	**918.5**	**918.5**	**918.5**

a We have applied International Reporting Standards IFRS 10 and 11 as well as International Accounting Standard 19 (revised) since January 1, 2013. Figures for 2012 have been restated; no restatement was made for 2011 and earlier.
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d Figures for 2018 were restated with the presentation of the construction chemicals activities as discontinued operations. For more information, see Note 1.4 to the Consolidated Financial Statements from page 203 onward
e Calculated in accordance with German GAAP
f Based on the number of outstanding shares as of December 31, 2021 (918,478,694)

Glossary and Trademarks

C

CO_2 equivalents

CO_2 equivalents are units for measuring the impact of greenhouse gas emissions on the greenhouse effect. A factor known as the global warming potential (GWP) shows the impact of the individual gases compared with CO_2 as the reference value.

E

Eco-Efficiency Analysis

The Eco-Efficiency Analysis is a method developed by BASF for assessing the economic and environmental aspects of products and processes. The aim is to compare products with regard to profitability and environmental compatibility.

F

Formulation

Formulation describes the combination of one or more active substances with excipients like emulsifiers, stabilizers and other inactive components in order to improve the applicability and effectiveness of various products, such as cosmetics, pharmaceuticals, agricultural chemicals, paints and coatings.

G

Genome editing

Genome editing refers to a series of new molecular biological methods to make specific changes in the genome. Naturally occurring processes are used to make small changes to an organism's genes to modify a specific characteristic. Such techniques have great potential for innovative solutions in healthcare, agriculture and industrial applications, for example.

P

Peak sales potential

The peak sales potential of the Agricultural Solutions pipeline describes the total peak sales forecast for individual products in the research and development pipeline. Peak sales are the highest sales value to be expected from one year. The pipeline comprises innovative products that have been on the market since 2021 or will be launched on the market by 2031.

S

SEEbalance®

SEEbalance® is the Socio-Eco-Efficiency analysis developed by BASF. It can be used to evaluate and compare the environmental impact, costs and social aspects of products and manufacturing processes. SEEbalance® makes sustainable development measurable and manageable for companies by combining the three dimensions of sustainability – economy, environment and society – in an integrated product assessment tool.

Steam cracker

A steam cracker is a plant in which steam is used to "crack" naphtha (petroleum) or natural gas. The resulting petrochemicals are the raw materials used to produce most of BASF's products.

T

Traits

Traits are commercial plant characteristics, such as an inherent resistance to certain herbicides or an inherent defense against certain insects.

V

Value chain

A value chain describes the successive steps in a production process: from raw materials through various intermediate steps, such as transportation and production, to the finished product.

Verbund

In the BASF Verbund, plants are intelligently connected. In this system, chemical processes consume less energy, produce higher product yields and conserve resources. The by-products of one plant serve as feedstock elsewhere, creating efficient value chains – from basic chemicals to high value-added solutions such as coatings or crop protection products. Our Verbund concept – realized in production, technologies, the market and digitalization – enables innovative solutions for a sustainable future.

Trademarks[a]

Net Promoter System®
Registered trademark of Bain & Company, Inc.

Responsible Care®
Registered trademark of the European Chemical Industry Council

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a Trademarks are not registered/used in all countries.

Quarterly Statement Q1 2022 / Annual Shareholders' Meeting 2022

April 29, 2022

Half-Year Financial Report 2022

July 27, 2022

Quarterly Statement Q3 2022

October 26, 2022

BASF Report 2022

February 24, 2023

Quarterly Statement Q1 2023 / Annual Shareholders' Meeting 2023

April 27, 2023

Further information

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