



BASF Report 2020

Economic, environmental and
social performance

■ - BASF
We create chemistry

BASF Group 2020

At a glance

Key data

		2020	2019	+/-
Sales	million €	59,149	59,316	-0.3%
EBITDA before special items ^a	million €	7,435	8,324	-10.7%
EBITDA ^a	million €	6,494	8,185	-20.7%
EBIT before special items ^a	million €	3,560	4,643	-23.3%
EBIT ^a	million €	-191	4,201	.
Net income	million €	-1,060	8,421	.
ROCE	%	1.7	7.7	-
Earnings per share	€	-1.15	9.17	.
Total assets	million €	80,292	86,950	-7.7%
Investments including acquisitions ^b	million €	4,869	4,097	18.8%

		2020	2019	+/-
Employees at year-end		110,302	117,628	-6.2%
Personnel expenses	million €	10,576	10,924	-3.2%
Research and development expenses	million €	2,086	2,158	-3.3%
Greenhouse gas emissions ^c	million metric tons of CO ₂ equivalents	20.8	20.1	3.5%
Energy efficiency in production processes	kilograms of sales product/MWh	540	598	-9.7%
Accelerator sales	million €	16,740	15,017	11.5%
Number of on-site sustainability audits of raw material suppliers		50	81	-38.3%

^a Restated figures 2019; for more information, see the Notes to the Consolidated Financial Statements from page 232 onward

^b Additions to property, plant and equipment and intangible assets

^c Excluding sale of energy to third parties

Segment data



Chemicals

Million €

Sales	2020	8,071
	2019	9,532
EBIT before special items	2020	445
	2019	791

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Materials

Million €

Sales	2020	10,736
	2019	11,466
EBIT before special items	2020	835
	2019	1,003

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Industrial Solutions

Million €

Sales	2020	7,644
	2019	8,389
EBIT before special items	2020	822
	2019	820

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Surface Technologies

Million €

Sales	2020	16,659
	2019	13,142
EBIT before special items	2020	484
	2019	722

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Nutrition & Care

Million €

Sales	2020	6,019
	2019	6,075
EBIT before special items	2020	773
	2019	793

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Agricultural Solutions

Million €

Sales	2020	7,660
	2019	7,814
EBIT before special items	2020	970
	2019	1,095

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Welcome to BASF

Our integrated corporate report combines financial and sustainability reporting to inform shareholders, employees and the interested public about the 2020 business year.

On the cover:

The new acetylene plant at the Verbund site in Ludwigshafen, Germany, was gradually started up over a period of several months and has been in operation since 2020. It has an annual production capacity of 90,000 metric tons of acetylene. Around 20 plants in the BASF Production Verbund use acetylene as a versatile chemical component.

[For more information on the acetylene plant, see \[basf.com/acetylene\]\(https://www.basf.com/acetylene\)](https://www.basf.com/acetylene)

This page:

BASF presented a new, highly efficient process for chemically recycling battery materials at its Research Press Conference in December 2020. This recovers the lithium contained in batteries in high purity and with high yields. The process also reduces waste and greenhouse gas emissions compared with existing methods.

[For more information on battery recycling, see page 37](#)

The people pictured in this report complied with the local coronavirus regulations in force at the time the photos were taken.



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on each colored chapter divider

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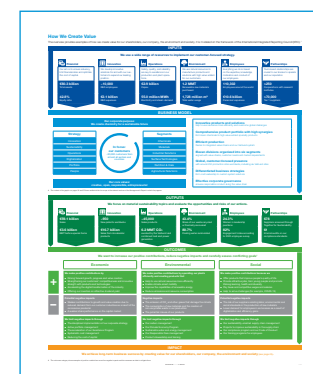
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How we create value – an overview
of BASF's business model based on
the framework developed by the
International Integrated Reporting
Council (IIRC)

[For more information, see pages 24 and 25](#)

「About This Report」

Integrated reporting

This integrated report documents BASF's economic, environmental and social performance in 2020. We show how sustainability contributes to BASF's long-term success and how we as a company create value for our customers, employees, shareholders, business partners, neighbors and the public.

The BASF Report online

HTML version with additional features: basf.com/report

PDF version for download: basf.com/basf_report_2020.pdf

Symbols

Explanations of the symbols used can be found on page 17.

Content and structure

- **Integrated BASF Report serves as U.N. Global Compact progress report**
- **Sustainability reporting in accordance with Global Reporting Initiative (GRI) standards**
- **Financial reporting according to International Financial Reporting Standards (IFRS), the German Commercial Code and German Accounting Standards (GAS)**

The BASF Report combines the major financial and sustainability-related information necessary to comprehensively evaluate our performance. We select the report's topics based on the following reporting principles: materiality, sustainability context, completeness, balance and stakeholder inclusion. In addition to the integrated 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 GRI guidelines and standards since 2003. We have applied the "Comprehensive" option since the BASF Report 2017.

We have been active in the International Integrated Reporting Council (IIRC) since 2014 in order to discuss our experiences of integrated reporting with other stakeholders and at the same time, receive inspiration for enhancing our reporting. This report addresses elements of the IIRC framework by, for example, providing an illustrative overview of how we create value or demonstrating the relationships between financial and sustainability-related performance in the sections on the segments. The information in the BASF Report 2020 also serves as a progress report on BASF's implementation of the 10 principles of the United Nations' Global Compact and takes into consideration the Blueprint for Corporate Sustainability Leadership of the Global Compact LEAD platform.

The detailed 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, as well as 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 can also be found there in the form of an assurance statement issued by KPMG AG Wirtschaftsprüfungsgesellschaft. We also publish additional information on sustainability in accordance with the industry-specific requirements (Chemicals Standard) of the Sustainability Accounting Standards Board (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, 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 selection of sustainability topics, see page 42 onward and basf.com/materiality

🔗 For a visualization of BASF's business model based on the IIRC framework, see *How We Create Value* on pages 24 and 25 and basf.com/how-we-create-value

🔗 For more information on our control and risk management system, see page 158 onward

🔗 The 2020 BASF Online Report can be found at basf.com/report

🔗 For more information on the Global Reporting Initiative, see globalreporting.org

🔗 For more information on the Global Compact, see globalcompact.org and basf.com/en/global-compact

🔗 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

- **Relevant information included up to February 22, 2021**
- **Report published each year in English and German**

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. The reporting period is the 2020 business year. Relevant information is included up to the editorial deadline of February 22, 2021. The report is published each year in English and German. It is prepared in German and the German version is authoritative.

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, 2020.

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 "Environmental Protection, Health and Safety," we report all data including information on the emissions and waste 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, further data on social responsibility and transportation safety refers to BASF SE and its consolidated subsidiaries.

The disclosures and indicators in the Management's Report on sustainability in 2020 no longer include data on the divested construction chemicals business. Occupational and process safety incidents in the construction chemicals business are reported until September 30, 2020. The integrated polyamide business acquired from Solvay as of January 31, 2020, is included pro rata in the figures for employees, energy consumption, greenhouse gas emissions (Scope 1 and 2) and occupational and process safety (LTI and PSI rate). Sales of products from the business acquired from Solvay have already been integrated in the portfolio to be evaluated under the Sustainable Solution Steering method. They will be classified from 2021. All other sustainability indicators for 2020 do not yet include the acquired polyamide business.

[For more information on companies accounted for in the Consolidated Financial Statements, see the Notes from page 233 onward](#)

[The list of shares held can be found at basf.com/en/corporategovernance](https://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 them free of qualification. The audit of the Consolidated Financial Statements is based on the likewise audited financial statements of the BASF Group companies.

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 CO₂-neutral growth. Both steering-relevant indicators and their forecasts are part of the Management's Report and are thus covered by the annual audit. The links and additional content provided on the internet sites referred to in this report 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 214 onward](#)

[An assurance statement on the sustainability information in the BASF Report 2020 can be found at basf.com/sustainability_information](https://basf.com/sustainability_information)

[An assurance statement of the NFS can be found at basf.com/nfs-audit-2020](https://basf.com/nfs-audit-2020)

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 158 to 166. 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 Share- holders

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Dear shareholder,

The coronavirus pandemic was the defining event of the year 2020 and caused the sharpest decline in global GDP in the post-war period. The health, social and economic consequences were felt by people all over the world. For industry, and therefore for BASF too, the restrictions associated with the pandemic posed an enormous challenge.

We reacted quickly and decisively to the crisis. Our crisis teams coordinated the necessary measures at our sites and used the strengths of our Verbund. We were thus able to flexibly adapt our production to the needs of our customers, safeguard the health of our employees and ensure reliable deliveries. In this exceptional year, the BASF team demonstrated remarkable solidarity and

flexibility and worked tirelessly to find tailor-made solutions for our customers – whether working from home or in the plants. I want to thank all employees for their great work!

In 2020, there was demand for raw materials and products for the pharmaceutical and cleaning industries in particular. With our “Helping Hands” initiative, we provided assistance from the very beginning of the pandemic. At many BASF sites, we produced hand sanitizer and disinfectants and distributed these for free to hospitals and other institutions. In addition, we purchased and donated more than 100 million protective masks.



With our “Helping Hands” initiative, we provided assistance from the very beginning of the pandemic.

The coronavirus pandemic plunged the global economy into a deep recession. In the first half of 2020, production around the world plummeted in record time. The transportation, energy, consumer goods, construction industries saw the steepest drops. BASF was especially affected by the downturn in the automotive sector. Our most important customer industry was hit by collapsing demand, production stoppages and supply chain disruptions.

For the full year 2020, we achieved sales of €59.1 billion and EBIT before special items of €3.6 billion. While we had communicated a significantly more positive outlook when we published the BASF Report 2019 on February 28, 2020, we had to withdraw this guidance on April 29, 2020. The indicators had shifted markedly. But at the time, it was impossible to reliably estimate the duration and further spread of the coronavirus pandemic or the future measures to contain it. On October 9, 2020, we gave a new outlook: Sales of €57 billion to €58 billion in 2020 as well as EBIT before special items of between €3.0 billion and €3.3 billion. Ultimately, a strong fourth quarter enabled us to exceed these forecasts. Thanks to this year-end rally, our full-year sales almost matched the level of the previous year, while EBIT before special items was 23% lower.



The dividend proposal reflects the high importance we place in a reliable dividend even in difficult times.

Special items in EBIT totaled –€3.8 billion, compared with –€442 million in the previous year. The increase in special items was primarily attributable to the impairments we had to recognize in all segments in the third quarter as a result of the effects of the coronavirus pandemic. Cash flows from operating activities

amounted to €5.4 billion, down 27.6% compared with the previous year. Free cash flow amounted to €2.3 billion, after €3.7 billion in 2019.

The development of the BASF share price reflected the overall macroeconomic development. After significant downturns caused by the pandemic in the first half of 2020, BASF's share price recovered and stabilized over the second half of the year. The closing price of €64.72 was, however, still 3.9% below the level at the end of the previous year. Assuming

that dividends were reinvested, BASF's share performance rose by 2.3% in 2020.

The exceptionally strong adverse economic impacts of the coronavirus pandemic also had a negative effect on the development of BASF Group's free cash flow. Nevertheless, we will propose to the Annual Shareholders' Meeting a dividend of €3.30 per share, a payment of €3.0 billion to shareholders for the 2020 business year. This reflects the high importance we place in a reliable dividend even in difficult times.

We continued to drive forward our Excellence Program. Overall, we are well on track to achieve the targeted €2 billion annual EBITDA contribution by the end of 2021. We were not quite able to achieve an accelerated implementation of all contributions – from increases in sales and from cost savings – in this difficult environment. But we reacted quickly here, and focused even more on efficiency improvements.

The coronavirus pandemic-related restrictions also had a noticeable impact on the preparations for our planned major investment in a new Verbund site in Guangdong in southern China. Nevertheless, we are still on schedule. Last year, we successfully started construction of the first plants. Starting in 2022, these

plants will produce engineering plastics and thermoplastic polyurethane to serve the growing demand in the markets of southern China and elsewhere in Asia.

The Asia Pacific region, especially China, is the key growth driver of global chemical production. Over the next 10 years, more than two-thirds of global growth in the chemical industry will take place in China. This trend became more pronounced in 2020 with China's rapid economic recovery. With our new, fully integrated Verbund site, we want to further expand our leading position as a western chemical company in the world's most important chemical market.

We also made progress with the further development of our portfolio in 2020. At the end of January, we completed the acquisition of Solvay's integrated polyamide 6.6 business for €1.3 billion. This acquisition broadens our polyamide capabilities with innovative products and enhances our access to the most important precursor as well as to growth markets in Asia and North and South America. At the end of September, we closed the divestiture of our construction chemicals business to an affiliate of the global private equity firm Lone Star. Given the challenging environment, this was an outstanding team accomplishment. The purchase price on a cash and debt-free basis was €3.17 billion. We expect to close the sale of BASF's pigments business to the Japanese fine chemicals company DIC in the first half of 2021, subject to the pending approval of the U.S. competition authorities.

Despite the challenging global effects of the pandemic, we cannot neglect fundamental long-term challenges such as climate protection. For BASF, climate protection is a key responsibility and a crucial component of our strategy. We want to contribute to a world that offers a future with enhanced quality of life for everyone. We are therefore working closely with our customers and partners to develop even better solutions. With circular economy approaches, we want to further decouple economic growth from resource consumption and thus use limited resources even more efficiently. In some ways, we have been doing this for a long time: Our Verbund, for example, transforms by-products



Despite the pandemic, we cannot neglect challenges such as climate protection.

and waste into new products and energy. In many areas of the chemical industry, however, the use of resources can be further improved.

With our Circular Economy Program, we have therefore set ourselves ambitious targets: BASF has committed to transforming 250,000 metric tons of recycled and waste-based raw materials into new products each year as of 2025. And we want to increase our sales generated with solutions for the circular economy to €17 billion by 2030 – this represents a doubling of the current figure.

In parallel, we are working on our energy transformation towards carbon neutrality. This will decisively influence our future profitability and competitiveness. The European Union, with its Green Deal, has set the ambitious target of climate neutrality by 2050. With its strategy, BASF has taken a clear position. For us, reducing CO₂ emissions is immensely important. We have therefore committed to climate-neutral growth until 2030. This means that we will further reduce our specific CO₂ emissions per kilogram of product sold, by an average of one-third. To reduce CO₂ emissions even further, we need the right political framework on the one hand and groundbreaking technologies on the other. These technologies are being developed in our comprehensive Carbon Management Program.

One important example is our steam crackers. They are currently powered by natural gas. In the future, we want to operate them with electricity from renewable sources. For a world-scale cracker, this could mean an annual reduction of 1 million metric tons of CO₂. However, to implement this we need very large volumes of electricity from renewable energies – and at internationally competitive prices. This, in turn, requires a long-term, integrated climate and industry policy with supportive framework conditions at the national and international levels.

To create transparency, by the end of 2021, we will be the first chemical company worldwide to provide our customers with a product carbon footprint for all of our 45,000 sales products. With our proprietary digital solution, we will be able to determine the overall CO₂ values for our products. This product carbon footprint will be reported as CO₂ units per metric ton of sales product and include all emissions until the product leaves the factory gate for delivery to the customer. In

this way, we combine sustainability and digitalization into a highly innovative offering for our customers.

Innovations have made BASF the leading chemical company. I am convinced that our that our innovative power will continue to be an important success factor for profitable development in the future. Carbon management and the circular economy are important growth drivers across all industries. With tailor-made solutions, we help our customers to further improve their sustainability profile and that of their products – all the way to carbon neutrality. Innovations therefore fuel BASF's sustainable growth. And this depends on excellent R&D – which is exactly what we have at BASF.

The coronavirus vaccination campaigns worldwide make me optimistic about 2021, but there are still many uncertainties. It will take time for the global economy to return to pre-pandemic levels. And there is no shortage of new challenges. We will ensure that our customers are always the central focus of all our activities. Together with our customers, the BASF team works passionately to create long-term, profitable growth. I appreciate your support as we pursue this goal and thank you for your trust in BASF.

Yours,



Martin Brudermüller



Carbon Management and the circular economy are important growth drivers across all industries.

The Board of Executive Directors of BASF SE

As part of its long-term succession planning, the Supervisory Board appointed Dr. Melanie Maas-Brunner as a member of the Board of Executive Directors on December 17, 2020. As of February 1, 2021, the Board of Executive Directors therefore temporarily comprises seven members and, following a transition period, will again be reduced to six members with the departure of Wayne T. Smith as of May 31, 2021.



Dr. Martin Brudermüller,
Chairman of the Board of Executive Directors



Dr. Hans-Ulrich Engel,
Vice Chairman of the Board of Executive Directors



Saori Dubourg



Michael Heinz



Dr. Markus Kamieth



Dr. Melanie Maas-Brunner



Wayne T. Smith

BASF on the Capital Market

In 2020, the stock markets were dominated by the spread of the coronavirus and the resulting social and economic effects.

Despite the exceptionally high economic burden caused by the coronavirus pandemic, a dividend of €3.30 per share is to be proposed to the Annual Shareholders' Meeting, as in the previous year. Based on the year-end share price for 2020, BASF shares continue to offer an attractive dividend yield of around 5.1%.

BASF share performance

- BASF share price declines 3.9% in 2020
- Assuming that dividends were reinvested, BASF's share performance rose by 2.3%

The BASF share closed the 2020 stock market year at €64.72, a decrease of 3.9% compared with the previous year's closing price (€67.35). After the significant downturn in share prices caused by the pandemic in the first half of 2020, BASF's share price recovered and stabilized over the second half of the year but remained slightly below the prior-year closing price.

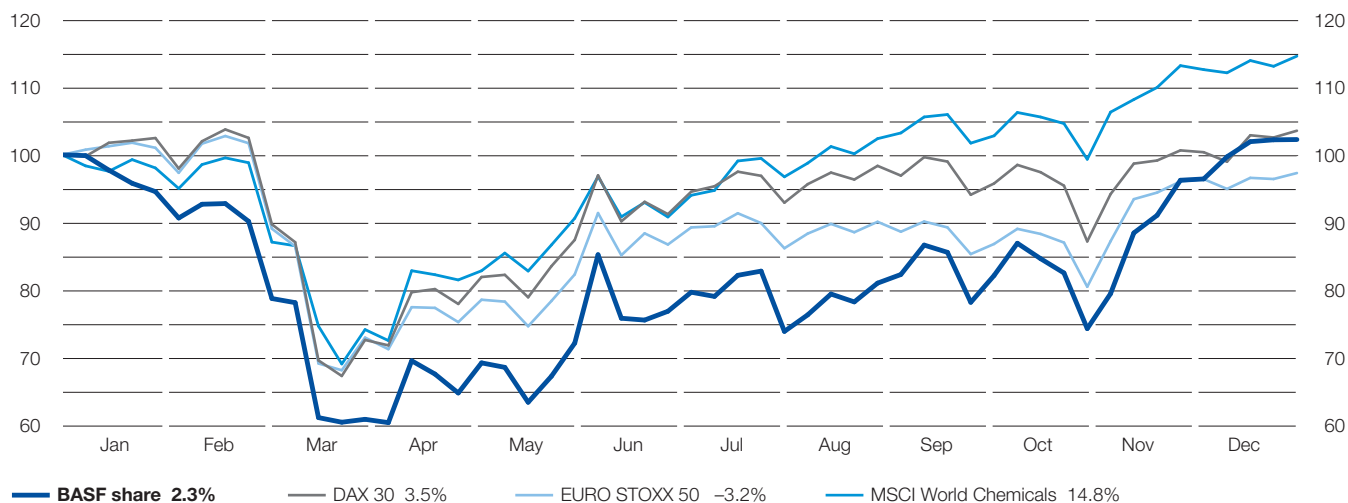
Assuming that dividends were reinvested, BASF's share performance rose by 2.3% in 2020. The DAX 30, the benchmark index of the German stock market, rose by 3.5% over the same period, while

the European EURO STOXX 50 index lost 3.2%. The global industry index MSCI World Chemicals gained 14.8%.

The assets of an investor who invested €1,000 in BASF shares at the end of 2010 and reinvested the dividends in additional BASF shares would have increased to €1,614 by the end of 2020. This represents an annual yield of 4.9%.

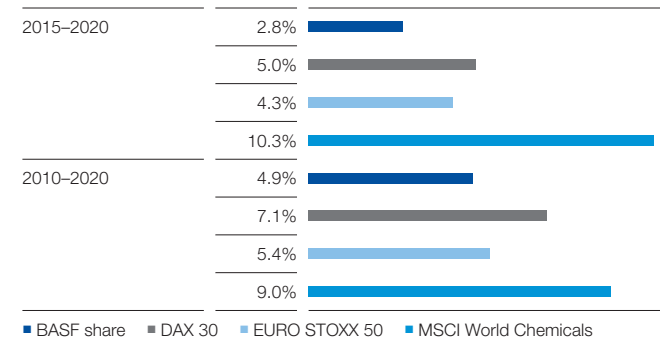
Change in value of an investment in BASF shares in 2020

With dividends reinvested; indexed



Long-term performance of BASF shares compared with indexes

Average annual increase with dividends reinvested

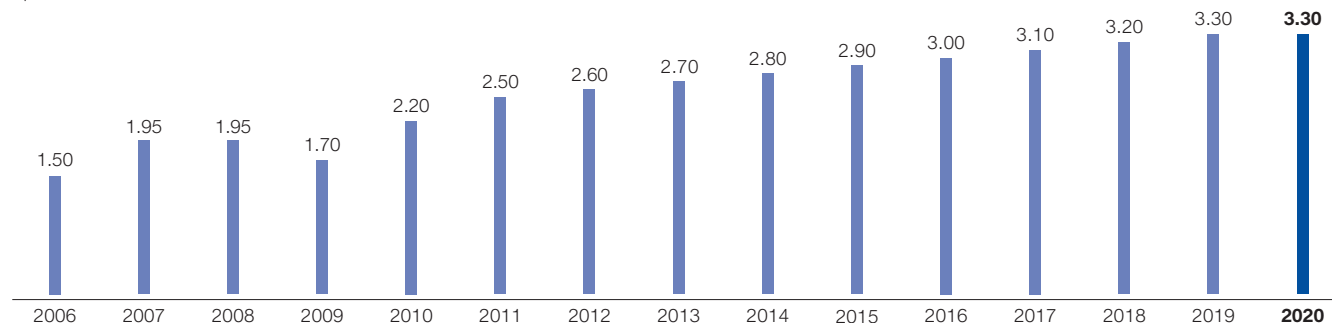


Weighting of BASF shares in important indexes as of December 31, 2020

DAX 30	5.5%
EURO STOXX 50	2.3%
MSCI World Chemicals	6.0%

Dividend per share

€ per share



Proposed dividend of €3.30 per share

As in the previous year, a dividend of €3.30 per share is to be proposed to the Annual Shareholders' Meeting, a payment of €3.0 billion to shareholders. Due to the exceptionally high economic burden caused by the coronavirus pandemic, which also impacted the BASF Group's free cash flow, the proposed dividend per share will not be increased for the first time since the 2009 business year.

Based on the year-end share price for 2020, BASF shares offer a high dividend yield of around 5.1%. BASF is part of the DivDAX share index, which contains the 15 companies with the highest dividend yield in the DAX 30.

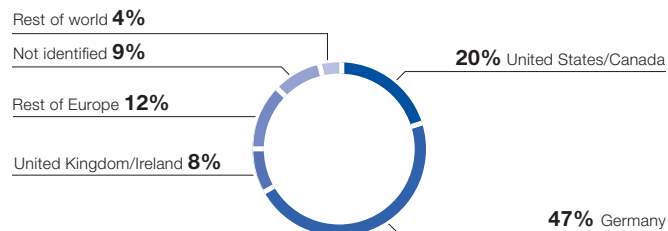
Broad base of international shareholders

With over 700,000 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 2020 showed that, at around 20% of share capital, the United States and Canada made up the largest regional group of institutional investors. Institutional investors from Germany accounted for around 11%. Shareholders from the United Kingdom and Ireland hold 8% of BASF shares, while

investors from the rest of Europe hold a further 12% of capital. Approximately 36% 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 30 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 2020, for example, around 27,600 employees (2019: around 25,400) purchased employee shares worth €61.1 million (2019: €70.5 million).

[For more information on employee share purchase programs, see page 144](#)

BASF – a sustainable investment

- CDP again awards BASF Leadership status
- BASF continues to be included in MSCI ESG Ratings with score of AA

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 is an international organization representing around 515 investors with over \$106 trillion in assets and more than 150 major organizations with \$4 trillion in purchasing power. In 2020, BASF again scored an A– on CDP's Climate List, giving it Leadership status. In the scoring framework used by CDP in 2020, BASF was ranked among the best 25% of the participating chemical companies. To achieve its climate target of CO₂-neutral growth until 2030, BASF is continually optimizing existing processes and is increasingly using energy from renewable sources. BASF is also developing completely new low-emission production processes. The company bundles this work in its ambitious carbon management.

In the CDP assessment for sustainable water management, BASF again achieved the top grade of A and thus Leadership status. 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 "Forest" assessment for the first time in 2020 and was ranked A-. As a participant in various value chains, BASF is committed to ending deforestation in these supply chains. One of BASF's measures to protect the forests is its voluntary commitment to source 100% of its palm oil and palm kernel oil from certified sustainable sources by 2020. We met this target in 2020.

BASF continued to be included in the MSCI ESG Ratings in 2020 with the second-highest score of AA. The analysts highlighted BASF's Verbund system as a key competitive advantage for resource-efficient processes. BASF's emissions intensity for greenhouse gases and air pollutants – one of the lowest compared with competitors in the chemical industry – was also assessed positively.

For more information on the key sustainability indexes, see basf.com/sustainabilityindexes

For more information on energy and climate protection, see page 130 onward

For more information on air and soil, see page 137

For more information on the procurement of certified palm oil and palm kernel oil, see page 116 onward

Further information on BASF share

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

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.

Key BASF share data

		2016	2017	2018	2019	2020
Year-end price	€	88.31	91.74	60.40	67.35	64.72
Year high	€	88.31	97.46	97.67	74.49	68.29
Year low	€	56.70	79.64	58.40	56.20	39.04
Year average	€	70.96	88.16	80.38	64.77	53.31
Daily trade in shares ^a						
	million €	201.9	185.7	229.6	187.6	219.2
	million shares	2.9	2.1	2.9	2.9	4.1
Number of shares December 31	million shares	918.5	918.5	918.5	918.5	918.5
Market capitalization December 31	billion €	81.1	84.3	55.5	61.9	59.4
Earnings per share	€	4.42	6.62	5.12	9.17	-1.15
Adjusted earnings per share	€	4.83	6.44	5.87	4.00	3.21
Dividend per share	€	3.00	3.10	3.20	3.30	3.30
Dividend yield ^b	%	3.40	3.38	5.30	4.90	5.10
Payout ratio	%	68	47	63	36	.
Price-earnings ratio (P/E ratio) ^b		20.0	13.9	11.8	7.3	.

^a Average, Xetra trading

^b Based on year-end share price

Close dialog with the capital market

- Virtual formats facilitate dialog during coronavirus pandemic
- BASF issues first green bond

Our corporate strategy aims to create long-term value. We support this strategy through regular and open communication with all capital market participants. In light of the coronavirus pandemic, we mainly used virtual formats such as video or conference calls for dialog in 2020. 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 2020, we offered special events aimed at investors who base their investment decisions on sustainability criteria. We outlined in particular our programs to reduce CO₂ emissions and on the circular economy. In addition, we issued our first green bond in 2020 and took this opportunity to inform credit analysts and creditors about our targets and measures for a more sustainable future. The bond has a term of seven years, a volume of €1.0 billion and an annual coupon of 0.25%; it serves to finance sustainable projects and the development of sustainable products in the BASF Group.

Analysts and investors have confirmed the quality of our financial market communications. The Investor Relations Society recognized BASF with the Best Practice Award 2020 in the categories "Best Communication of ESG" and "Most Effective Use of Digital Communications." In the annual survey conducted by Britain's IR Magazine, we were named the best company for IR in the materials sector. Institutional Investor magazine also honored BASF with first place in the categories "Best Investor Day" and "Best IR Program" in the chemicals sector.

 For more information about BASF stock, see basf.com/share

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

2

Management's Report

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We are making our value chains, processes, products and business models more circular with our circular economy program.

For more information, see page 30

Overview

The Management's Report comprises the chapter of the same name on pages 16 to 166, as well as the disclosures required by takeover law, the Compensation Report 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

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-2020. 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.

Compensation Report and disclosures in accordance with section 315a HGB¹

The Compensation Report including the description of the principles of the compensation system in accordance with section 315a(2) HGB can be found in the Corporate Governance chapter from page 183 onward, and the disclosures in accordance with section 315a(1) HGB (takeover-related disclosures) from page 174 onward. 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 HGB¹

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 167 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(1) 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.

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.

Further information

The following symbols indicate further information:

-  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 audit with limited assurance by our auditor.
-  The content of this section is voluntary, unaudited information, which was critically read by the auditor.

¹ In the version applicable to the Financial Statements and Management's Report for the 2020 fiscal year pursuant to Article 83 of the Introductory Act on the German Commercial Code (EGHGB)

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

NFS disclosure	Topics	Concepts and results
Business model	The BASF Group	Pages 20–23
Environmental matters	Process safety	Page 32 (targets) Pages 121 and 123–124 (targets, measures, results)
	Biodiversity	Page 142–143 (targets, measures, results)
	Energy and climate protection	Page 32 (targets) Pages 121 and 130–136 (targets, measures, results)
	Emergency response and corporate security	Pages 121 and 125 (targets, measures, results)
	Supplier management	Page 32 (targets) Page 113–115 (targets, measures, results)
	Emissions to air	Pages 121 and 137 (targets, measures, results)
	Product stewardship	Pages 121 and 126–128 (targets, measures, results)
	Steering of product portfolio	Page 32 (targets) Page 45–46 (targets, measures, results)
	Transportation and storage	Pages 121 and 129 (targets, measures, results)
	Management of waste and contaminated sites	Pages 121 and 137–138 (targets, measures, results)
	Water	Page 32 (targets) Pages 121 and 139–141 (targets, measures, results)
Employee-related matters	Occupational safety	Page 32 (targets) Pages 121 and 122–123 (targets, measures, results)
	Dialog with employee representatives	Page 150 (targets, measures, results)
	Inclusion of diversity	Page 32 (targets) Page 146–147 (targets, measures, results)
	What we expect from our leaders	Page 145–146 (targets, measures, results)
	Health protection	Pages 121 and 124 (targets, measures, results)
	International labor and social standards	Page 150–151 (targets, measures, results)
	Learning and development	Page 148 (targets, measures, results)
	Supplier management	Page 32 (targets) Page 113–115 (targets, measures, results)
	Employee engagement	Page 32 (targets) Page 145 (targets, measures, results)
	Competition for talent	Page 147–148 (targets, measures, results)
	Compensation and benefits	Page 149 (targets, measures, results)
Social matters	Social commitment	Page 47–49 (targets, measures, results)
Respect for human rights	International labor and social standards	Page 150–151 (targets, measures, results)
	Supplier management	Page 32 (targets) Page 113–115 (targets, measures, results)
	Responsibility for human rights	Page 111–112 (targets, measures, results)
Anti-corruption and bribery matters	Compliance	Page 177–179 (targets, measures, results)
	Supplier management	Page 32 (targets) Page 113–115 (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 – Supervisory Board meetings	Pages 168–169 Pages 204–205
	Describe management's ^b role in assessing and managing climate-related risks and opportunities.	Integration of Sustainability – Our organizational and management structures	Pages 42–43
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. ^c	Opportunities and Risks – Short-term opportunities and risks Opportunities and Risks – Long-term opportunities and risks	Pages 161–163 Pages 164–166
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Carbon management as a climate protection tool Integration of Sustainability – Steering of product portfolio based on sustainability performance Opportunities and Risks – Short-term opportunities and risks Opportunities and Risks – Long-term opportunities and risks	Pages 135–136 Pages 45–46 Pages 161–163 Pages 164–166
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	In 2020, we enhanced and refined our long-term strategic scenarios and worked on their quantitative implementation in order to include these in our strategic steering going forward.	
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. ^d	Opportunities and Risks – Risk management process	Pages 159–160
	Describe the organization's processes for managing climate-related risks.	Opportunities and Risks – Risk management process Opportunities and Risks – Long-term opportunities and risks	Pages 159–160 Pages 164–166
	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 159–160
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 goals and measures Water – Global goal and measures Integration of Sustainability – Steering of product portfolio based on sustainability performance	Pages 131–133 Pages 139–140 Pages 45–46
	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 goals and measures	Pages 130–131 Pages 131–133
	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 Integration of Sustainability – Steering of product portfolio based on sustainability performance	Pages 130–131 Page 139 Pages 45–46

^a Refers to the Supervisory Board

^b Refers to the Board of Executive Directors and senior executives

^c We report comprehensively on climate-related opportunities and risks in reporting to CDP on data relevant to climate protection.

^d Climate-related risks are identified, assessed and managed as part of the general risk management process.

The BASF Group

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The approximately 110,000 employees in the BASF Group work on contributing 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.

Organization of the BASF Group

We have 11 divisions grouped into six segments:

- **Chemicals:** Petrochemicals, Intermediates
- **Materials:** Performance Materials, Monomers
- **Industrial Solutions:** Dispersions & Pigments, Performance Chemicals
- **Surface Technologies:** Catalysts, Coatings
- **Nutrition & Care:** Care Chemicals, Nutrition & Health
- **Agricultural Solutions:** Agricultural Solutions

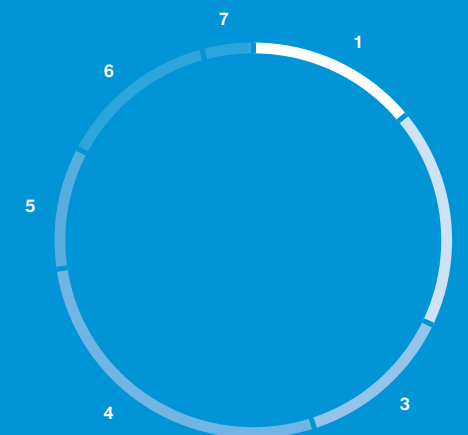
We take a differentiated approach to steering our businesses according to market-specific requirements and the competitive environment. We provide a high level of transparency around the results of our segments and show the importance of the Verbund and value chains to our business success. BASF aims 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.

In line with BASF's corporate strategy, the operating divisions, service units, the regions and a Corporate Center have formed the cornerstones of the BASF organization since January 1, 2020. We have streamlined our administration, sharpened the roles of ser-

Structure of BASF

Percentage of total sales in 2020

1	Chemicals	– Petrochemicals – Intermediates	14%
2	Materials	– Performance Materials – Monomers	18%
3	Industrial Solutions	– Dispersions & Pigments – Performance Chemicals	13%
4	Surface Technologies	– Catalysts – Coatings	28%
5	Nutrition & Care	– Care Chemicals – Nutrition & Health	10%
6	Agricultural Solutions	– Agricultural Solutions	13%
7	Other		4%



Smart Verbund concept

production, technology, market, digitalization

In around 90 countries

we contribute to our customers' success

Broad portfolio

6 segments, 11 operating divisions, 75 strategic business units

Organizational development

for greater customer proximity, increased competitiveness and profitable growth

vices and regions, and simplified procedures and processes. These organizational changes have created the conditions for greater customer proximity, increased competitiveness and profitable growth.

Our divisions bear operational responsibility here and are organized according to sectors or products. They manage our 52 global and regional business units and develop strategies for the 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; South America / Africa / Middle East.

Together with the development units in our operating divisions, the three global research divisions – Process Research & Chemical Engi-

neering, Advanced Materials & Systems Research and Bioscience Research – safeguard our innovative capacity and competitiveness.

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 (from 8,000 currently) by the end of 2022. From 2023 onward, the division expects to achieve annual cost savings of over €200 million.

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

The ongoing Excellence Program is expected to contribute €2 billion to EBITDA annually from the end of 2021 onward compared with baseline 2018, including from the reduction of around 6,000 positions worldwide until the end of 2021. This decrease results from the organizational simplification and from efficiency gains in administration, the service units and the operating divisions. In addition, central, functional and regional structures are being streamlined in connection with portfolio changes.

[For more information on the products and services offered by the segments, see from pages 72, 78, 83, 89, 94 and 100 onward](#)

[For more information on the segment structure, see the Notes to the Consolidated Financial Statements from page 241 onward](#)

[For more information on portfolio changes, see page 50 onward](#)

To increase reporting transparency, the figures for investments accounted for using the equity method were restated in the first quarter of 2020. Some investments are not an integral part of the BASF Group. These include, in particular, the shares in Wintershall Dea GmbH, Kassel/Hamburg, Germany, and Solenis UK International Ltd., London, United Kingdom. Since the first quarter of 2020, these have been classified as purely financial investments and reported separately from the shareholdings that are integral to the main business activities of the BASF Group. One material equity-accounted interest that has been classified as integral is BASF-YPC Company Ltd., Nanjing, China. Income from non-integral companies accounted for using the equity method is no longer presented in the BASF Group's EBIT and EBIT before special items, but under net income from shareholdings. Due to its increased significance, this will be presented as a separate subtotal within income before income taxes and is no longer part of the financial result. Integral and non-integral investments accounted for using the equity method are also presented separately in the balance sheet. The statement of income for 2019 has been restated accordingly.

On September 30, 2020, BASF completed the divestiture of its construction chemicals business to an affiliate of Lone Star, a global private equity firm, as agreed in December 2019.¹ The purchase price on a cash and debt-free basis was €3.17 billion. The Construction Chemicals division was previously reported under the Surface Technologies segment. The divested construction chemicals business had around 7,500 employees and operated production sites and sales offices in more than 60 countries. It generated sales of around €2.6 billion in 2019. The disposal gain and the income after taxes of the construction chemicals business until closing are presented in the income after taxes of BASF Group as a separate item ("Income after taxes from discontinued operations").

[For more information on this divestiture, see the Notes to the Consolidated Financial Statements from page 237 onward](#)

¹ The construction chemicals business was transferred in two steps, on September 30, 2020, and on November 30, 2020.

Sites and Verbund

BASF has companies in around 90 countries. We operate six Verbund sites and 241 additional production sites worldwide. Our Verbund site in Ludwigshafen, Germany, is the world's largest chemical complex owned by a single company that was developed as an integrated network. This was where the Verbund principle was originally established and continuously optimized. We then implemented it at additional sites. In 2020, we started construction of the first plants at the planned integrated 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 divisions.

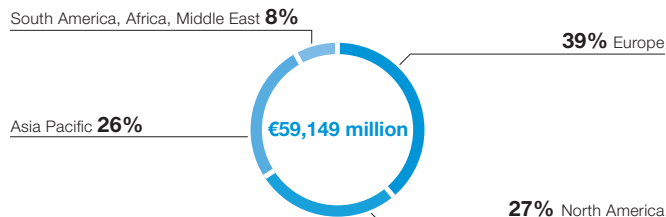
For more information on the Verbund concept, see basf.com/en/verbund

BASF sites



BASF sales by region 2020

Location of customer



Procurement and sales markets

- Around 90,000 customers; broad customer portfolio
- More than 70,000 suppliers

BASF supplies products and services to around 90,000 customers¹ 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 suppliers² from different sectors 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 27 onward; for more information on suppliers, see page 113 onward

BASF sales by industry 2020

Direct customers

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

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 70% 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 gain increasing significance in the years ahead.

Corporate legal structure

As the publicly traded 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, 273 companies including BASF SE are fully consolidated. We consolidate nine joint operations on a proportional basis, and account for 25 companies using the equity method.

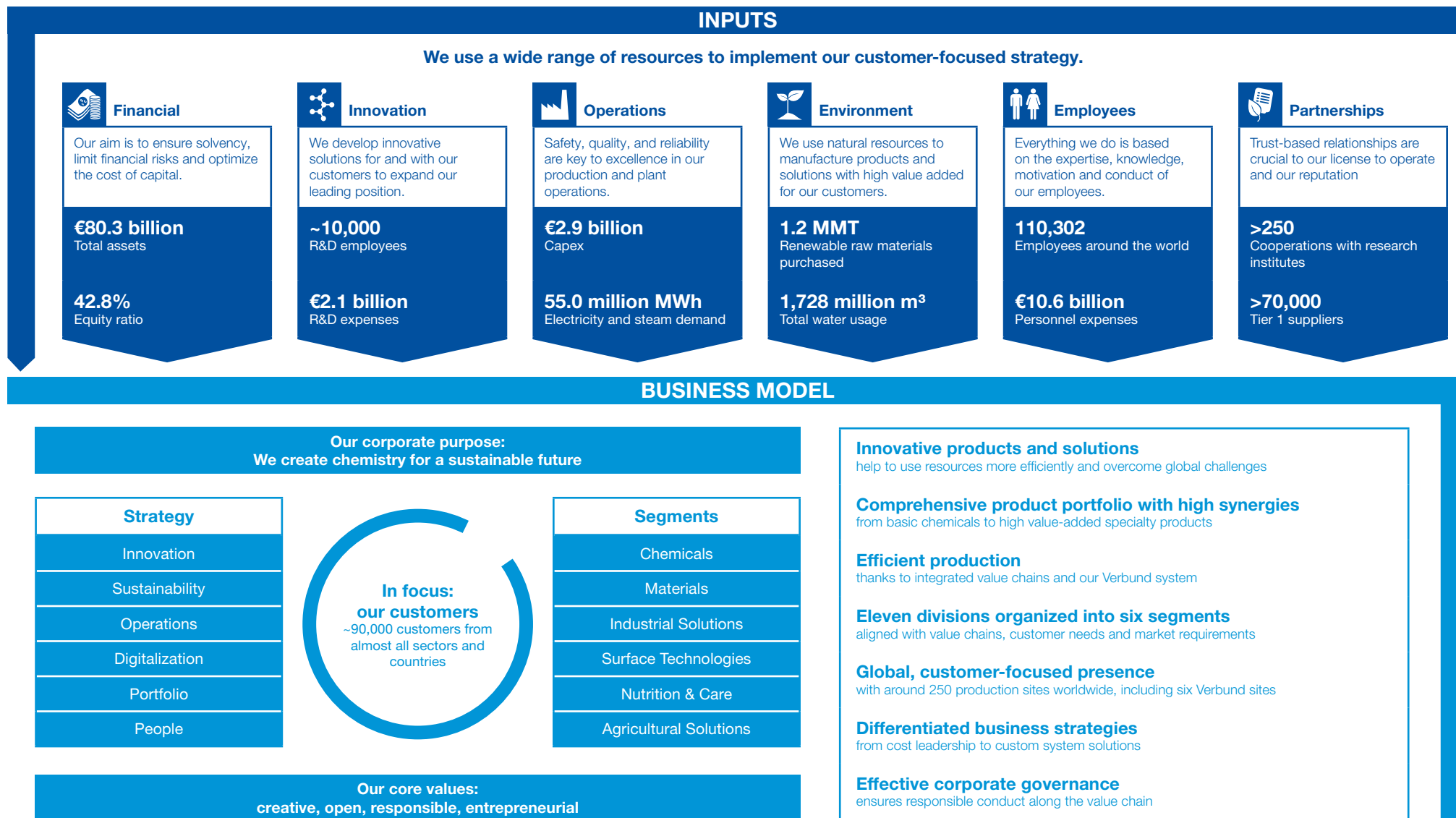
For more information, see the Notes to the Consolidated Financial Statements from page 233 onward

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

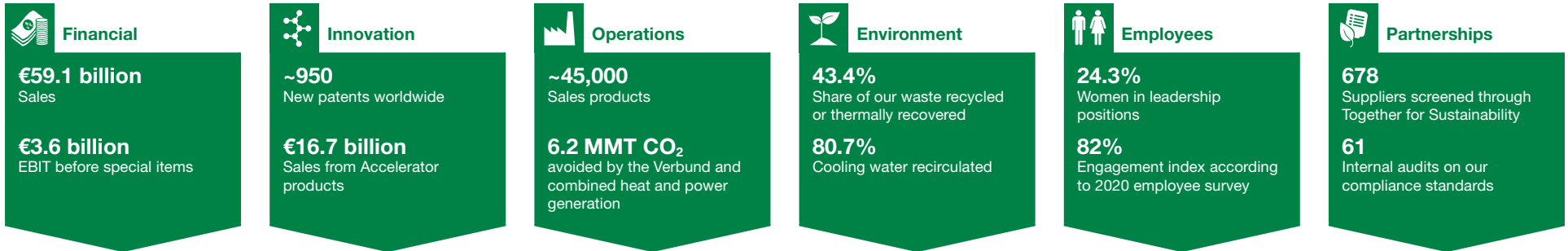
The overview provides examples of how we create value for our shareholders, our company, the environment and society. It is modeled on the framework of the International Integrated Reporting Council (IIRC).¹



¹ The content of the graphic on pages 24 and 25 been audited within the scope of the relevant sections of the Management's Report in which they appear.

OUTPUTS

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



OUTCOMES

We want to increase our positive contributions, reduce negative impacts and carefully assess conflicting goals¹

	Economic	Environmental	Social
+	We make positive contributions by <ul style="list-style-type: none"> Driving forward growth, progress and value creation Strengthening our customers' competitiveness and innovative strength with products and technologies Accelerating the digital transformation of the industry Offering our investors an attractive dividend yield 	We make positive contributions by operating our plants efficiently and creating products that <ul style="list-style-type: none"> Help to use natural resources more efficiently Enable climate-smart mobility Improve the capabilities of renewable energy Reduce emissions and resource consumption 	We make positive contributions because we <ul style="list-style-type: none"> Offer products that improve people's quality of life Provide attractive jobs, train young people and promote lifelong learning, health and diversity Pay taxes and competitive wages and salaries Help to solve challenges (for example, COVID-19)
—	Potential negative impacts <ul style="list-style-type: none"> Weaker contributions to growth and value creation due to reduced demand from our customer industries as a result of the coronavirus pandemic A weaker share performance on the capital market 	Negative impacts <ul style="list-style-type: none"> The emission of CO₂ and other gases that damage the climate The consumption of raw materials and the creation of non-recyclable waste in our production The potential misuse of our products 	Potential negative impacts <ul style="list-style-type: none"> The risk of our suppliers violating labor, environmental and social standards in the production of raw materials Lower demand for employees in some areas as a result of digitalization and efficiency gains
	We limit negative impacts through <ul style="list-style-type: none"> The disciplined implementation of our corporate strategy Active portfolio management The acceleration of our Excellence Program Systematic cost management Reducing the cost of capital 	We limit negative impacts through <ul style="list-style-type: none"> Our carbon management Our Circular Economy Program Sustainable water and energy management Our Responsible Care management Product stewardship and training 	We limit negative impacts through <ul style="list-style-type: none"> Our sustainability-oriented supply chain management Projects to improve sustainability in the supply chain Our compliance program and our Code of Conduct Our training programs for employees

IMPACT

We achieve long-term business success by creating value for our shareholders, our company, the environment and society (see page 43).

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

Our Strategy

Corporate Strategy

At BASF, we are passionate about chemistry and our customers. We want to be the world's leading chemical company for our customers, grow profitably and create value for society. Thanks to our expertise, our innovative and entrepreneurial spirit, and the power of our Verbund integration, we make a decisive contribution to changing the world for the better. This is our goal. This is what drives us and what we do best: We create chemistry for a sustainable future.

The world is facing major challenges. Climate change is advancing, the world's population is growing and so is its need for food. More and more people live in cities and the demand for individual mobility is rising. At the same time, natural resources are limited. More than ever before, we need solutions that make sustainable growth possible. Chemistry plays a key role here. It can help to overcome global challenges in almost all areas of life. By combining our expertise with our customers' competence, we can together develop sustainable and profitable solutions.

Our corporate purpose

We create chemistry for a sustainable future

Our innovations, products and technologies help to use natural resources more efficiently, produce enough food for everyone, reduce emissions, enable climate-smart mobility, improve the capabilities of renewable energy, and make buildings more energy efficient, among other things. Our purpose reflects what we do and why we do it: We create chemistry for a sustainable future.

Global trends provide opportunities for growth in the chemical industry

Population growth:

Driven by the emerging markets

+25%
2020 to 2050

Digitalization:

Rapid growth in volume of data

456
zettabytes in 2030

China the largest market:

Share of global chemical market

~50%
by 2030

Climate change:

Required reduction of global greenhouse gas emissions to achieve the 2°C goal

-70%
by 2050
(baseline 1990)

Circular economy:

Non-recycled plastic waste worldwide

~200
million metric tons per year

Electromobility:

Growing demand for battery materials until 2030

~25%
per year

Sources: U.N., IEA, Conversio, UBS Foresight, BASF

We want to continue to grow profitably and make a positive contribution to society and the environment. We see disruptive changes in the chemical industry – like the advance of digitalization, the development of circular economy models or the transformation to climate-neutral production – as an opportunity. We have set ourselves ambitious targets along the entire value chain (see page 32). Our customers and their needs are at the core of our strategy. We want to maintain our leading position in an increasingly competitive environment. To achieve this, we are accelerating our innovation processes and deepening cooperation with our customers. We are systematically aligning our portfolio with growth areas and integrating sustainability into our value chains even more strongly. Our Verbund

structure is the basis for efficient, safe and reliable production both now and in the future. We leverage digital technologies to continuously improve processes and customer relationships, for example. We create a working environment that best enables our employees to contribute to BASF's success.]

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

For more information on our strategy, see basf.com/strategy

Customer focus

Our customers are our number one priority. BASF supplies products and services to around 90,000 customers¹ from various sectors in almost every country in the world (see page 23). 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, customer-specific system solutions.

Innovations and tailored solutions

in close partnership with our customers

We want to be our customers' most attractive partner for all challenges that can be solved with chemistry. This is why we continue to drive forward our focus on customers and their needs. We are refining our organizational structure so that our operating divisions can flexibly address specific market requirements and differentiate themselves from the competition (see page 20). In addition, we are simplifying and digitalizing our processes to make the way we work more effective, more efficient and more agile.

We are continuously increasing transparency for our customers and improving our customer service with a range of measures. For instance, we have used the Net Promoter System® since 2019. We are constantly improving our problem-solving skills, product quality and delivery reliability based on customer feedback. In 2020, we also started the global rollout of Salesforce, a new, integrated IT-based customer relationship management system. The user-friendly

application helps sales employees deliver even better customer support and simplifies their work.

Above and beyond this, we want to intensify cooperation with our customers and leverage growth potential together with them. For instance, we have created interdisciplinary teams in our business units to even better and more quickly address the needs of our most important customers. Cooperation and innovation are also the focus at our Creation Centers in Ludwigshafen, Germany; Mumbai, India; Shanghai, China; and Yokohama, Japan. These creative centers bring together our comprehensive materials, design, and – in particular – our digital development expertise in high-performance plastics using the latest visualization and collaboration technologies. This enables us to transform our customers' ideas into tailored products and applications even more quickly – everything in one place, from initial inspiration to solution.

Customer awards

We again received awards from a number of satisfied customers in 2020. In North America, for example, BASF was recognized by General Motors (GM) in June as a 2019 Supplier of the Year for the fifteenth time since 2002. The award is presented to suppliers who exceed GM's expectations around quality, execution, innovation and total enterprise cost. GM also honored us with the Overdrive Award for our sustainable construction solutions. BASF products help GM to meet key sustainability targets – such as a smaller carbon footprint and water and energy savings – at two of its plants.

In Europe, the global surface treatments business in our Coatings division, which operates under the Chemetall brand, received the Airbus Supply Chain & Quality Improvement award in February for the sixth time. It acknowledges Chemetall's performance, strong continuous improvement and customer-oriented approach in line with Airbus' targets and expectations.



Ultrasim®: Shorter development times thanks to virtual simulation

Technical progress requires innovative materials. This is why engineering plastics are being used in more and more sectors and applications. They are often significantly lighter than conventional materials, are usually easier to process and offer advantages such as heat and impact resistance or mechanical strength. As a leading manufacturer, BASF not only offers a comprehensive portfolio of high-performance plastics, but also has extensive expertise in computer-aided engineering (CAE). Ultrasim, our virtual simulation tool, covers the entire process chain – from the selection of suitable materials and the development of virtual prototypes to the optimal production process for the component. Our customers find out quickly, precisely and reliably how our materials behave in specific applications. This reduces development times and saves costs for complex tests. :

For more information on Ultrasim, see [basf.com/en/ultrasim](https://www.basf.com/en/ultrasim)

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.

In Asia Pacific, we received an award from Godrej Interio, India's leading home and commercial furniture brand, in the category "Best Overall Performance" in July. BASF has supplied Godrej with Elastoflex and Ultramid products since 2008. The award particularly recognizes delivery reliability and innovation. In September, this was followed by the CIIF New Materials Award, presented by the organizers of the China International Industry Fair in Shanghai. The award recognizes BASF for its modification of the intermediate PolyTHF, which is used to produce elastic spandex textile fibers. The next generation offers our customers easier processing and products with improved stretch characteristics.

In Brazil, we received several awards in 2020. BASF's Coatings division markets a broad portfolio of decorative paints here under the Suvinil brand. The national association of construction material traders (Associação Nacional dos Comerciantes de Material de Construção) selected Suvinil as the most popular brand for wall, ceiling and exterior paints with the Anamaco award in the wholesale category. The award was based on a survey of more than 1,600 traders conducted by the industry association. The market research institute Instituto Melhores Empresas em Satisfação do Cliente (MESOC) also confirmed that Suvinil customers are satisfied customers. According to a poll of over 250 companies and 41,000 customers conducted by the institute, Suvinil is one of the brands with the highest customer satisfaction ratings in the construction and decorative materials segment.

Quality management

Our customers' satisfaction is the basis for our success, which is why quality management is of vital significance for BASF. We strive to continually improve processes and products. This is also reflected in our Global Quality Policy. The majority of our production sites and business units are certified according to ISO 9001. In addition, we

also meet industry and customer-specific quality requirements such as IATF 16949 certification for the automotive industry.

Our strategic action areas

Innovation is the bedrock of our success. BASF is an innovation leader in the chemical industry, with around 10,000 employees in research and development and R&D spending of around €2.1 billion (see page 35). We continue to build on these strengths by bringing research and development closer together and making our customers' demands a greater part of our innovation process. We involve them at an earlier stage and are expanding our partnerships with customers and external partners. Our balanced innovation pipeline lays the foundation for future growth: We are working intensively on pioneering product, process and business model innovations, for example in chemical recycling, battery technologies, the low-carbon production of basic chemicals and the digitalization of agriculture. At the same time, we are driving forward incremental product improvements in all business units that offer our customers sustainability and/or cost advantages, such as in lightweight construction for the automotive industry and energy-efficient building materials.

A key driver here is **sustainability**. We want to create value for the environment, society and business with our products, solutions and technologies. We pledged our commitment to sustainability in 1994 and since then, have systematically aligned our actions with the principles of sustainability. We want to further cement our position as a thought leader in sustainability, which is why we are increasing the relevance of sustainability in our steering processes and business models (see page 42). This establishes us as a key 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 (see page 113) and safety and resource efficiency in production (see page 121) to sustainable solutions for our customers (see page 35). We have already almost halved our carbon emissions since 1990 while simul-

taneously doubling sales product volumes. We want to achieve CO₂-neutral growth until 2030 with our ambitious carbon management (see page 135). In addition, we have set ourselves the target of significantly increasing sales of products that make a substantial sustainability contribution in the value chain (Accelerator products) to €22 billion by 2025 (see page 45). A particular focus is the circular economy. For instance, we want to increase the use of recycled raw materials in production, close materials cycles with innovations and develop new, circular business models (see page 30).

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 custom system solutions, enables us to meet the increasingly diverse needs of our customers with a differentiated offering. This is complemented by our global presence and our many decades of experience, which have allowed us to develop an in-depth understanding of the needs and landscape of local markets. At the same time, value chains in integrated Verbund structures can be steered efficiently to conserve resources and optimize CO₂. Thanks to our Verbund structures, we were able to avoid 6.2 million metric tons of CO₂ globally in 2020 (see page 133). We want to invest around €22.9 billion worldwide between now and 2025 to expand capacities based on market demand and to increase the availability, efficiency and flexibility of our plants. Our aim here is to be close to our customers and to grow with them.

Digitalization is an integral part of our business. We want to significantly improve the availability and quality of our process data. To achieve this, we will digitalize processes at more than 420 plants worldwide by 2022. We will systematically analyze this data to further automate processes and in this way, increase efficiency, for example with predictive maintenance. In addition, combining internal and external data provides many new opportunities to manage our

businesses more efficiently, improve processes and create value added for our customers. We are already using artificial intelligence to collate data from various sources, for example to accelerate innovation processes, optimize our supply chains and logistics concepts, and to simulate product applications for our customers. The combination of products, services and digital offerings also gives rise to new business models and advantages for our customers, such as in agriculture or 3D printing. We want to leverage this growth potential and seize the opportunities offered by digitalization to the benefit of our customers. To do so, we are making digital technologies and practices an even more integral part of our processes, extensively promoting digital skills among our employees, and cooperating with external partners on specific topics.

The acquisitions and divestitures made in the past few years have oriented our **portfolio** toward innovation-driven growth areas. The acquisition of the integrated polyamide business from Solvay and the purchase of various businesses from Bayer further strengthened our position in engineering plastics and in the agricultural sector. We completed the divestiture of our construction chemicals business to Lone Star in 2020 as planned and aim to close the sale of our pigments business to DIC in the first half of 2021 (see page 50). The Asian market will play a key role in our future growth. With a share of more than 40%, China is already the world's largest chemical market and drives the growth of global chemical production. We expect this share to increase to around 50% by 2030. Our strong innovation, production and sales base 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 an integrated Verbund site in Zhanjiang in the southern Chinese province of Guangdong. Construction of the first plants started in 2020. We are also systematically expanding our battery materials business to serve the fast-growing e-mobility market. We steer our six segments along the value chain. This creates a high level of transparency around our business activities. Our operating divisions drive forward our industry and customer orientation with differentiated strategies.

Our **employees** are key to BASF's success. That is why we believe that it is important to have a working environment that fosters 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. We are giving our employees more individual freedom. 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 are simplifying our processes and continually refining our organizational structure. Significant parts of the functional services that were previously performed centrally by a total of around 20,000 employees have been integrated into our 11 operating divisions. This and greater entrepreneurial freedom enable our business units to take a differentiated, flexible approach to market requirements with tailored business models. The aim is to increase both customer satisfaction and the profitability of our business. 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. This is why we foster a feedback culture based on honesty, respect and mutual trust.

「The BASF brand」

We want BASF to be seen as a leading brand in the chemical industry. Our corporate purpose – We create chemistry for a sustainable future – and our values (see page 31) together form the basis of BASF's brand value proposition. This is connectedness, which embodies one of BASF's core strengths: our Verbund concept. The BASF Verbund is what makes innovative solutions for a sustainable future possible. We want to communicate this worldwide and make it tangible. The claim "We create chemistry," as stated in the BASF logo, helps us embed our solution-oriented strategy and our expertise in the public perception. Wherever our stakeholders encounter our brand, we want to convince them that BASF stands for innovation and sustainability. This builds trust with

our customers, contributes to our reputation and to our company value. We regularly measure our brand and communication success. This gives us relevant and meaningful insights into how the BASF brand is perceived among target groups. This enables us to further refine the brand profile and develop strategies and measures to continually improve our brand status.

「Circular economy」



The circular economy model has gained importance in politics, industry and society in recent years. It describes the transition from a linear “take-make-dispose” model to a system of closed loops. We want to actively drive this transition forward and make our value chains, processes, products and business models more circular. By 2030, we want to double our sales of solutions for the circular economy to €17 billion. Sales of circular solutions include products based on renewable or recycled raw materials, that close new material cycles or increase products' resource efficiency or service life. In addition, we aim to process 250,000 metric tons of recycled and waste-based raw materials in our production plants annually from 2025, replacing fossil raw materials.

The core elements of a circular economy include reusing resources, avoiding waste and optimizing product features with respect to the entire product life cycle. BASF's Circular Economy Program focuses on three action areas: increasing the use of recycled and renewable feedstocks, innovative material cycles and new business models for the circular economy, including digital and service-based models.

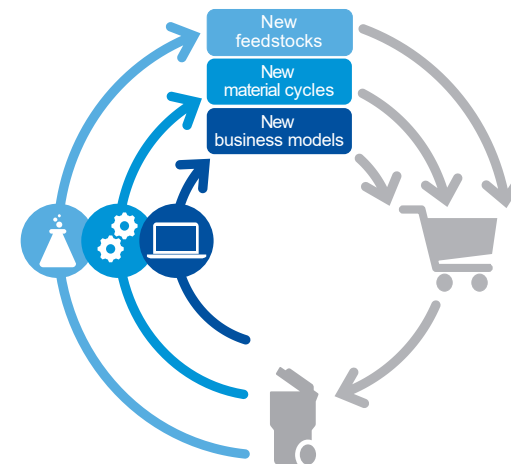
Core elements of the circular economy at BASF

We are driving forward the use of recycled raw materials with projects such as ChemCycling™, in which we use the pyrolysis oil extracted by our technology partners from mixed plastic waste or used tires to produce new products. The project is currently in the scale-up phase. We already have many years' experience in the industrial recycling of mobile emissions catalysts, where we recover precious metals and use them to produce new mobile and process emissions catalysts. We are working on other innovative material cycles in over 20 initiatives. These include our chemical recycling process for used polyurethane foam mattresses and the development of plastic additives to improve the quality of mechanically recycled plastics. In addition to these projects, we established a Group-wide co-funding program for circular economy projects. It supports our employees in developing new business models for the circular economy – from the initial idea to market launch. The program aims to create additional products and solutions that close loops, establish new loops or extend the life of a product.

Using plastics responsibly

Our circular feedstock target is part of our commitment to the Ellen MacArthur Foundation's New Plastics Economy initiative. This explores the design, use and reuse of plastics in the transition toward a circular economy. BASF has been a member of the non-profit organization since 2017 and is working on various cooperative projects together with other members. In 2020, we were in continual contact with the Ellen MacArthur Foundation on topics such as our target on the use of recycled raw materials or the mass balance

Core elements of the circular economy at BASF



approach. We support the responsible use of plastics and are a co-founder and active member of the Alliance to End Plastic Waste (AEPW) to help effectively reduce plastic pollution around the world.

[For more information on the ChemCycling™ project, see page 73](#)

[For more information on recycled feedstocks, see page 118](#)

[For more information on the Alliance to End Plastic Waste, see page 138](#)

[For more information on the circular economy at BASF, see \[basf.com/circular-economy\]\(https://www.basf.com/circular-economy\)](#)

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 core values represent: creative, open, responsible, entrepreneurial. They guide our actions and define how we want to work together – as a team, with our customers and our partners.

Our values and standards

are binding for all employees and provide the framework for our actions

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 rules for our employees with standards that apply throughout the Group. We set ourselves ambitious goals with voluntary commitments and monitor our performance in terms of environmental protection, health and safety using 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 responsible conduct along the value chain, see page 110 onward](#)

[For more information on corporate governance and compliance, see page 167 onward](#)

Our targets









Business success tomorrow means creating value for the environment, society and business. That is why we have set ourselves ambitious global targets along our entire value chain and the three dimensions of sustainability. We report transparently on our target achievement so that our customers, investors, employees and other stakeholders can track our progress.

We want to grow faster than the market, 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. In addition to these financial targets, we pursue broad sustainability targets. For example, we have resolved to limit total greenhouse gas emissions from our production sites and our energy purchases to the 2018 level while growing production volumes. We want to strengthen the sustainability focus of our product portfolio and significantly increase sales of Accelerator products. We also strive to strengthen sustainability in our supply chains and use natural 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) (see page 42). 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.

Status of Target Achievement in 2020





Profitable growth

	Target	2020 status	SDG ¹
Achieve a return on capital employed (ROCE) considerably above the cost of capital percentage every year	>9%	1.7%	 
For more information, see page 56			
Grow sales volumes faster than global chemical production every year	> -0.4%	-0.5%	 
For more information, see page 56			
Increase EBITDA before special items by 3%–5% per year	3%–5%	-10.7%	 
For more information, see page 58 onward			
Increase the dividend per share every year based on a strong free cash flow	>€3.30	€3.30 ²	 
For more information, see page 13			

Effective climate protection

	Target	2020 status	SDG
Grow CO₂-neutrally until 2030 (Development of carbon emissions compared with baseline 2018)	≤21.9 MMT	20.8 MMT	
For more information, see page 130 onward			

Sustainable product portfolio

	Target	2020 status	SDG
Achieve €22 billion in Accelerator sales by 2025	€22.0 billion	€16.7 billion	   
For more information, see page 45 onward			

Responsible procurement

	Target	2020 status	SDG
Cover 90% of our relevant spend with sustainability evaluations by 2025	90%	80%	 
Have 80% of our suppliers improve their sustainability performance upon re-evaluation	80%	68%	 
For more information, see page 113			

Resource efficiency and safe production

	Target	2020 status	SDG
Reduce worldwide process safety incidents per 200,000 working hours to ≤0.1 by 2025	≤0.1	0.3	 
For more information, see page 123			
Reduce the worldwide lost-time injury rate per 200,000 working hours to ≤0.1 by 2025	≤0.1	0.3	
For more information, see page 123			
Introduce sustainable water management at our production sites in water stress areas and at our Verbund sites by 2030	100%	46.2%	 
For more information, see page 139			

Employee engagement and diversity

	Target	2020 status	SDG
Increase the proportion of women in leadership positions with disciplinary responsibility to 30% by 2030	30%	24.3%	
For more information, see page 146 onward			
More than 80% of our employees feel that at BASF, they can thrive and perform at their best	>80%	82%	
For more information, see page 145			

Most important key performance indicators

¹ For more information on the Sustainable Development Goals (SDGs), see page 42 and sustainabledevelopment.un.org

² Dividend proposed by the Board of Executive Directors

Value-Based Management

A company can only create value in the long term if it generates earnings that exceed the cost of the capital employed. This is why we encourage and support all employees in thinking and acting entrepreneurially in line with our value-based management concept. Our key financial management indicator is the return on capital employed (ROCE). Based on our corporate strategy and the global targets derived from this, we have used CO₂-neutral growth and Accelerator sales as additional key performance indicators since January 1, 2020. These are the BASF Group's most important nonfinancial key performance indicators.

The BASF Group's steering concept

We follow a value-oriented steering concept with our financial targets. We use the return on capital employed (ROCE) for operational steering as a key target and management indicator for the BASF Group, its operating divisions and business units. 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 internal management, external communication with the capital markets and variable compensation. This improves the consistency of the indicators used for BASF's value-based management with variable compensation and pension systems, and our shareholders' objectives.

As part of our corporate strategy and the global targets derived from this, we have also used CO₂-neutral growth 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 CO₂-neutral growth.

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 at each month-end.

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** consists of the operating assets of the segments and is calculated using the month-end figures. Operating assets comprise the current and noncurrent asset items of the segments. These include 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.

The **cost of capital percentage**, which we have integrated into our ROCE target as a comparative figure, 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, it 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 2021 is 9% (2020: 9%).

Calculation of the indicator "CO₂-neutral growth until 2030"

We calculate the indicator CO₂-neutral growth on the basis of CO₂ emissions, which are the sum of direct emissions from production processes and the generation of steam and electricity, as well as indirect emissions from the purchase of energy. 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 CO₂ equivalents. We aim to grow CO₂-neutrally until 2030 compared with baseline 2018.

[For more information on CO₂-neutral growth, see page 130 onward](#)

Calculation of Accelerator sales¹

Accelerator sales refer to sales generated by the BASF Group from products in our strategic portfolio to third parties in the business year concerned. As part of our corporate strategy, we set ourselves the global target of achieving €22 billion in Accelerator sales by 2025.

[For more information on sustainability-oriented portfolio management, see page 45 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. As of 2019, 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 and research units.

We use **ROCE** as the BASF Group's most important financial key performance indicator for measuring economic success as well as for steering the BASF Group and its operating units. EBIT before special items and capex (capital expenditure) are key performance indicators for BASF 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

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

development over time. **Special items** arise from the integration of acquired businesses, 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)** comprise additions to property, plant and equipment excluding additions from acquisitions, IT investments, restoration obligations and right-of-use assets arising from leases. It is used to manage capital employed in the BASF Group. 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

Innovation

Supplying a fast-growing global population with food, energy and clean water, making the best use of limited natural resources and protecting our climate are among the greatest challenges of our time. Innovations based on chemistry play a pivotal role in overcoming these. New, resource-efficient solutions and business models are needed to decouple growth from the consumption of finite resources. Together with our customers from almost all sectors, we are working on innovative processes, technologies and products for a sustainable future. This is how we ensure our long-term business success and that of our customers.

Innovation has always been the key to BASF's success, especially in a challenging market environment. 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 2020.

Our three global research divisions are run from our key regions – 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). Together with the development units in our operating divisions, they form the core of our global Know-How Verbund. BASF New Business GmbH and BASF Venture Capital GmbH supplement this network with the task of developing new technologies, attractive markets and new business models for BASF.

In 2020, we generated sales of around €10 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 Accelerator products, which make a substantial sustainability contribution in the value chain.

Employees in research and development worldwide

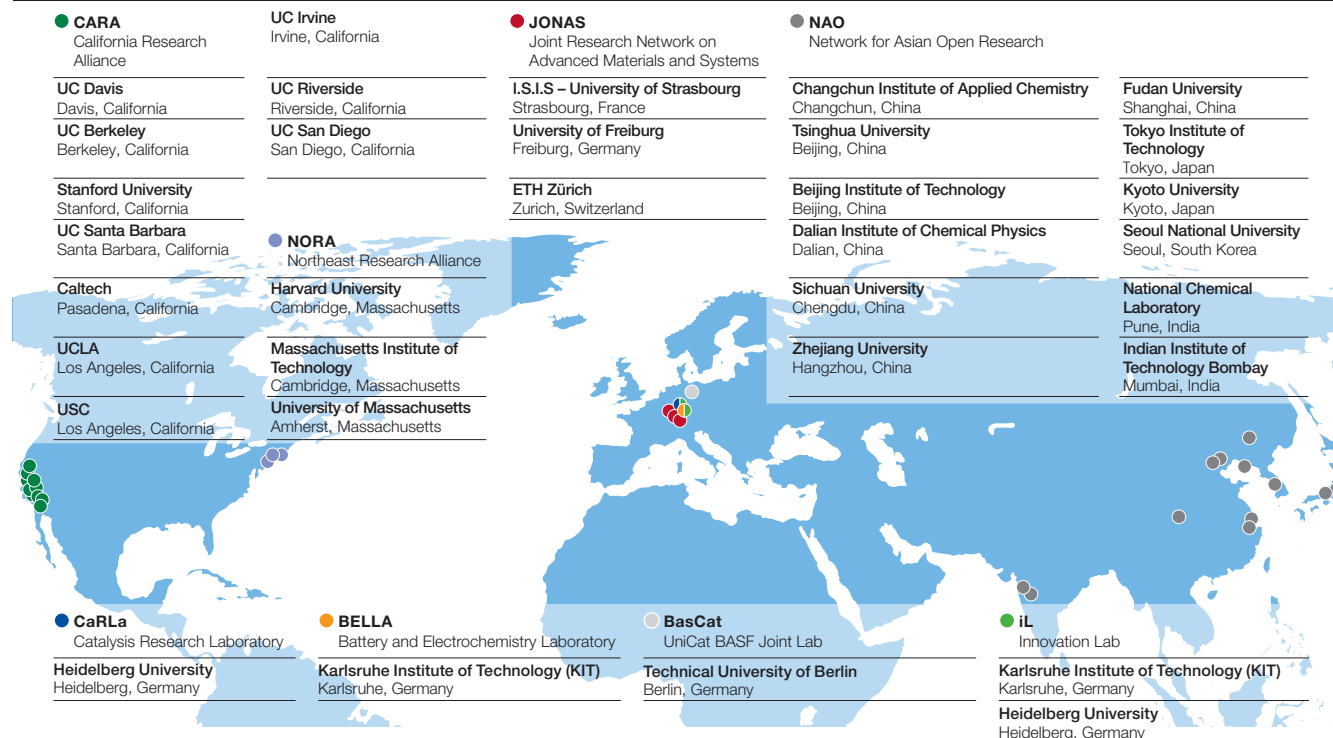
~10,000

Global network

- Close cooperation with universities, research institutes and companies
- Academic Research Alliances bundle partnerships by topic and region

Our global network of outstanding 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,

Global network: eight Academic Research Alliances



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

to bundle cooperation

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. The computer models developed together with our partners suggest new synthesis pathways for molecules and enable us to better predict molecular properties, for example for selecting test substances for crop protection products. Big data from BASF and novel algorithms were used to optimize these models. 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. As part of this cooperative venture, BASF researchers and partners are investigating catalyst nanoparticles made of palladium and platinum, among other things. With the help of computer-based calculations, the team developed a completely new understanding of how catalysts work, enabling us to produce new, more powerful catalysts.

The Joint Research Network on Advanced Materials and Systems (JONAS) research center is active in Europe. Research here concentrates on supramolecular chemistry, polymer chemistry and the incubation of sustainable technologies. Biopolymer synthesis and research into the full biodegradability of biopolymers in various biospheres have been a focus area of BASF's research for many years.

In cooperation with ETH Zürich, we have developed an analysis tool that can be used to evaluate biodegradable polymers with respect to both their technical properties and stakeholder acceptance at an early stage of our innovation process. The aim is to concentrate on the development of such sustainable, biodegradable polymers.

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.

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. Researchers there have discovered a new approach to using CO₂ as a chemical feedstock. They identified the catalysts and process conditions to produce sodium acrylate from ethylene and CO₂, a crucial step toward scaling the process for industrial use. BasCat is a joint laboratory operated by the UniCat cluster of excellence and BASF at the Technical University of Berlin, where new heterogeneous catalysis concepts are being explored together with the Fritz Haber Institute of the Max Planck Society. The iL (Innovation Lab) in Heidelberg, Germany, focuses on functional printing, printed sensors and IoT (internet of things) applications.

Our eight Academic Research Alliances are complemented by cooperations with around 250 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

Strategic focus

- Close cooperation between research and business units
- Strong customer focus
- Further development of our innovation strategies

Research and development **expenses** amounted to €2,086 million in 2020 (2019: €2,158 million). The operating divisions accounted for 82% of total research and development expenses in 2020. The remaining 18% related to cross-divisional corporate research focusing on long-term topics of strategic importance to the BASF Group.

As part of our corporate strategy, we combined research and development at an organizational level, making it better aligned with the needs of our customers. Our aim is to continue to shorten the time to market and accelerate the company's organic growth. A strong customer focus, digitalization, creativity, efficiency and collaboration with external partners are among the most important success factors here. In order to bring promising ideas to market as quickly as possible, we regularly assess our research projects using a multistep process and prioritize our focus areas accordingly.

Our success factors

Customer focus, digitalization, creativity, efficiency and collaboration with external partners

Our cross-divisional corporate research remains closely aligned with the requirements of our operating divisions and allows space to review creative research approaches quickly and in an agile way. We strengthen existing 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 are fine-tuning our innovation strategies in all of our business areas to ensure a balanced portfolio of incremental and disruptive innovation, as well as of process, product and business models.

We have also identified additional, far-sighted topics that go above and beyond the current focus areas of our divisions. The aim is to use these to leverage new business opportunities within the next few years. In addition, we are working on overarching projects with a high technological, social or regulatory relevance. For instance, one global research and development program, the Carbon Management R&D Program, is focusing on the underlying energy-intensive production processes for basic chemicals. These basic chemicals account for around 70% of the CO₂ emissions produced by the European chemical industry.¹ The program covers topics such as the development of new catalysts for dry reforming methane with CO₂ to produce syngas, and using methane pyrolysis to produce hydrogen from natural gas or biogas.

Our global research and development presence is vital to our success. In Asia in particular, we want to continue advancing our research and development activities with a focus on growth in regional markets. A stronger presence outside Europe creates new opportunities for developing and expanding 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 Ludwigshafen site in Germany is and will remain the largest in our Research Verbund. This was once again underlined with the investment in a combined laboratory building for cleanroom and elemental analysis. The new building is scheduled to open in 2022 and will enable us to continue to drive forward Analytics 4.0 with innovative digitalization and automation solutions.

The number and quality of our patents also attest to our power of innovation and long-term competitiveness. In 2020, we filed around 950 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 2020.

[For a multiyear overview of research and development expenditures, see the Ten-Year Summary on page 314](#)

Research focus areas – examples

- **Innovative recycling method for lithium-ion batteries**
- **Sustainable fungal disease control**
- **Solvent-free polyurethane system for synthetic leather**

Our focus areas in research are derived from the three major areas in which chemistry-based innovations will play a key role in the future:

- Resources, environment and climate
- Food and nutrition
- Quality of life



Recycling lithium-ion batteries

- Recovery of high-purity lithium
- High yields

Employees from the Process Research & Chemical Engineering research division in Ludwigshafen, Germany, are developing a new chemical process to recycle lithium-ion batteries. It enables the lithium contained in the battery to be recovered in high purity and with high yields. The batteries are first disassembled and shredded, which creates a substance known as “black mass.” This contains valuable resources such as lithium, cobalt and nickel. In BASF’s new process, lithium is extracted directly from the black mass as lithium hydroxide, not initially as lithium carbonate like in other processes. After purification to battery quality, with foreign ions removed to trace level, the lithium hydroxide can be used directly to produce cathode active materials. The process avoids waste and has lower CO₂ emissions and energy costs than existing methods. The team successfully completed the first pilot tests in 2020 and are currently designing a pilot plant.

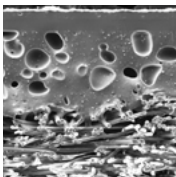
¹ Sources: JRC (Energy efficiency and GHG emissions: Prospective scenarios for the Chemical and Petrochemical Industry 2017, Boulamanti A., Moya J.A.); DECHEMA Technology Study (Low carbon energy and feedstock for the European chemical industry, 2017)



Revysol®

- Fungicide protects key crops against fungal diseases
- Higher yield

Triazole fungicides are crucial to fungal disease control in key crops such as wheat, corn (maize) and rice. Developing a new, sustainable active ingredient in this class of fungicides requires new approaches to research and development and the use of cutting-edge scientific tools to overcome increasing resistances and meet high regulatory requirements. No new triazole fungicide has been registered for more than 10 years. An interdisciplinary team from the research division Bioscience Research and the Agricultural Solutions segment adopted a new research approach to test and optimize the biological efficacy and the toxicological parameters of triazole fungicides at an early stage of development. Thousands of compounds were designed, synthesized and tested using 3D modeling. Today, BASF's Revysol® fungicide offers farmers around the world an effective, innovative crop protection product that protects their crops against fungal diseases and increases their yield. In 2020, the team won BASF's internal innovation award for their work.



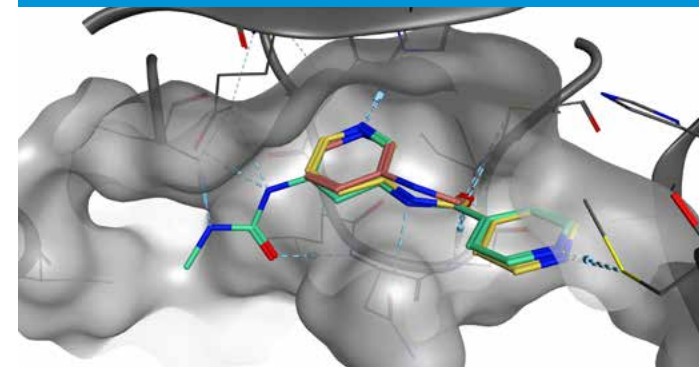
Haptex®

- Solvent-free polyurethane solution for synthetic leather
- Simplified production process

Haptex®, a solvent-free polyurethane system for synthetic leather, was developed by a team from the Advanced Materials & Systems Research research division and the Performance Materials division. Until now, polyurethane resin for synthetic leather has mainly been produced using the solvent dimethylformamide. BASF researchers have now succeeded in modifying the polyurethane formulation so that synthetic leather can be produced without organo-tin catalysts or organic solvents. Thanks to its optimized formulation, Haptex® is also low-emission and well compatible with water-based top layers in synthetic leather. Custom Haptex® synthetic leather grades do not yellow, are chemically resistant, very soft and the surface can be structured using embossing techniques. In cooperation with our customers, our experts also simplified the complex production process. Its many customizable properties mean that our customers can use Haptex® for a wide range of synthetic leather applications in industries such as furniture, automotive, footwear, sporting equipment, clothing and accessories.

[For more information on research and development, see \[basf.com/innovations\]\(https://www.basf.com/innovations\)](https://www.basf.com/innovations)

BASF supports search for active ingredients to combat the SARS-CoV-2 coronavirus

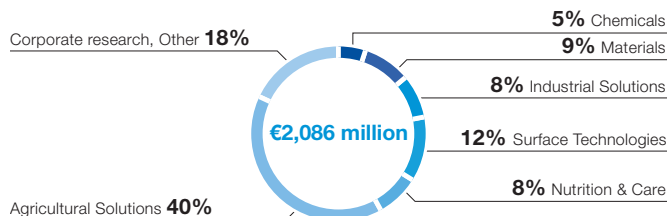


In 2020, BASF experts supported the search for improved derivatives of active ingredients to combat the SARS-CoV-2 coronavirus and provided academic working groups with free access to substances from its compound library, comprising several million entries. Our researchers were additionally involved in the global search for a substance that inhibits what is known as the viral main protease, an essential enzyme of the virus. This inhibitor aims to stop the virus from multiplying in the human body. Using an internally developed computer program and the supercomputer Curiosity, our researchers were able to identify and optimize numerous new molecules. With the help of the supercomputer, BASF also tested around 1.2 billion synthetically producible compounds for their potential to inhibit the main protease of the SARS-CoV-2 virus. BASF does not develop or produce its own vaccine. We are involved in numerous development projects to treat or prevent COVID-19 with our pharmaceutical ingredients.

[For more information on our aid measures during the coronavirus pandemic, see page 49](#)

Innovations in the segments – examples

Research and development expenses by segment 2020



Chemicals

BASF's **Styrodur® Hybrid** is the next generation of the green insulation boards made from extruded polystyrene for customers in the construction industry. The hybrid version has vertical grooves on one side to bond better with the concrete. The simpler and cleaner processing leads to considerable time and cost savings in construction, for example by eliminating the need for full-surface adhesion. These advantages are in addition to the general benefits offered by Styrodur, such as high compressive strength, low moisture absorption, and excellent thermal insulation properties, which play a significant role in reducing CO₂ emissions and cutting heating costs.



Styrodur® Hybrid

- Insulation board with excellent thermal insulation properties
- Reduces CO₂ emissions and cuts heating costs

In 2020, BASF launched **OASE® sulfexx™** – a new, energy-efficient amine gas treatment technology developed in cooperation with ExxonMobil Catalysts and Licensing LLC. The new OASE® sulfexx™

branded technology helps refiners and gas processors to meet their sulfur removal targets while reducing their carbon footprint. It ensures the highly selective removal of hydrogen sulfide (H₂S) from gas streams while minimizing carbon dioxide (CO₂) co-absorption. This provides a competitive advantage by increasing plant capacity and lowering investment and production costs.



OASE® sulfexx™

- Energy-efficient amine gas treatment technology
- Highly selective removal of hydrogen sulfide (H₂S)

Materials



Elastollan®

- New generation of recyclable bicycle tubes based on Elastollan®
- Around 40% lighter than alternatives on the market

Together with our partner Schwalbe, we have developed a new generation of bicycle tubes based on the thermoplastic polyurethane (TPU) **Elastollan®**. The new Aerothan bicycle tube offers exceptional performance, puncture resistance and stable handling thanks to the special mechanical properties of Elastollan®. It is around 40% lighter than the established alternatives on the market, is easy to assemble and has a small packing size. Another advantage of the Aerothan bicycle tubes is that they are recyclable. They are made entirely of thermoplastic polyurethane and can be returned to the manufacturer, easily and free of charge, via the tube recycling program. The material of the old tubes is processed and then reused as sealing or insulating material.

BASF's new additive for the asphalt industry, **B2Last®**, has been designed for sustainable road construction. It extends pavement life while cutting CO₂ emissions along the production chain. B2Last®

meets additional health and safety requirements by enabling asphalt to be produced and processed at significantly lower process temperatures. The innovative additive enables faster completion times and reduces emissions, improving the carbon footprint and making roads more durable.

Industrial Solutions

Demand for biocide-free products with high scrub resistance and low levels of volatile organic compounds (VOC) has become a driving force in the European market for water-based interior paints in recent years. For 20 years, the market has been dominated by ethylene vinyl acetate dispersions, which cannot be used in biocide-free paints. BASF offers an attractive alternative: **Acronal® 6292**. Acronal® 6292 is a styrene-acrylate binder that makes it possible to produce environmentally friendly, biocide-free and low-VOC paints. This has enabled BASF to successfully open up a new market segment that addresses customers' requirements around avoiding allergic reactions while maintaining the same product properties.

BASF and IntelliSense.io, a leading industrial artificial intelligence (AI) company, have combined their expertise in mineral processing, ore beneficiation chemistry and industrial AI technology. The joint offering is called the **BASF Intelligent Mine powered by IntelliSense.io** and delivers AI solutions embedded with BASF's mineral processing and chemical expertise. The solution helps customers to make their mine operations more efficient, sustainable and safe, while offering a real-time decision-making platform. Each mining process, such as grinding, thickening, flotation and pumping, is supported by an Optimization as a Service application that predicts and simulates future performance, generating process-specific recommendations for optimization. This enables customers to realize efficiency gains across the entire value chain.

Surface Technologies

The **Fortune™ FCC catalyst** is the latest addition to the refining catalysts portfolio. It is based on BASF's Multiple Framework Topology technology. Fortune has been optimized to deliver superior butylene over propylene selectivity while maintaining catalyst activity and performance. The technology provides an answer to the increased demand for octane since today's tighter sulfur regulations often require post treatment on the gasoline stream. This can negatively impact the octane pool. The higher butylene selectivity enables refineries to optimize gasoline octane and with it, their profitability.



Glasurit® 100 Line and R-M® AGILIS

- Waterborne basecoat technology
- Reduces volatile organic compounds (VOC)

With **Glasurit® 100 Line** and **R-M® AGILIS**, BASF has introduced the most advanced waterborne basecoat technology for refinish coatings, offering outstanding efficiency and environmental advantages. The focus in product development was on sustainability, with the result that VOC levels are consistently below 250g/l. This is the lowest VOC level on the market, making the new product line the eco-friendliest automotive refinish coatings available. The innovative formulation optimizes the processing properties for fast and efficient application, enabling customers to cut process times by up to 35%. Another 20% can be saved from the reduction in material consumption. This allows body shops to reduce their CO₂ emissions through faster application and shorter drying cycles. At the same time, they can increase profitability and improve their environmental footprint.

Nutrition & Care

Together with other quality ingredients from the BASF Home Care and Industrial & Institutional Cleaning portfolio, the cellulase **Lavergy® C Bright 100 L** harnesses the combined power of different technologies to achieve a sustainable, performance-differentiated solution. Lavergy® C Bright 100 L can be combined with other selective ingredients to prevent fabrics from graying. Whether whites or colors, cotton or synthetic fibers – clothes look like new even after multiple washes. Lavergy® C Bright 100 L also meets the criteria for various ecolabeling systems including EU Ecolabel and Blue Angel. Excellent cleaning performance and good environmental compatibility, as well as suitability for use with many types of fabric are the hallmarks of BASF's one-fits-all solution.

BASF has launched the new fragrance **Isobionics® Santalol**, an alternative to sandalwood oil. Isobionics® Santalol is produced on a biotechnological basis from renewable raw materials and is 100% free of endangered sandalwood. Our fermentation technology ensures consistent high quality, effective production and year-round availability. Isobionics® Santalol resembles the floral heart of sandalwood oil and is particularly suitable for use in perfumes and exclusive personal care products thanks to its woody odor profile.

Agricultural Solutions

We leverage the potential of digitalization in agriculture to help farmers grow their business profitably and reduce their environmental footprint. Launched in 2020, the new outcome-based business model **xarvio® HEALTHY FIELDS** provides a tailored, optimized field and season-specific crop protection strategy. By measuring and classifying externally induced plant stress, automatically defining buffer zones and recording biodiversity on and off arable land, it guarantees plant health and enables farmers to achieve agreed yield forecasts. This way, we respond to modern farming challenges, requirements by society and political action plans and contribute to more sustainable farming.

In 2020, xarvio® HEALTHY FIELDS received the Crop Science Award, one of the most important and renowned awards in the agricultural industry worldwide, for the "Best Innovation in Digital Farming Technology."

Wheat is one of the most produced crops in the world and demand continues to increase based on the growing world population. Our agricultural innovations for wheat production contribute to food security, which will help to reach the U.N. Sustainable Development Goals (SDGs). Our R&D pipeline comprises solutions that help farmers to achieve better yield – balancing the needs of the environment, society and agriculture.

In 2020, we received the first registration worldwide for the new herbicide active ingredient **Tirexor®**. It will give wheat growers in Australia more choice for effective weed control to combat resistance and enable climate-smart, no-till farming. Further dossier submissions in other countries across Asia, South and North America are planned.

Our recently launched fungicide **Revysol®** will also play a crucial role in future resistance management in wheat, helping growers to better protect their crops, manage resistances and increase their yield in a sustainable way.



Hybrid wheat

- Improved harvest quality and stability
- Securing high yield in the long term

With market entry expected by mid-decade, we will introduce **hybrid wheat**,¹ supporting the nutritional needs of a growing world population. Hybrid wheat will bring much needed innovation to wheat production and start a journey to transform this crop for long-term success to deliver high performance in yield, quality and stability to meet the agronomic needs of farmers and the value chain in North America and Europe. The hybrid approach will give breeders new opportunities to adapt and improve plant characteristics and will play an important role in addressing the environmental challenges of the future.



InVigor® technologies for hybrid canola

- For pod shatter reduction and resistance to plant diseases
- More flexibility at harvest

BASF's **InVigor® hybrid canola** pod shatter reduction and clubroot resistant trait technologies help to protect yield potential from clubroot and deliver more flexibility for growers at harvest. In addition, we launched the 300 series of InVigor hybrid canola for the 2020 growing season, featuring three new hybrids that offer growers improvements in yield, pod shatter reduction protection, or clubroot resistance.

Various innovative crop protection products, such as the recently acquired L-glufosinate ammonium herbicide technology and seed treatment in combination with digital products, help farmers to manage weeds, pests and diseases and also enable higher yield.

BASF joined the AGROS program in 2020, a collaboration between the Netherlands-based Wageningen University & Research and 26 private partners looking into **autonomous vegetable growing**. The aim is to make best use of technology and accelerate innovation in order to meet the growing demand for food, while preserving natural resources. We are focusing even more strongly on the needs of our consumers with the joint development of a connected, data-driven, automated and sustainable production system. Further research relates to optimized cultivation methods for growing cucumbers based on sensors, plant physiology and artificial intelligence.

¹ R&D expenses reported under Other

「Integration of Sustainability」

We are successful in the long term when we create value added for the environment, society and the economy with products, solutions and technologies. Sustainability is firmly anchored in our strategy and corporate governance. We carry out the company purpose “We create chemistry for a sustainable future” using the various tools of our sustainability management. We systematically incorporate sustainability into our business and our assessment, steering and compensation systems. We identify sustainability trends at an early stage and derive appropriate measures for our business to seize new business opportunities and minimize risks along the value chain.

Strategy

■ Sustainability further integrated into governance, compensation systems and business models

We achieve long-term business success by creating value added for the environment, society and the economy. Sustainability is at the core of what we do, a driver for growth and value as well as an element of our risk management. That is why sustainability is firmly anchored into the organization as part of governance, compensation systems and business models.

Based on our corporate strategy and the global targets derived from this, we steer the sustainability targets (CO₂-neutral growth until 2030 and achieve €22 billion in Accelerator sales by 2025) as most important key performance indicators. We have established the necessary steering mechanisms and control systems at Group level. Carbon management bundles our global activities to reduce greenhouse gas emissions (see page 135). We use the Sustainable Solution Steering method to manage our product portfolio (see page 45). To assess the sustainability performance of our products and identify solutions that make a substantial sustainability contribu-

tion in the value chain (Accelerator products), we regularly reassess our product portfolio.

In addition to the two climate protection and Accelerator sales targets, we have also set ourselves further sustainability targets on responsible procurement, engaged employees, women in leadership positions, occupational health and safety, process safety and water management.

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 on an ongoing basis. 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 8 (Decent work and economic growth), SDG 9 (Industry, innovation and infrastructure), SDG 12 (Responsible consumption and production) and SDG 13 (Climate action). The SDG focus areas are prioritized by internal experts. In doing so, they assess the impacts and positive contributions of our products, our corporate targets and strategic action areas. The contribution of our activities is measured using the Value to Society approach. This assesses our positive and negative impacts on the environment, society and the economy (see page 44).

We evaluate key sustainability topics with our comprehensive materiality analysis. The graphic on page 43 shows how we identify and 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.

The relevant topics identified based on the three dimensions of materiality include climate and energy, resource efficiency and waste, health and safety / product stewardship, emissions to air and soil, and responsibility along the value chain.

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

For more information on our Value to Society approach, see basf.com/en/value-to-society

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

Our organizational and management structures

We are constantly working to broaden our positive impact on key sustainability topics and reduce the negative impact of our business activities. The Corporate Development unit, which is part of the Corporate Center, has steered the integration of sustainability into core business activities and decision-making processes since 2020 (see page 21). Global steering of climate-related matters is also bundled in this unit, such as coordinating measures to reach our climate protection target and steering the target on making our product portfolio more sustainable.

The Board of Executive Directors and the Supervisory Board are regularly briefed on the current status of individual sustainability topics. In addition, the Board of Executive Directors is informed about sustainability evaluations in business processes, for example, in the case of 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 also established an external, independent Stakeholder Advisory Council (SAC) in 2013 and a Human Rights Advisory Council (HRAC) in 2020. In the SAC, international experts from academia and society

contribute their perspectives to discussions with BASF's Board of Executive Directors. The HRAC is led by our Chief Compliance Officer. It comprises external human rights specialists and internal experts, who advise senior management. This helps us to build on our strengths in how we handle human rights and address potential for improvement.

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 as well as which effects we are exposed to.

For more information on our financial and sustainability targets, see page 32

For more information on our risk management, see pages 158 to 166

For more information on compensation structures, see the Compensation Report on page 183 onward

For more information on the organization of our sustainability management, see basf.com/sustainabilitymanagement

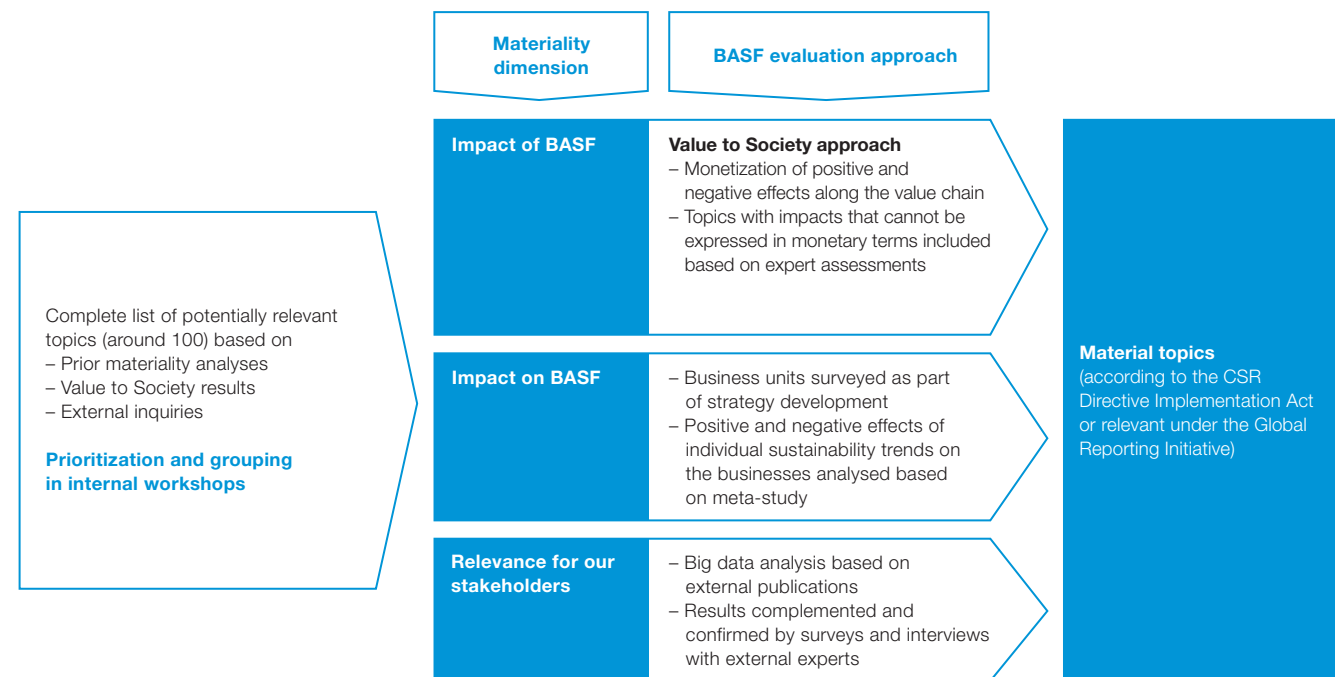
Harnessing business opportunities and measuring value added by sustainability

■ Product Carbon Footprints (PCFs) for around 45,000 sales products by the end of 2021

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 automatically evaluate and take into account relevant sustainability criteria when they develop and implement strategies, research projects and innovation processes.

We want to measure the value proposition of our actions along the entire value chain. We are aware that our business activities have an impact on the environment and society, and so we strive to increase

Identifying and assessing sustainability topics^{1, 2}



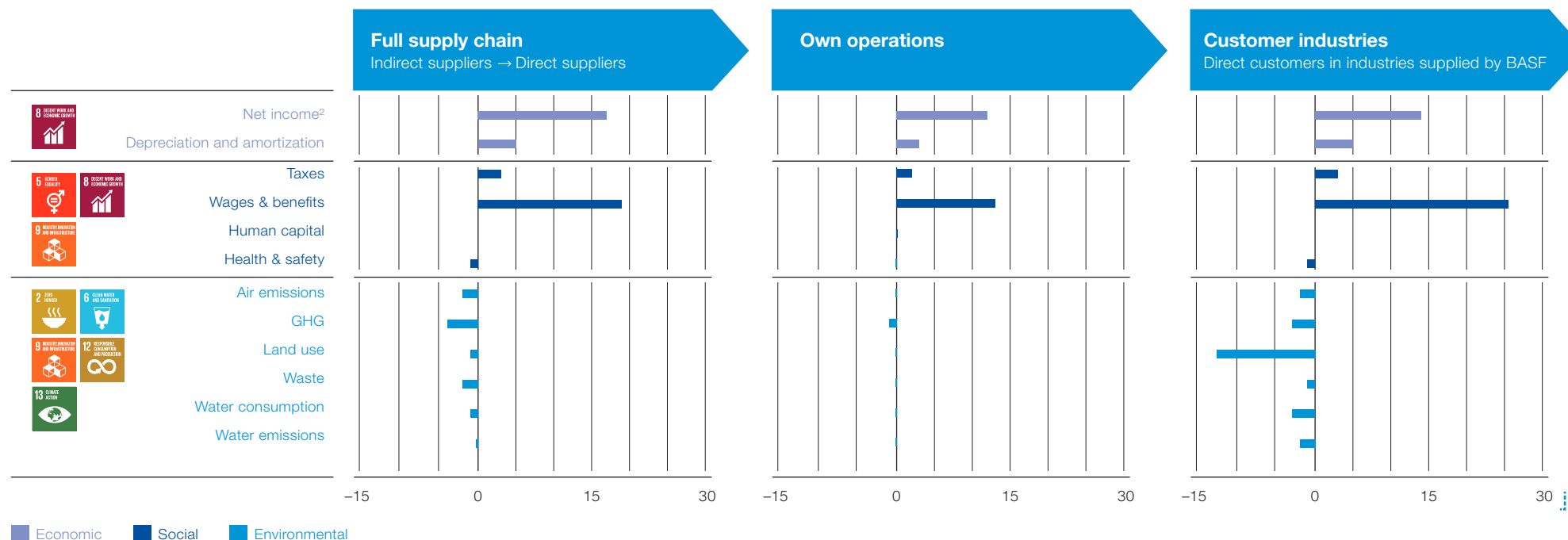
¹ Our stakeholders also confirmed the materiality of the nonfinancial topics that the Value to Society approach identified as having an impact along the value chain.

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.

the positive contribution and minimize the negative effects of our business activities.

To achieve this, we need to continually improve our understanding of how our actions impact society and the environment. We already have many years of experience of this 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, or BASF's corporate carbon footprint.

BASF also plans to make the individual carbon footprints for around 45,000 sales products available by the end of 2021 with the help of a new, in-house digital solution. PCFs comprise all product-related greenhouse gas emissions that occur until the BASF product leaves the factory gate for the customer: from the purchased raw material to the use of energy in production processes (Scope 1–3). Calculating PCFs creates transparency for our customers and partners, enabling us to develop plans together to reduce CO₂ emissions along the value chain up to the end product.

Our Value to Society approach¹ (figures in billion €)

¹ Value to Society results are calculated annually following the publication of the BASF Report. Consequently, the results shown in the BASF Report 2020 are based on the figures for the 2019 business year ("human capital" category currently only assessed for BASF production).

² 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.

We want to understand the value we contribute to society 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 approach in 2013 together with external experts. It allows us to better understand our contribution to a sustainable future. In addition, we can use it to compare the significance of financial and nonfinancial 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.² 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. We aim to increase the positive contributions of our business activities along the value chain and minimize the negative impacts. The Value to Society approach also enables us to continually monitor our progress. It complements

existing concepts for assessing risks and business opportunities by providing a macro perspective.

We share our experiences in networks and initiatives such as the Impact Valuation Roundtable and are involved in the corresponding standardization processes within the International Organization for Standardization (ISO). We are also a founding member of the value balancing alliance e.V. (vba), a cross-industry initiative. The vba is working to develop 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 the E.U., major auditing firms, the Organisation for Economic Co-operation and Development (OECD), leading universities and other partners. BASF is currently one of the pilot companies testing the method using its own business data. The vba receives the results of our evaluation to enhance and refine the Value to Society method.

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

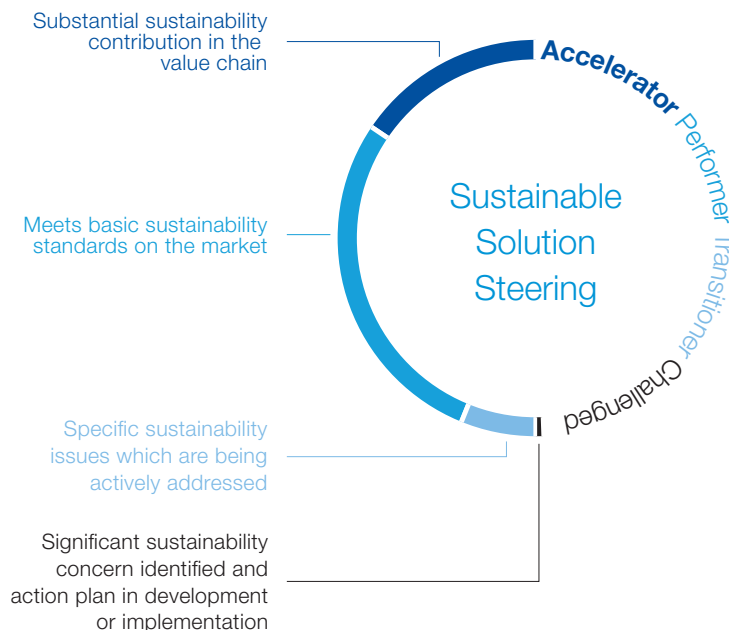
For more information on value balancing alliance e.V., see value-balancing.com

Steering of product portfolio based on sustainability performance

■ Increase sales from Accelerator products

A significant steering tool for the product portfolio, based on the sustainability performance of our products, is the Sustainable Solution Steering method. By the end of the 2020 business year, we had evaluated 98.4%¹ of the relevant portfolio.² 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 2020, sustainability analyses and assessments had been conducted for more than 57,000 specific product applications, accounting for €54.1 billion in sales. These consider the products' application in various markets and sectors. 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 comparative assessments, which is why we regularly reassess our product portfolio.

Classification of relevant portfolio² according to the Sustainable Solution Steering method



Year	Sales	Million €
2020		16,740
2019		15,017
2020		30,519
2019		32,148
2020		6,799
2019		4,705
2020		72
2019		64

Transparently classifying our products on the basis of their contribution to sustainability enables us to systematically improve them. 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.

2025 target

Increase sales from Accelerator products to

€22 billion

In 2020, we generated sales of €16.7 billion with Accelerator products (2019: €15.0 billion). Accelerator products account for 30.9% of the evaluated relevant portfolio. Performer products account for 56.4% and Transitioner products for 12.6% of the solutions assessed. Sales of Accelerator products rose by 11%

¹ Parts of the relevant portfolio have not yet been evaluated, including the integrated polyamide business acquired from Solvay in 2020.

² 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

compared with the previous year. This is primarily attributable to the positive development of Accelerator sales in the Surface Technologies and Agricultural Solutions segments. In the Agricultural Solutions segment, the first-time assessment of the seed business acquired from Bayer contributed to the increase.

If, during reassessment of our portfolio, we identify products with substantial sustainability concerns, we classify these as "Challenged." Challenged products account for around 0.1% of the evaluated relevant portfolio. We develop and 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, as of 2018, we will phase out all Challenged products within five years of initial classification as such 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. This is why our Sustainable Solution Steering method is used in areas such as our research and development pipeline, in business strategies as well as in merger and acquisition projects.

[For more information on Sustainable Solution Steering, see basf.com/en/sustainable-solution-steering](https://www.basf.com/en/sustainable-solution-steering)

Stakeholder engagement

■ Continuous dialog with our stakeholders

Our stakeholders include customers, employees, partners and suppliers, investors, representatives from academia, industry, politics and society, as well as from the communities surrounding our production sites. 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 the legitimacy of our business activities – our license to operate. For important topics, we systematically identify key stakeholders at an early stage to discuss critical questions with them. Relevant considerations include their topic-specific expertise and willingness to engage in constructive dialog.

BASF was awarded the 2020 CSR Prize by the German federal government, which highlighted BASF's long-standing commitment to CSR (corporate social responsibility) and its comprehensive sustainability strategy. In its justification, it emphasized BASF's pioneering role, particularly in integrated reporting and the disclosure of CO₂ emissions, and the fact that BASF also encourages the

implementation of sustainability at other companies in the industry through transparency.

We draw on the competence of global initiatives and networks, and contribute our own expertise. We are active in worldwide initiatives with various stakeholder groups. 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. We support UNGC Action Platforms, for example on Good Health and Well-being (SDG 3), and contribute to the UNGC Expert Network. To celebrate the 75th anniversary of the United Nations on September 21, 2020, we reaffirmed our commitment to the UNGC and pledged our support for the Women's Empowerment Principles and the CFO Principles on Integrated SDG Investments and Finance. BASF is also active in 16 local Global Compact networks.

Stakeholder demands and expectations of BASF



Customers

- Innovative and sustainable solutions
- Reliable partner



Investors

- Attractive dividend yield
- 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 relationship
- 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

In 2020, we once again met with the Stakeholder Advisory Council to discuss important aspects of sustainability. The main topics were climate protection, circular economy and sustainable finance. The Human Rights Advisory Council discussed impacts on selected aspects of our products' value chains and interacting with vulnerable groups.

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 published an Industry Associations Review 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. 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 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 citizens 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 databank of the Responsible Care Management System.

We also use digital formats to initiate dialog on sustainability topics. The first Climathon was held in November 2020 as an initiative for employees. During the one-day hackathon, teams of (IT) experts developed digital solutions for sustainability issues, from calculating

personal carbon footprints to supporting customer-focused business ideas.

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

For more information on the BASF Climathon, see climathon.basf.com

Social engagement

- **BASF as a responsible neighbor at our sites worldwide**
- **Contribution to the United Nations' Sustainable Development Goals**

Through our social engagement, we want to take into account the needs of the communities surrounding our production sites worldwide, help achieve the United Nations' Sustainable Development Goals (SDGs), and have a positive long-term impact on the environment and society. This is why social engagement is a cornerstone of our corporate social responsibility. Our social engagement policy was updated in 2020 and provides the guardrails for our activities. It stipulates that all social engagement measures worldwide must be conducted in line with our compliance policy, BASF's strategy and our sustainability commitments. We want to have a positive impact on society in our three focus areas: future health, future skills and future 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.

As a responsible neighbor at our Ludwigshafen site and a partner in the Rhine-Neckar metropolitan region, our social engagement in Germany includes strengthening participation and integration of disadvantaged groups as well as promoting research and discovery. It is particularly important to us that we work together with our partners to increase the impact of individual measures. In the project *#WirGestaltenSchule*, for example, we are working with our partners to improve education equality. We promote cooperation between

nonprofit organizations with the *Gemeinsam Neues schaffen* program.

We are a member of *Wissensfabrik – Unternehmen für Deutschland e.V.*, a network of over 130 companies and organizations with close links to business that supports children, young people, students and young entrepreneurs through its involvement with educational institutions and start-ups. 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.

We foster societal integration, particularly of low-achieving young people and refugees, with our *Start in den Beruf* and *Start Integration* programs. In 2020, 106 young people in the BASF Training Verbund participated in these two programs in cooperation with partner companies in the Rhein-Neckar metropolitan region. The goal is to prepare participants for an apprenticeship within one year, and ultimately secure the long-term supply of qualified employees for BASF and in the region as a whole. Since being launched at the end of 2015, BASF's *Start Integration* program has supported around 420 refugees with a high probability of being granted the right to remain in Germany, helping to integrate them into the labor market. We spent around €2.6 million on the BASF Training Verbund in 2020.

We support the *Espérance Banlieues* program in France for children from elementary and high schools in 17 low socioeconomic areas with our Kids' Lab program. The hands-on program provides a play-based introduction to science and teaches topics such as a healthy diet. The program ultimately aims to prevent early school leaving and to make it easier to access further education. During the coronavirus pandemic, BASF France supported partner schools with donations of protective face masks and disinfectant.

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 with precarious livelihoods to improve their income-earning opportunities and their quality of life. At the same time, the program provides access to new markets and partners, and strengthens our contribution to reaching the SDGs. For example, we support the Waste-2-Chemicals project in Lagos, Nigeria, in which citizens help to keep the city clean by collecting and sorting plastic waste. The plastic waste is converted into pyrolysis oil in a chemical recycling process and used as feedstock in the production of high-quality chemical products. BASF cooperates with the organizations Wecyclers and RecyclePoints to make this circular value creation process possible. We are also planning to build centers where plastic waste can be collected and converted into pyrolysis oil. In this way, we want to provide local collectors and their families with a regular income in the future.

We promote resource stewardship with different programs around the world, such as our Water Producer Program. This was established in 2011 through a partnership between BASF's Guaratinguetá site in Brazil, the organization Fundação Espaço ECO® and local government. BASF sponsors the program and wants to strengthen the local community and environment with the initiative. The program aims to support conservation measures usually performed by farmers – such as the reforestation of riverbank woodlands, soil restoration and protecting native plants and water sources – with financial assistance and training from the organization's environmental consultants. Since being founded, the program has supported more than 60 farmers. It directly contributes to water conservation in the Ribeirão Guaratinguetá basin, which supplies 90% of communities in the area. The Fundação Espaço ECO® was founded by BASF in Brazil and supports BASF business units and other customers on their journey to becoming more sustainable. The organization celebrated its 15th anniversary in 2020.

In the area of international development work, we support BASF Stiftung, an independent nonprofit organization, with donations for its projects with various U.N. organizations. The 2020 year-end donation campaign in favor of BASF Stiftung supported the United Nations World Food Programme's (WFP) efforts to deliver humanitarian food aid in Yemen. A total of around €396,600 was raised for WFP from donations by the employees of participating German Group companies and BASF. A donation of €65 can feed a family in Yemen for one month.

BASF Group expenses for social engagement activities ¹

~€76 million

For more information on Starting Ventures, see basf.com/en/starting-ventures

For more information on social engagement at our sites, see ludwigshafen.basf.de/commitment

For more information on our social engagement around the world, see basf.com/en/engagement

¹ As of 2020, we report a total figure for our social engagement activities. Consequently, a graphic representation of individual expenses, as shown in the 2019 report, is no longer provided. The figure includes all consolidated companies with employees, including joint operations. A large part of the expenses in 2020 related to activities in connection with the Helping Hands initiative.

「Helping Hands – our aid measures during the coronavirus pandemic」



Civil society, government, business and the nonprofit sector must work closely together to overcome the coronavirus pandemic. Our Helping Hands aid campaign contributed to the fight against the novel coronavirus – as part of society, as a partner at our sites and as an international company. We used our expertise in research, production, procurement and logistics to help during the crisis.

Our activities to fight the coronavirus were wide-ranging: We produced and donated disinfectant, supplied personal protective equipment, supported medical facilities and food bank initiatives, and contributed our expertise to medical research.

Production and donation of disinfectants

Within a very short period of time, we modified production processes at plants in different countries to manufacture urgently needed disinfectants – products that are not usually part of BASF's portfolio. Employees in countries such as Brazil, Germany, France, the Netherlands, Switzerland, Spain, Turkey and the United States helped to avoid local bottlenecks with their team spirit and great flexibility. In Europe alone, BASF produced more than 900,000 liters of disinfectant between March and December and donated this to hospitals, medical workers, care homes, local government, educational institutions and nonprofit initiatives such as UNO-Flüchtlingshilfe, the German partner of the U.N. refugee agency.

Using our procurement networks

Given the strained supply situation at the beginning of the pandemic, we used our procurement networks to purchase more than 100 million protective masks and donate these to the Federal Republic of Germany and the state of Rhineland-Palatinate. We also supported local healthcare facilities in many other countries, including Belgium, Brazil, China and the United States, by providing masks, protective eyewear, protective clothing and materials to protective visors free of charge.

Assistance initiatives and programs for those in need

Together, BASF SE and BASF Stiftung also established assistance initiatives and programs for those in need. An assistance fund focused on organizations that provide and distribute food to those in need. Other institutions, individuals and BASF employees could also donate to the fund. BASF Stiftung provided assistance to those who have suffered long-term loss of income due to COVID-19 illness or

whose households were in financial distress as a result of the pandemic. We also donated to hospitals and healthcare providers in the communities surrounding our sites in China, India, Italy, South Korea, Poland and Spain, for example.

BASF infrastructure supports search for active ingredients

We also made our expertise and infrastructure available for research into the virus, for example, in the search for active ingredients to treat COVID-19 patients. Our supercomputer Curiosity identified and optimized promising molecules for public research projects (see page 38 for more information). In addition, we opened our expertise and laboratory facilities to TÜV Nord at the BASF Innovation Campus in Shanghai, China, where quality checks on protective face masks were conducted on behalf of the German Federal Ministry of Health.

For more information on the Helping Hands aid campaign, see basf.com/en/helping-hands

The BASF Group's Business Year

Material Investments and Portfolio Measures

In addition to innovations, investments make a decisive contribution toward achieving our ambitious growth goals. We use targeted acquisitions to supplement our organic growth.

By investing in our plants, we create the conditions for the profitable growth we strive for while constantly improving the efficiency of our production processes. For the period from 2021 to 2025, we have planned capital expenditures (capex)¹ totaling €22.9 billion worldwide.

[For more information on our investments from 2021 onward, see page 157](#)

With a world market share of more than 40%, China is today the largest chemical market and drives the growth of global chemical production. We expect China's share to increase to around 50% by 2030. To continue to participate in this growth in Asia in the future, we plan to build an integrated Verbund site in Zhanjiang in the southern Chinese province of Guangdong. Construction of the first plants started in 2020. We also plan to expand the site we operate together with our partner Sinopec in Nanjing, China.

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 and acquisitions 2020

Million €

	Investments	Acquisitions	Total
Intangible assets	103	691	794
of which goodwill	–	21	21
Property, plant and equipment ^a	3,516	559	4,075
Total	3,619	1,250	4,869

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

Investments

Investments in property, plant and equipment amounted to €3,516 million in 2020 (2019: €3,839 million). Capex¹ accounted for €2,878 million of this amount (2019: €3,349 million). Our investments in 2020 focused on the Chemicals, Materials, Surface Technologies and Nutrition & Care segments.

In Europe, construction continued for another production plant for vitamin A at the Ludwigshafen site in Germany. It is scheduled for startup in 2021. We are expanding the ethylene oxide complex in Antwerp, Belgium, and are building production plants for battery materials and their precursors in Harjavalta, Finland, and Schwarzhof, Germany.

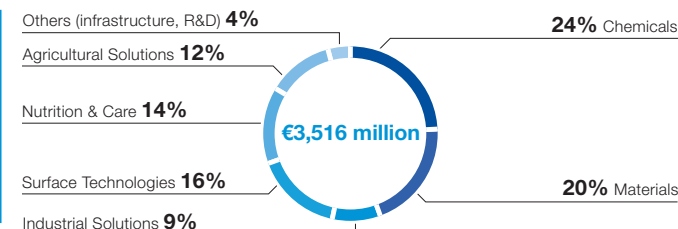
In North America, we continued construction of an MDI synthesis unit in Geismar, Louisiana, and started up the first plants.

In Asia, we continued to drive forward construction of the new integrated Verbund site in Zhanjiang, China, in 2020. The first production

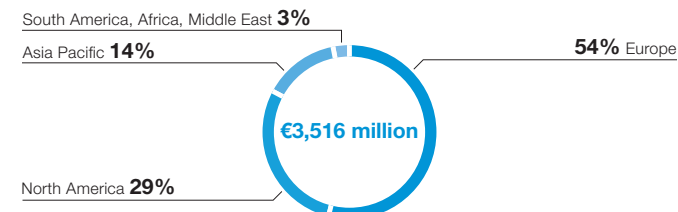
facilities are scheduled for completion in 2022. We started up a plant for emissions catalysts in Shanghai, China.

[For more information on investments within the segments, see page 69 onward](#)

Additions to property, plant and equipment^a by segment in 2020



Additions to property, plant and equipment^a by region in 2020



^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

Acquisitions

We added €559 million worth of property, plant and equipment through acquisitions in 2020. Additions to intangible assets including goodwill amounted to €691 million.

[For more information on acquisitions, see the Notes to the Consolidated Financial Statements from page 235 onward](#)

On January 31, 2020, BASF closed the acquisition of Solvay's integrated polyamide business, which was agreed in September 2017. The acquisition broadens BASF's polyamide capabilities with innovative and well-known products and enhances access to growth markets in Asia as well as in North and South America. Through the backward integration into the key raw material adiponitrile (ADN), BASF now has production plants along the entire value chain for polyamide 6.6. The transaction includes production sites in Germany, France, China, India, South Korea, Brazil and Mexico; research and development centers and technical consultation centers; and shares in Butachimie SNC and Alsachimie S.A.S. BASF acquired the polyamide business for a purchase price of €1.3 billion (on a cash and debt-free basis) and integrated it into the Performance Materials and Monomers divisions within the Materials segment.

[For more information on this acquisition, see the Notes to the Consolidated Financial Statements from page 235 onward](#)

Divestitures

On September 30, 2020,¹ we closed the divestiture of our construction chemicals business to an affiliate of Lone Star, a global private equity firm, as agreed in December 2019. The purchase price on a cash and debt-free basis was €3.17 billion. The divested construction chemicals business had around 7,500 employees and operated production sites and sales offices in more than 60 countries. It generated sales of around €2.6 billion in 2019.

[For more information on this divestiture, see the Notes to the Consolidated Financial Statements from page 237 onward](#)

Agreed transactions

On August 29, 2019, we reached an agreement with DIC, Tokyo, Japan, on the acquisition of BASF's global pigments business. The purchase price on a cash and debt-free basis is €1.15 billion. The assets and liabilities to be divested were reclassified to a disposal group in the Dispersions & Pigments division as of this date. The transaction is expected to close in the first half of 2021, subject to the approval of the relevant competition authorities.

¹ The construction chemicals business was transferred in two steps, on September 30, 2020, and on November 30, 2020.

Economic Environment¹

Global economic growth in 2020 was much weaker than we had forecast at the beginning of the year. In the first half of 2020, the coronavirus pandemic led to the worst economic slump since the Second World War. Following a recovery in the third quarter, economic activity in the fourth quarter was again disrupted by rising infection rates and government restrictions in many countries. Global gross domestic product (GDP) fell by 3.7% year on year (2019: +2.5%). Industrial production contracted by 4.0% (2019: +1.8%). Global chemical production declined by 0.4% (2019: +1.9%). The average price for a barrel of Brent crude oil decreased to \$42 per barrel (2019: \$64 per barrel).

[For the outlook on the economic environment in 2021, see page 152 onward](#)

Trends in the global economy in 2020

Global gross domestic product declined by 3.7% in 2020 due to supply-side disruptions and weaker demand as a consequence of the coronavirus pandemic. A sharp decline in economic activity in China in January and February was followed by similar downturns in the rest of the world from March onward. Many companies saw production impacted by government orders and disruptions in interconnected global value chains. Online purchases could not fully compensate for the drop in offline demand. Turnover also temporarily slumped in the tourism, hospitality and cultural sectors. The resulting losses led to a decline in income and intermediate demand in this sector. Swift and strong intervention by central banks and governments in this exceptional situation prevented the global economy and financial markets from collapsing. Following a dynamic upturn in the third quarter of 2020, rising infection rates from October onward again made restrictions on economic activity necessary, especially in Europe.

Gross domestic product

Real change compared with previous year

World	2020	-3.7%	
	2019	2.5%	
European Union ²	2020	-6.4%	
	2019	1.6%	
United States	2020	-3.5%	
	2019	2.2%	
Emerging markets of Asia ³	2020	-0.1%	
	2019	5.3%	
Japan	2020	-4.8%	
	2019	0.3%	
South America	2020	-6.6%	
	2019	0.9%	

Economic trends by region

- Strongest post-war decline in GDP
- Deep recessions in the E.U. and North America, slight growth in China
- Depreciation of exchange rates in emerging markets

In the **European Union (E.U.)**, GDP contracted by 6.4% (2019: +1.6%). Europe's southwest was especially hard hit: Hard lockdowns were ordered in response to high infection rates. GDP fell by 8.3% in France, 8.8% in Italy and even shrank by 11.0% in Spain. German GDP also declined significantly, but less sharply, by 5.3%. The smaller decrease reflected the fact that the export industry benefited from the recovery in China and that the downturn in private consumption was less pronounced. GDP declined by 9.9% (2019: +1.4%) in the United Kingdom as measures to contain infection rates were taken late, but were stricter and continued for longer. Following an economic slump in the spring and a dynamic recovery in the third quarter, the eastern E.U. countries again recorded a strong rise in infection rates. As a result, governments imposed new partial lockdowns, which negatively impacted the services sector in particular. Overall, GDP in the eastern E.U. countries decreased by 4.4% in 2020 (2019: +3.8%). In **Russia**, GDP declined by 3.1% (2019: +1.3%). Industrial production in Russia was weighed down by rising infection rates from mid-September onward, weak demand for energy commodities and cuts to oil production. This dampened the economic recovery that began in the third quarter, largely driven by private consumption.

Economic developments in the **United States** were very volatile. The crisis left its mark on the unemployment rate here, which jumped from 3.5% at the beginning of the year to 14.8% in April 2020. Personal incomes rose overall as unemployment benefits were significantly bolstered by state aid. As a result, spending on consumer goods remained largely stable, while there was a clear, temporary

¹ All information relating to past years in this section can deviate from the previous year's report due to statistical revisions. Where available, macroeconomic growth rates are adjusted for calendar effects. Figures for 2020 not yet available in full are estimated.

² In the rest of this chapter, "E.U." refers to the E.U. 27.

³ 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.

drop in consumption of services. In the second half of 2020, the easing of restrictions in many states led to a significant recovery and saw the unemployment rate halve. Overall, U.S. GDP fell by 3.5% (2019: +2.2%).

In the **emerging markets of Asia**, the impact of the coronavirus pandemic was mixed. Economic output in **China** dropped considerably as early as the first quarter of 2020. However, a dynamic economic recovery was already underway in the second quarter of 2020 and continued in the second half of the year. Industrial production and export demand recovered particularly quickly, while domestic consumer demand reacted only after a delay. China was the only major global economy to report growth in 2020, of 2.3% (2019: +6.0%). In India, by contrast, GDP fell by 8.0% after a lockdown lasting several months (2019: +4.2%). Here, too, a strong decline was followed by a clear upturn in the second half of the year. GDP in the remaining emerging markets of Asia declined by an average of 3%. There was considerable variation from country to country.

Japan and South Korea recorded comparatively low infection rates overall. However, these also saw a significant temporary drop in domestic and foreign demand. In **Japan**, GDP sank by 4.8% (2019: +0.3%). In South Korea, higher government spending and investment cushioned the decline in GDP to only -1.0% (2019: +2.0%).

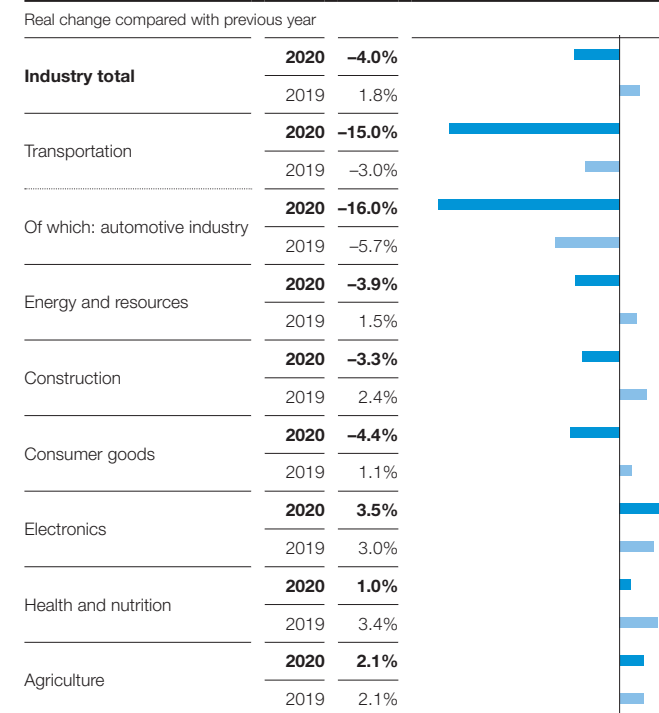
South America was severely affected by the coronavirus pandemic. The Brazilian economy was bolstered by strong fiscal stimulus measures. Economic growth started to recover in the second half of the year after restrictions were eased in some regions. The increase in public debt and rising inflation rates led to a significant depreciation of the Brazilian real. Brazilian GDP decreased by 4.6% (2019: +1.4%). Argentina saw a much stronger decline in economic output in 2020, falling by 10.4% as a result of a strict lockdown in the spring (2019: -2.1%). The country's renewed debt crisis left little room for government aid. Inflation rates of over 40% negatively impacted private consumption and the Argentine peso lost around half of its value. Exchange rates in the rest of South America remained more stable. GDP losses due to lockdowns and weaker export demand varied significantly and were between -4.8% in Uruguay and -11.9% in Peru. Overall, GDP in South America fell by 6.6% (2019: +0.9%).¹

Trends in key customer industries

- **Strong decline in global industrial production**
- **Weak momentum and partial recovery in the automotive industry**
- **Stable trend in agriculture**

Global industrial production contracted by 4.0% in 2020 (2019: +1.8%). The advanced economies saw much stronger decreases of 6.5% overall compared with the emerging markets, which only declined by 1.8%. The emerging markets performed better primarily due to the recovery of industrial production in China (2020: +2.6%; 2019: +5.7%). In the remaining emerging markets of Asia, by contrast, industrial production fell by 7.1% overall (2019: +2.1%). Industrial production decreased by 7.8% in the E.U. (2019: -0.2%) and by 10.5% in the United Kingdom (2019: -0.4%). North America (2020: -5.7%; 2019: +1.0%) and South America (2020: -7.5%; 2019: -0.6%) reported similar declines.

Growth in key customer industries



Global **automotive production** decreased by 16% after already declining by 5.7% in 2019. After a strong slowdown in China in the first quarter of 2020, followed by massive declines in the rest of the world in the second quarter, the rest of the year saw a dynamic recovery. Growth was particularly strong in China, where automotive production already exceeded the prior-year level in the third quarter. However, average annual production in China was still 4.3% below the previous year. The remaining emerging markets of Asia posted much stronger declines in production of around one-quarter. Japan and South Korea recorded more moderate decreases of 15.8% and 11.6%, respectively. Although North America and Europe also

¹ Not including Venezuela

returned to pre-crisis levels over the course of the year, average production for the year was down 20.1% and 22.4% from the previous year, respectively. In the global **construction industry**, output decreased by 3.3% (2019: +2.4%). Overall, non-residential construction contracted at a slightly stronger rate than the residential and infrastructure segment. Developments varied from region to region: Construction volumes fell by 7.1% in western Europe and by 7.6% in eastern Europe, while North America posted a decrease of only 1.3%. The United States saw an upturn in the housing market, which partially offset developments in non-residential building. In Asia, construction activity declined only slightly by 0.6%. Construction activity grew by 3.5% in China, but shrank by 3.1% in Japan, 1.5% in South Korea and 18.7% in India. The construction industry also contracted significantly by 13.2% in South America. **Consumer durables** production, for example in the textile and furniture industries, fell by almost 8% on average. Production also decreased by around 4% (2019: +1.5%) in the **energy and resources** sector due to weaker demand for energy and industrial commodities. **Agricultural production** was more stable and grew by 2.1% (2019: 2.1%). The U.S. market achieved considerable growth of 2.8%, benefiting from rising exports to China and unfavorable weather conditions in parts of South America. In western and eastern Europe, by contrast, production declined by 0.8% overall. This was attributable to both dry weather conditions and regional shortages of harvest workers. In South America, agricultural production declined slightly by 0.5%. Production increased by 1.9% in Brazil but decreased by 8.4% in Argentina due to drought. In Asia, production rose by 2.7% compared with the previous years.

Trends in the chemical industry

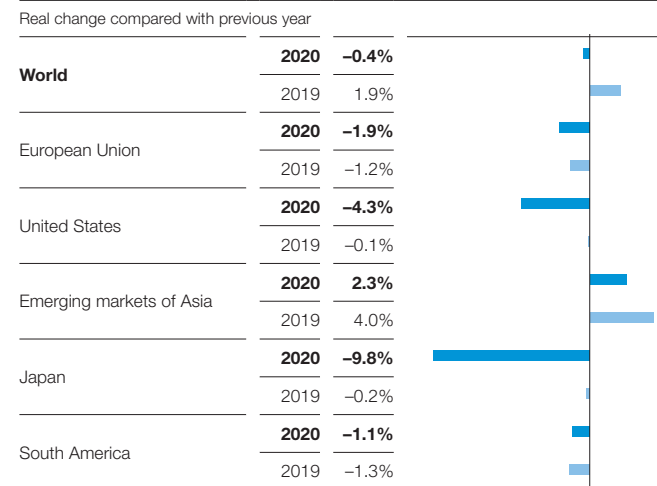
■ Global growth much weaker than in prior year and below expectations

Contrary to our expectations, global chemical production contracted by 0.4% in 2020 (2019: +1.9%). As a result, the decline was much less pronounced than in global industrial production. This was because less cyclical customer sectors have a higher weighting in the chemical industry and because demand temporarily rose for disinfectants and cleaning products, protective clothing, single-use packaging and plexiglass.

However, there were significant regional differences. In the E.U., chemical production decreased by around 2%, with significant differences between the major production locations. While production only declined by between 1% and 3% in Belgium, Germany and Spain, and was virtually unchanged in the Netherlands, it fell by around 8% in Italy and by around 9% in France. Chemical production decreased by 4.6% in North America and by 1.1% in South America.

By contrast, China, the world's largest chemical market, increased volumes by 3.4%. In the rest of Asia, on the other hand, chemical production declined, in some countries significantly (Japan: -9.8%; Malaysia: -6.2%; India: -5.4%; South Korea: -3.2%). As a result, chemical production in Asia only increased by around 1%.

Chemical production (excluding pharmaceuticals)



Price trends for key commodities

- Sharp decline in prices for crude oil and naphtha
- Year-on-year decrease in gas prices, but with wide regional variance

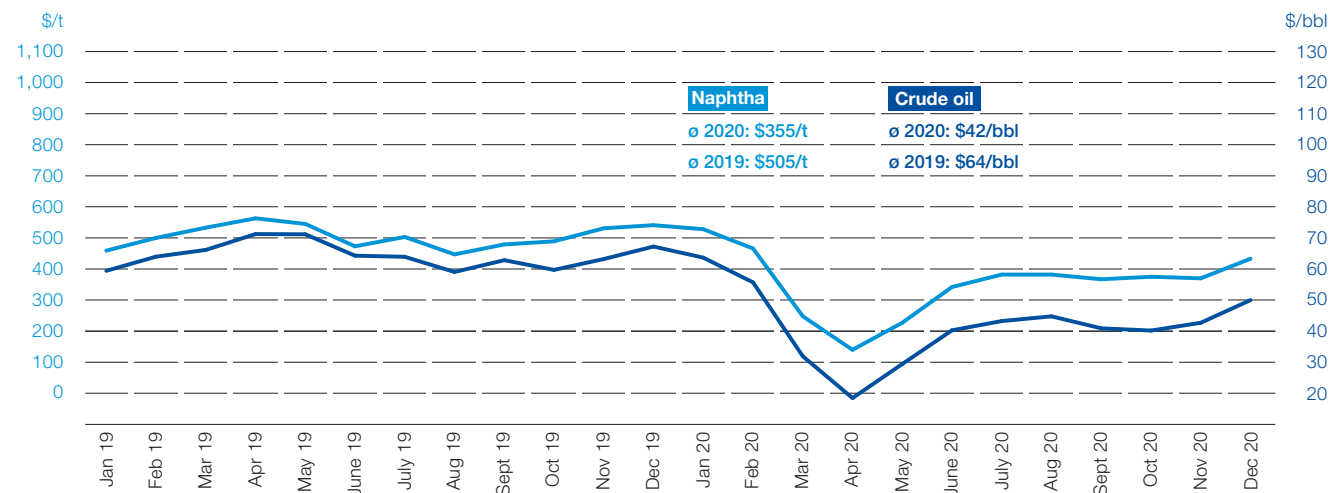
The average price for a barrel of Brent crude oil decreased to \$42 per barrel (2019: \$64 per barrel) and fluctuated over the course of the year between around \$64 per barrel in January and around \$18 per barrel in April.

Over the course of the year, the average monthly price for the chemical raw material naphtha ranged between \$528 per metric ton in January and \$140 per metric ton in April. At \$355 per metric ton, the annualized average price of naphtha in 2020 was lower than in 2019 (\$505 per metric ton).

The average price of gas in the United States was \$1.99 per mmBtu, below the level of the previous year (\$2.56 per mmBtu). In Europe, the average price of gas on the spot market was also significantly lower than in 2019, at \$3.17 per mmBtu (2019: \$4.46 per mmBtu). Gas prices in China averaged around \$6.29 per mmBtu nationally (2019: \$6.39 per mmBtu), while the average price in the coastal provinces was \$7.48 per mmBtu (2019: \$7.59 per mmBtu).

Price trends for crude oil (Brent) and naphtha

\$/barrel, \$/metric ton



Results of Operations

The world economy saw much weaker growth in 2020 than in 2019 as a result of the coronavirus pandemic. Growth in global industrial production and in the global chemical industry (excluding pharmaceuticals) was also below the prior-year level. In this market environment, BASF's business did not perform as well as we expected: Sales were on a level with the previous year and earnings declined considerably.

Business reviews by segment can be found from page 69 onward

Sales

■ Sales of €59,149 million at prior-year level

Sales amounted to €59,149 million in 2020, on a level with 2019. The sales performance was positively impacted by higher price levels overall, mainly as a result of higher precious metal prices in the Surface Technologies segment and portfolio effects in the Materials segment from the acquisition of Solvay's integrated polyamide business. This was offset by negative currency effects and lower volumes, especially in the Materials and Industrial Solutions segments.

Sales^{a, b}

Million €		
2020	59,149	
2019	59,316	
2018	60,220	
2017	61,223	
2016	57,550	

^a Sales for 2018 were reduced by the share attributable to construction chemicals activities due to their presentation as discontinued operations. Figures for the years 2016 to 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. Figures for 2016 have not been restated.

For more information on the development of Accelerator sales, see page 45 onward

For more information on the development of CO₂ emissions, see page 131

Factors influencing sales of the BASF Group

	Change in million €	Change in %
Volumes	-298	-1
Prices	1,487	3
Currencies	-1,945	-3
Acquisitions	683	1
Divestitures	-91	0
Changes in the scope of consolidation	-3	0
Total change in sales	-167	0

Income from operations

■ Considerable decline in EBIT before special items, EBIT and ROCE

Income from operations (EBIT) before special items decreased by €1,083 million to €3,560 million, mainly due to significantly lower contributions from the Chemicals and Surface Technologies segments. In the Chemicals segment, this was primarily attributable to lower margins. In the Surface Technologies segment, it was mostly the result of lower volumes in the Coatings division. EBIT before special items also declined considerably in Other and in the Materials and Agricultural Solutions segments. The decrease in the Materials segment was mainly due to lower polyamide margins and volumes. EBIT before special items was lower in the Agricultural Solutions segment, largely from currency effects. In the Nutrition & Care segment, EBIT before special items declined slightly as a result of the sales performance and a one-off payment in the Care Chemicals division in the previous year. In the Industrial Solutions segment, EBIT before special items was on a level with the previous year.

For an explanation of the indicator EBIT before special items, see page 34

EBIT before special items^{a, b, c}

Million €		
2020	3,560	
2019	4,643	
2018	6,281	
2017	7,645	
2016	6,309	

^a EBIT before special items 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 2016 to 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 the years 2016 and 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. Figures for 2016 have not been restated.

Special items in EBIT totaled -€3,751 million in 2020, compared with -€442 million in the previous year. The increase in special items is primarily attributable to the impairments of €2.9 billion on property, plant and equipment and intangible assets, which were mainly reported under other charges and income. Expenses of €76 million arose in connection with divestitures, mainly from the carve-out of our global pigments business. We recorded a positive earnings contribution of €286 million in the previous year, in particular from the transfer of BASF's paper and water chemicals business to the Solenis group and the sale of businesses in the Agricultural Solutions segment in accordance with the conditions imposed by antitrust authorities in connection with the acquisition of the Bayer businesses. In addition, expenses from restructuring measures rose by €325 million compared with the previous year to €952 million. These largely related to expenses for measures to streamline the global glufosinate-ammonium production network and provisions in connection with the realignment of the Global Business Services unit. Integration costs amounted to €157 million in 2020, mainly for the integrated polyamide business acquired from Solvay. In the previous year, we recorded integration costs of €303 million, primarily for the integration of the businesses acquired from Bayer in the Agricultural Solutions segment.

For the definition of special items, see page 34

Special items

Million €	2020	2019
Restructuring measures	-952	-627
Integration costs	-157	-303
Divestitures	-76	286
Other charges and income	-2,566	202
Total special items in EBIT	-3,751	-442

At -€191 million, **EBIT** for the BASF Group in 2020 was considerably below the previous year's level (2019: €4,201 million). This figure includes income from integral companies accounted for using the equity method, which declined from €265 million to €220 million.

EBIT^{a, b, c}

Million €		
2020	-191	
2019	4,201	
2018	5,974	
2017	7,587	
2016	6,275	

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 2016 to 2018 have not been restated.

b EBIT for 2018 was reduced by the share attributable to construction chemicals activities due to their presentation as discontinued operations. Figures for the years 2016 and 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. Figures for 2016 have not been restated.

We use the indicator **return on capital employed (ROCE)**. It measures the profitability of the capital employed by the segments. ROCE was 1.7%, after 7.7% in the previous year. The decline in ROCE was primarily due to considerably lower EBIT. Capital employed declined, mainly due to the impairments recognized as a consequence of the coronavirus pandemic, and currency effects.¹

[For more information on the determination of ROCE, see page 33](#)

The calculation of EBIT as part of our statement of income is shown in the Consolidated Financial Statements on page 222

ROCE

Million €	2020	2019
EBIT of BASF Group	-191	4,201
- EBIT of Other	-1,203	-518
EBIT of the segments	1,012	4,719
Cost of capital basis of segments, average of month-end figures	60,111	60,900
ROCE	% 1.7	7.7

Capital employed

Million €	2020	2019
Intangible assets	14,249	14,832
+ Property, plant and equipment	20,210	20,472
+ Integral investments accounted for using the equity method	1,395	1,527
+ Inventories	10,469	11,593
+ Accounts receivable, trade	9,379	10,061
+ Current and noncurrent other receivables and other assets ^a	3,149	1,913
+ Assets of disposal groups	1,260	502
Cost of capital basis of segments, average of month-end figures	60,111	60,900
+ Deviation from cost of capital basis at closing rates as of December 31	-3,948	-1,534
+ Assets not included in cost of capital	24,129	27,584
of which disposal group for the construction chemicals business	-	2,706
Assets of the BASF Group as of December 31	80,292	86,950

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 of –€909 million negatively impacted by impairments at the shareholding in Wintershall Dea**
- **Earnings per share of –€1.15 after €9.17 in the previous year**

At –€909 million, **net income from shareholdings**¹ was €715 million below the prior-year figure. The decrease was primarily due to impairments of assets at the Wintershall Dea group, Kassel/Hamburg, Germany, in the amount of €791 million, mainly as a result of lower oil and gas price forecasts and changed reserve estimates. This reduced Wintershall Dea's earnings contribution from –€86 million in the previous year to –€890 million. The contribution from Solenis UK International Ltd., London, United Kingdom, improved by €25 million year on year to –€46 million. Higher income from other shareholdings, primarily due to write-ups, had a positive impact on net income from shareholdings.

The **financial result** amounted to –€462 million in 2020, compared with –€705 million in the previous year.

The interest result improved by €92 million to –€373 million, due in part to lower interest expenses for financial indebtedness. The other financial result improved by €151 million to –€89 million, primarily driven by lower expenses in connection with bonds in foreign currency and the corresponding hedging instruments, as well as by lower net interest expenses from pension and similar obligations. Higher interest income on income taxes also contributed here.

Income before income taxes decreased from €3,302 million in the previous year to –€1,562 million in 2020, mainly as a result of the impairments described above.

The negative income before income taxes led to tax income of €91 million, after a tax expense of €756 million in 2019. As not all impairments were tax deductible, the BASF Group's tax rate was only 5.8% in 2020 (previous year: 22.9%).

Income after taxes from continuing operations declined from €2,546 million to –€1,471 million. **Income after taxes from discontinued operations** decreased from €5,945 million in 2019 to €396 million in 2020. The 2020 figure includes the book gain of €358 million from the sale of the construction chemicals business and the income after taxes of the former Construction Chemicals division until November 30, 2020.² This amounted to €38 million, €14 million above the figure for the full year 2019. In the previous year, income after taxes from discontinued operations included the book gain of €5,684 million on the deconsolidation of the Wintershall companies and their income after taxes until deconsolidation on April 30, 2019.

Noncontrolling interests generated income of €15 million, after expenses of €70 million in 2019. This was due to higher losses at BASF Petronas Chemicals Sdn. Bhd., Kuala Lumpur, Malaysia, as a result of impairments, as well as from lower earnings at BASF Total Petrochemicals in Port Arthur, Texas, owing to an unplanned outage of the steam cracker. The prior-year figure also included the shares in the gas transportation companies until deconsolidation on April 30, 2019.

Net income amounted to –€1,060 million, considerably below the prior-year figure of €8,421 million. This was primarily attributable to the impairments recognized in 2020 as described above. The prior-year figure included the book gain from the deconsolidation of

the Wintershall companies. Earnings per share were –€1.15, compared with €9.17 in 2019.

For information on the items in the statement of income, see the Notes to the Consolidated Financial Statements from page 228 onward

For information on the tax rate, see the Notes to the Consolidated Financial Statements from page 259 onward

For more information on the results of operations of discontinued operations, see the Notes to the Consolidated Financial Statements on page 239

Additional indicators for results of operations

- **Adjusted earnings per share decline from €4.00 to €3.21**
- **EBITDA before special items and EBITDA considerably below previous year**

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,³ free cash flow³ and capital expenditure (capex).⁴

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.

¹ To increase reporting transparency, as of January 1, 2020, companies accounted for using the equity method that are not an integral part of the BASF Group are classified as purely financial investments and presented under net income from shareholdings. For more information, see the Notes to the Consolidated Financial Statements on page 228.

² The construction chemicals business was transferred in two steps, on September 30, 2020, and on November 30, 2020.

³ For more information on these indicators, see the Financial Position from page 63 onward

⁴ For more information on capex, see Value-Based Management on page 34 and Material Investments and Portfolio Measures on page 50

EBITDA before special items declined by €889 million year on year to €7,435 million in 2020. At €6,494 million, EBITDA was down €1,691 million from the prior-year figure. The EBITDA margin was 11.0% in 2020, compared with 13.8% in the previous year.

EBITDA before special items

Million €	2020	2019
EBIT	-191	4,201
- Special items	-3,751	-442
EBIT before special items	3,560	4,643
+ Depreciation and amortization ^a	3,805	3,660
+ Impairments and reversals of impairments on property, plant and equipment and intangible assets before special items ^a	70	21
Depreciation, amortization, impairments and reversals of impairments on property, plant and equipment and intangible assets before special items	3,875	3,681
EBITDA before special items	7,435	8,324

^a Excluding depreciation, amortization, impairments and reversals of impairments attributable to the discontinued construction chemicals business

EBITDA

Million €	2020	2019
EBIT	-191	4,201
+ Depreciation and amortization ^a	3,805	3,660
+ Impairments and reversals of impairments on intangible assets and property, plant and equipment ^a	2,880	324
Depreciation, amortization, impairments and reversals of impairments on intangible assets and property, plant and equipment	6,685	3,984
EBITDA	6,494	8,185
Sales revenue	59,149	59,316
EBITDA margin	11.0	13.8

^a Excluding depreciation, amortization, impairments and reversals of impairments attributable to the discontinued construction chemicals business

Adjusted earnings per share

Million €	2020	2019
Income after taxes	-1,075	8,491
- Special items ^a	-4,606	-484
+ Amortization, impairments and reversals of impairments on intangible assets	1,496	652
- Amortization, impairments and reversals of impairments on intangible assets contained in special items	819	8
- Adjustments to income taxes	958	318
- Adjustments to income after taxes from discontinued operations	251	5,559
Adjusted income after taxes	2,999	3,742
- Adjusted noncontrolling interests	54	72
Adjusted net income	2,945	3,670
Weighted average number of outstanding shares (in thousands)	918,479	918,479
Adjusted earnings per share	€ 3.21	4.00

^a Includes special items in net income from shareholdings of €855 million for 2020 and €42 million for 2019

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 2020, adjusted earnings per share amounted to €3.21, compared with €4.00 in the previous year.

For information on the earnings per share according to IFRS, see the Notes to the Consolidated Financial Statements on page 248

Sales and earnings

Million €	2020	2019	+/-
Sales	59,149	59,316	-0.3
Income from operations before depreciation, amortization and special items	7,435	8,324	-10.7
Income from operations before depreciation and amortization (EBITDA)	6,494	8,185	-20.7
EBITDA margin %	11.0	13.8	-
Depreciation and amortization ^a	6,685	3,984	67.8
Income from operations (EBIT)	-191	4,201	.
Special items	-3,751	-442	.
EBIT before special items	3,560	4,643	-23.3
Income before income taxes	-1,562	3,302	.
Income after taxes from continuing operations	-1,471	2,546	.
Income after taxes from discontinued operations	396	5,945	-93.3
Net income	-1,060	8,421	.
Earnings per share €	-1.15	9.17	.
Adjusted earnings per share €	3.21	4.00	-19.8

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

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

Sales and earnings by quarter in 2019^a

Million €	Q1	Q2	Q3	Q4	Full year
Sales	15,596	14,478	14,556	14,686	59,316
Income from operations before depreciation, amortization and special items	2,642	1,885	1,980	1,817	8,324
Income from operations before depreciation and amortization (EBITDA)	2,770	1,546	2,259	1,610	8,185
Depreciation and amortization ^b	991	1,039	923	1,031	3,984
Income from operations (EBIT)	1,779	507	1,336	579	4,201
Special items	29	-488	280	-263	-442
EBIT before special items	1,750	995	1,056	842	4,643
Income before income taxes	1,556	293	1,177	276	3,302
Income after taxes from continuing operations	1,163	243	917	223	2,546
Income after taxes from discontinued operations	277	5,686	18	-36	5,945
Net income	1,406	5,954	911	150	8,421
Earnings per share €	1.53	6.48	1.00	0.16	9.17
Adjusted earnings per share €	1.64	0.83	0.89	0.64	4.00

^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, 2020		December 31, 2019	
	Million €	%	Million €	%
Intangible assets	13,145	16.4	14,525	16.7
Property, plant and equipment	19,647	24.5	21,792	25.1
Integral investments accounted for using the equity method ^a	1,878	2.3	1,885	2.2
Non-integral investments accounted for using the equity method ^a	10,874	13.5	13,123	15.1
Other financial assets	582	0.7	636	0.7
Deferred tax assets	3,386	4.2	2,887	3.3
Other receivables and miscellaneous assets	912	1.1	1,112	1.3
Noncurrent assets	50,424	62.7	55,960	64.4
Inventories	10,010	12.5	11,223	12.9
Accounts receivable, trade	9,466	11.8	9,093	10.5
Other receivables and miscellaneous assets	4,673	5.8	3,790	4.4
Marketable securities	207	0.3	444	0.5
Cash and cash equivalents	4,330	5.4	2,427	2.8
Assets of disposal groups	1,182	1.5	4,013	4.6
Current assets	29,868	37.3	30,990	35.6
Total assets	80,292	100.0	86,950	100.0

^a To increase reporting transparency, as of January 1, 2020, companies accounted for using the equity method that are not an integral part of the BASF Group are classified as purely financial investments and presented separately in the balance sheet. For more information, see the Notes to the Consolidated Financial Statements on page 228.

Assets

■ Decline in total assets due to impairments and divestiture of the construction chemicals business

Total assets amounted to €80,292 million as of December 31, 2020, significantly below the prior-year level (€86,950 million).

Noncurrent assets declined by €5,536 million to €50,424 million. All items except deferred tax assets contributed here. The main driver was the €2,145 million decrease in property, plant and equipment to €19,647 million, primarily due to the impairments recognized as a consequence of the coronavirus pandemic. Negative currency effects of €934 million also contributed to the decline. Additions to property, plant and equipment amounted to €4,075 million. This figure included additions of €559 million from the acquisition of the integrated polyamide business from Solvay. Depreciation amounted to €3,130 million. At €10,874 million, non-integral investments accounted for using the equity method were also considerably below the prior-year level (€13,123 million), mainly as a result of impairments and currency effects relating to the shareholding in Wintershall Dea. Integral investments accounted for using the equity method were on a level with the prior year, at €1,878 million.

Intangible assets declined by €1,380 million to €13,145 million. This was likewise primarily attributable to impairments, amortization and currency effects. Additions of €691 million, mainly in connection with the acquisition of the integrated polyamide business from Solvay, had an offsetting effect.

[More information on the above transactions can be found on page 51 of this Management's Report and in the Notes to the Consolidated Financial Statements from page 235 onward](#)

Other financial assets were slightly below the prior-year level, declining by €54 million to €582 million. Other receivables and miscellaneous assets decreased by €200 million compared with the previous year to €912 million. This was mainly due to the lower positive fair values of derivatives and the decline in loans and interest receivables.

Deferred tax assets rose by €499 million to €3,386 million, primarily as a result of higher pension provisions and the recognition of deferred tax assets for tax loss carryforwards.

Current assets declined by €1,122 million to €29,868 million. This was largely the result of the derecognition of the disposal group for the construction chemicals business (€2,831 million). We recorded a €1,213 million decrease in inventories to €10,010 million, mainly due to the reduction in inventories in all segments and currency effects. Marketable securities declined by €237 million to €207 million.

This was partially offset by the €1,903 million increase in cash and cash equivalents compared with the previous year. At €4,330 million, this safeguards the BASF Group's liquidity in times of crisis.

Other receivables and miscellaneous assets rose by €3,790 million to €4,673 million, driven mainly by an increase in precious metal trading positions due to higher prices, as well as higher tax refund claims.

The €373 million increase in trade accounts receivable to €9,466 million was largely attributable to strong business developments in the fourth quarter.

 For more information on the composition and development of individual asset items, see the Notes to the Consolidated Financial Statements from page 228 onward

Financial Position

Equity and liabilities

	December 31, 2020		December 31, 2019	
	Million €	%	Million €	%
Paid-in capital	4,291	5.3	4,291	4.9
Retained earnings	37,911	47.2	42,056	48.4
Other comprehensive income	-8,474	-10.5	-4,850	-5.6
Noncontrolling interests	670	0.8	853	1.0
Equity	34,398	42.8	42,350	48.7
Provisions for pensions and similar obligations	8,566	10.7	7,683	8.8
Deferred tax liabilities	1,447	1.8	1,764	2.0
Tax provisions	587	0.7	516	0.6
Other provisions	1,484	1.9	1,340	1.5
Financial indebtedness	15,819	19.7	15,015	17.3
Other liabilities	1,711	2.1	1,678	1.9
Noncurrent liabilities	29,614	36.9	27,996	32.2
Accounts payable, trade	5,291	6.6	5,087	5.9
Provisions	2,825	3.5	2,938	3.4
Tax liabilities	988	1.2	756	0.9
Financial indebtedness	3,395	4.3	3,362	3.9
Other liabilities	3,440	4.3	3,427	3.9
Liabilities of disposal groups	341	0.4	1,034	1.2
Current liabilities	16,280	20.3	16,604	19.1
Total equity and liabilities	80,292	100.0	86,950	100.0

Equity and liabilities

- **Equity ratio of 42.8%, compared with 48.7% in previous year**
- **Net debt declines to €14,677 million**

Equity decreased by €7,952 million compared with the previous year to €34,398 million. Retained earnings declined by €4,145 million to €37,911 million. This was the result of dividend payments for 2019 and negative net income for 2020. Other comprehensive income amounted to -€8,474 million, after -€4,850 million in the previous year. The decrease was primarily due to currency effects and actuarial losses.

The equity ratio decreased from 48.7% to 42.8%.

Compared with the end of 2019, noncurrent liabilities rose by €1,618 million to €29,614 million. This was primarily attributable to the increase in provisions for pensions and similar obligations from €7,683 million to €8,566 million, mainly as a result of slightly lower discount rates in all relevant currency zones.

In addition, noncurrent financial indebtedness rose by €804 million to €15,819 million. This was mainly due to the issue of two euro-bonds (including one green bond) in the amount of €1 billion each, as well as new bank loans taken out for approximately €500 million. The reclassification of a eurobond with a carrying amount of around €1 billion to current financial indebtedness and the early repayment of U.S. bonds worth around €400 million had an offsetting effect. At €1,484 million, other provisions were €144 million below the figure as of December 31, 2019.

Deferred tax liabilities declined from €1,764 million in the previous year to €1,447 million, while tax provisions were up €71 million from the 2019 year-end figure, at €587 million.

Current liabilities declined by €324 million to €16,280 million, primarily due to the derecognition of the disposal group for the construction chemicals business.

The €113 million year-on-year decrease in current provisions to €2,825 million largely resulted from lower personnel obligations. This was partially offset by higher provisions for restructuring measures. Tax liabilities rose by €232 million compared with the previous year to €988 million. Trade accounts payable increased by €204 million to €5,291 million.

At €3,395 million, current financial indebtedness was €33 million above the prior-year figure. This was mainly due to the above-mentioned reclassification of the eurobond from noncurrent to current financial indebtedness and the issue of commercial paper. The increase was largely offset by the planned repayment of eurobonds worth around €1,300 million.

Net debt declined by €829 million compared with December 31, 2019, to €14,677 million as cash and cash equivalents rose at a faster rate than financial indebtedness.

[For more information on the composition and development of individual balance sheet items, see the Notes to the Consolidated Financial Statements from page 228 onward](#)

[For more information on the development of the balance sheet, see the Ten-Year Summary on pages 314 to 317](#)

Net debt

Million €	December 31, 2020	December 31, 2019
Noncurrent financial indebtedness	15,819	15,015
+ Current financial indebtedness	3,395	3,362
Financial indebtedness	19,214	18,377
– Marketable securities	207	444
– Cash and cash equivalents	4,330	2,427
Net debt	14,677	15,506

Financing policy and credit ratings

- **Financing principles remain unchanged**
- **Rated A by Moody's, Standard & Poor's and Fitch**

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

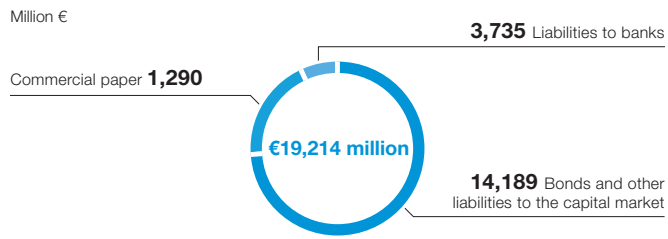
Million €	
2021	3,395
2022	2,310
2023	2,121
2024	1,351
2025	1,787
2026 and beyond	8,250

BASF enjoys good credit ratings, especially compared with competitors in the chemical industry. On December 8, 2020, Standard & Poor's confirmed its long and short-term ratings for BASF of A/A-1/outlook negative. Fitch confirmed its rating for BASF of A/F1/outlook stable on February 12, 2021. Moody's confirmed its rating for BASF of A3/P-2/outlook stable on February 12, 2021.

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 investor base 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, 2020, commercial paper with a carrying amount of €1,290 million was outstanding under this program. A firmly committed, syndicated credit line of €6 billion was taken out in January 2019 to cover the repayment of outstanding commercial paper. It can also be used for general company purposes. In the second quarter of 2020, we took out a one-year credit line with several banks with a total volume of €3 billion. Neither credit line was used at any point in 2020. Our external financing is therefore largely independent of short-term fluctuations in the credit markets.

Financing instruments



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 279 onward and Note 26 from page 291 onward in the Notes to the Consolidated Financial Statements

Statement of cash flows

■ Cash flows from operating activities and free cash flow lower year on year

Cash flows from operating activities amounted to €5,413 million, compared with €7,474 million in the previous year. The decrease in cash flows from operating activities was largely due to the cash tied up in receivables, especially in trade accounts receivable. The development of trade accounts receivable tied up cash of €994 million in 2020, compared with cash released of €1,208 million in the previous year. This could not be offset by the €370 million increase in cash released from reduction in inventories.

At –€1,060 million, net income was down €9,481 million from the prior-year figure in 2020. However, the main causes of the decline in earnings did not affect cash flows from operating activities: net divestiture and disposal gains, which were €6,060 million higher in the previous year, were reclassified using miscellaneous items to cash flows from investing activities. Moreover, depreciation and amortization of property, plant and equipment and intangible assets exceeded the prior-year figure by €2,533 million due to higher impairments. In addition, negative income from companies accounted for using the equity method reduced earnings by €821 million in 2020 compared with the previous year. This likewise did not have any effect on cash.

Cash flows from investing activities amounted to –€1,904 million in 2020, meaning that cash outflows were €714 million higher than in the previous year. This was mainly attributable to the €1,001 million increase in payments made for acquisitions. In 2020, €1,240 million was paid for the polyamide business acquired from Solvay. Payments received from divestitures were at the prior-year level. In addition, cash inflows from the disposal of property, plant and equipment and intangible assets in 2020 was €677 million lower than in the previous year. This was offset by the €695 million

decrease to €3,129 million in payments made for property, plant and equipment and intangible assets.

Cash flows from financing activities amounted to –€1,556 million, compared with –€6,405 million in the previous year. Dividend payments of €3,139 million were partially offset by the net cash inflow of €1,580 million from the change in financial and similar liabilities. The total cash outflow of €6,405 million in the previous year was due in particular to the net cash outflow from the change in financial and similar liabilities and dividend payments of €3,064 million.

Cash and cash equivalents amounted to €4,335 million as of December 31, 2020. They rose by a cash-effective amount of €1,953 million in 2020.

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 declined to €2,284 million compared with €3,650 million in the previous year due to the decrease in cash flows from operating activities.

Statement of cash flows

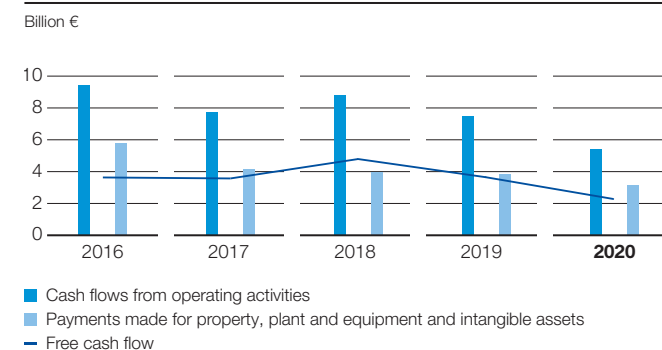
Million €	2020	2019
Net income	-1,060	8,421
Depreciation and amortization of property, plant and equipment and intangible assets	6,751	4,218
Changes in net working capital	-400	1,410
Miscellaneous items	122	-6,575
Cash flows from operating activities	5,413	7,474
Payments made for property, plant and equipment and intangible assets	-3,129	-3,824
Acquisitions/divestitures	1,280	2,361
Changes in financial assets and miscellaneous items	-55	273
Cash flows from investing activities	-1,904	-1,190
Capital increases/repayments and other equity transactions	3	1
Changes in financial and similar liabilities	1,580	-3,342
Dividends	-3,139	-3,064
Cash flows from financing activities	-1,556	-6,405
Cash-effective changes in cash and cash equivalents	1,953	-121
Cash and cash equivalents at the beginning of the period and other changes	2,382	2,576
Cash and cash equivalents at the end of the year^a	4,335	2,455

^a In 2020 and 2019, cash and cash equivalents presented in the statement of cash flows deviated from the figures in the balance sheet due to the reclassification of cash and cash equivalents to disposal groups: €5 million for the pigments business as of December 31, 2020, and €21 million for the construction chemicals business and €7 million for the pigments business as of December 31, 2019.

Free cash flow

Million €	2020	2019
Cash flows from operating activities	5,413	7,474
- Payments made for property, plant and equipment and intangible assets	3,129	3,824
Free cash flow	2,284	3,650

Cash flow



Actual Development Compared With Outlook for 2020

BASF Group sales in 2020 were at the prior-year level, contrary to our forecast at the beginning of the year of sales growth to between €60 billion and €63 billion. Sales development in the Chemicals, Industrial Solutions and Materials segments in particular was weaker than expected at the beginning of 2020. Lower demand as a consequence of the coronavirus pandemic led to a slight overall decline in volumes in the BASF Group, contrary to our assumptions. After forecasting lower prices, we were able to slightly increase price levels as a result of significantly higher precious metal prices. EBIT before special items amounted to €3,560 million, falling short of the €4.2 billion to €4.8 billion range we had forecast in February 2020. Earnings developments did not meet our expectations, especially in the Surface Technologies and Agricultural Solutions segments and in Other. The BASF Group's return on capital employed (ROCE) declined considerably rather than slightly compared with 2019. ROCE was also considerably below the cost of capital percentage. In April 2020, we withdrew the outlook provided in February 2020 due to the uncertainty surrounding the length and spread of the coronavirus pandemic, as well as the measures to contain it. In October 2020, we forecast sales of between €57 billion and €58 billion. We expected EBIT before special items of between €3.0 billion and €3.3 billion and a ROCE of between 0.0% and 1.0%.

Sales in the **Chemicals** segment declined considerably in 2020, after we had expected slight growth at the beginning of the year. This was largely the result of lower prices than expected in both divisions. Also, volumes were at the prior-year level overall, contrary to our forecast of volume growth. We were able to increase volumes in the Intermediates division as planned. By contrast, sales volumes in the Petrochemicals division remained at the prior-year level. This was primarily due to the effects of the coronavirus pandemic and lower product availability owing to the unplanned outage at the steam cracker in Port Arthur, Texas. EBIT before special items declined considerably as expected. ROCE declined considerably

Forecast/actual comparison^a

	Sales		EBIT before special items		ROCE	
	2020 forecast	2020 actual	2020 forecast	2020 actual	2020 forecast	2020 actual
Chemicals	slight increase	considerable decline	considerable decline	considerable decline	slight increase	considerable decline
Materials	considerable increase	considerable decline	considerable decline	considerable decline	considerable decline	considerable decline
Industrial Solutions	slight increase	considerable decline	considerable increase	at prior-year level	considerable decline	considerable decline
Surface Technologies	slight increase	considerable increase	slight increase	considerable decline	at prior-year level	considerable decline
Nutrition & Care	considerable increase	slight decline	slight increase	slight decline	considerable increase	slight increase
Agricultural Solutions	considerable increase	slight decline	slight increase	considerable decline	slight increase	considerable decline
Other	at prior-year level	considerable decline	considerable increase	considerable decline	–	–
BASF Group	€60 billion–€63 billion^b	€59,149 million	€4.2 billion–€4.8 billion^b	€3,560 million	6.7%–7.7%^b	1.7%

^a For sales, "slight" represents a change of 1–5%, while "considerable" applies to changes of 6% and higher. "At prior-year level" indicates no change (+/–0%). For earnings, "slight" means a change of 1–10%, while "considerable" is used for changes of 11% and higher. "At prior-year level" indicates no change (+/–0%). At a cost of capital percentage of 9% for 2020, 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 percentage points) as "at prior-year level."

^b We withdrew our outlook in April 2020 and updated it in October 2020, forecasting sales of between €57 billion and €58 billion, EBIT before special items of between €3.0 billion and €3.3 billion, and a ROCE of between 0.0% and 1.0%.

instead of rising slightly as expected. This was due to lower margins in both divisions as a result of the effects of the coronavirus pandemic and special charges, mainly for impairments on property, plant and equipment.

Sales in the **Materials** segment declined considerably, contrary to our forecast of considerable sales growth. Lower prices and negative currency effects exceeded the positive contribution from the acquisition of Solvay's integrated polyamide business. Volumes did not meet expectations either and were lower rather than higher. This was mainly attributable to weaker demand from our customer industries as a result of the coronavirus pandemic, especially from the automotive industry. EBIT before special items and ROCE declined considerably as expected.

Sales in the **Industrial Solutions** segment declined considerably, falling short of our expectations of slight growth. This was primarily due to lower price levels in both divisions. Contrary to our forecast, we recorded lower volumes in the Performance Chemicals division.

In the Dispersions & Pigments division, too, sales volumes were merely on a level with the previous year. In a continued challenging market environment, the segment's EBIT before special items was at the prior-year level, after we had forecast a considerable increase. This was mainly driven by volumes development. ROCE was considerably below the prior-year level, as expected.

We considerably improved sales in the **Surface Technologies** segment, outperforming our forecast of a slight increase. The increase was primarily attributable to considerably higher sales in the Catalysts division as a result of higher precious metal prices. This more than offset the sales decrease in the Coatings division, which declined considerably rather than slightly. EBIT before special items declined considerably, contrary to our expectations of a slight increase. This was mainly due to volumes development in the Coatings division and higher fixed costs in the Catalysts division. Improved earnings in precious metal trading were unable to compensate for this. ROCE declined considerably and was thus below our expectations. This was largely the result of special charges,

mainly for goodwill impairments in the surface treatments cash-generating unit, and for property, plant and equipment in the Catalysts division.

In the **Nutrition & Care** segment, sales declined slightly instead of rising considerably as forecast. Although both divisions increased sales volumes as forecast, this was unable to compensate for negative currency effects and the expected decrease in price levels. EBIT before special items also declined slightly instead of rising slightly, mainly as a result of sales developments. Rather than increasing considerably as expected, ROCE rose only slightly, primarily due to impairments in connection with the optimization of production sites within the Nutrition & Health division.

Contrary to our forecast at the beginning of the year of a considerable increase, sales in the **Agricultural Solutions** segment declined slightly in a continued challenging market environment. We only increased sales volumes slightly, not considerably, which meant that significantly negative currency effects could not be offset. EBIT before special items declined considerably as a result. We had anticipated a slight increase at the beginning of 2020. ROCE also declined considerably, contrary to our assumption of a slight increase. This was primarily due to special charges for streamlining the global glufosinate-ammonium production network.

Sales in **Other** were considerably below the previous year in 2020, instead of being at the 2019 level as expected. This was mainly due to the sales decrease in commodity trading and the remaining activities of BASF's paper and water chemicals business, which were not part of the transfer to Solenis and are reported under Other. We were unable to considerably increase EBIT before special items as forecast. Instead, EBIT before special items declined considerably due to lower contributions from other businesses.

In 2020, we invested a total of €2.9 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 2020 was €3.4 billion and the figure forecast in April 2020 was €2.8 billion.

[For information on our expectations for 2021, see page 155 onward](#)

[For information on investments, see page 50](#)

Business Review by Segment

Segment overview

Million €

	Sales		Income from operations before depreciation and amortization (EBITDA)		Income from operations (EBIT) before special items	
	2020	2019	2020	2019	2020	2019
Chemicals	8,071	9,532	1,237	1,545	445	791
Materials	10,736	11,466	1,556	1,691	835	1,003
Industrial Solutions	7,644	8,389	1,099	1,327	822	820
Surface Technologies	16,659	13,142	900	1,120	484	722
Nutrition & Care	6,019	6,075	1,152	1,189	773	793
Agricultural Solutions	7,660	7,814	1,582	1,647	970	1,095
Other	2,360	2,898	-1,032	-334	-769	-581
BASF Group	59,149	59,316	6,494	8,185	3,560	4,643

Segment overview

Million €

	Income from operations (EBIT)		Assets		Investments including acquisitions ^a	
	2020	2019	2020	2019	2020	2019
Chemicals	-192	622	7,896	8,978	871	1,108
Materials	-109	973	9,118	8,782	1,957	784
Industrial Solutions	630	889	6,402	6,903	331	426
Surface Technologies	-587	663	11,691	11,773	585	565
Nutrition & Care	688	644	6,214	6,399	510	595
Agricultural Solutions	582	928	14,840	16,530	459	320
Other	-1,203	-518	24,131	27,585	156	299
BASF Group	-191	4,201	80,292	86,950	4,869	4,097

^a Additions to property, plant and equipment (of which from acquisitions: €559 million in 2020 and €3 million in 2019) and intangible assets (of which from acquisitions: €691 million in 2020 and -€37 million in 2019)

Contributions to total sales by segment

Chemicals	14%	<div></div>
Materials	18%	<div></div>
Industrial Solutions	13%	<div></div>
Surface Technologies	28%	<div></div>
Nutrition & Care	10%	<div></div>
Agricultural Solutions	13%	<div></div>
Other	4%	<div></div>

Contributions to EBITDA by segment

Chemicals	19%	<div></div>
Materials	24%	<div></div>
Industrial Solutions	17%	<div></div>
Surface Technologies	14%	<div></div>
Nutrition & Care	18%	<div></div>
Agricultural Solutions	24%	<div></div>
Other	-16%	<div></div>

Sales^a

Million €

	Q1		Q2		Q3		Q4	
	2020	2019	2020	2019	2020	2019	2020	2019
Chemicals	2,350	2,548	1,791	2,180	1,783	2,429	2,147	2,375
Materials	2,874	2,931	2,143	2,961	2,657	2,894	3,062	2,680
Industrial Solutions	2,098	2,186	1,819	2,141	1,844	2,130	1,883	1,932
Surface Technologies	4,328	3,022	3,099	3,161	4,142	3,325	5,090	3,634
Nutrition & Care	1,582	1,561	1,555	1,495	1,427	1,519	1,455	1,500
Agricultural Solutions	2,819	2,649	1,766	1,796	1,474	1,561	1,601	1,808
Other	702	699	507	744	484	698	667	757
BASF Group	16,753	15,596	12,680	14,478	13,811	14,556	15,905	14,686

Contributions to EBIT before special items by segment

Chemicals	13%	
Materials	23%	
Industrial Solutions	23%	
Surface Technologies	14%	
Nutrition & Care	22%	
Agricultural Solutions	27%	
Other	-22%	

Income from operations (EBIT) before special items^a

Million €

	Q1		Q2		Q3		Q4	
	2020	2019	2020	2019	2020	2019	2020	2019
Chemicals	174	306	-2	119	46	251	227	115
Materials	209	323	-80	334	217	266	489	80
Industrial Solutions	273	264	163	243	186	205	200	108
Surface Technologies	220	151	-151	129	200	206	215	236
Nutrition & Care	254	222	256	220	143	225	120	126
Agricultural Solutions	809	740	120	121	26	73	15	161
Other	-299	-256	-80	-171	-237	-170	-153	16
BASF Group	1,640	1,750	226	995	581	1,056	1,113	842

^a Quarterly results not audited

Income from operations (EBIT)^a

Million €

	Q1		Q2		Q3		Q4	
	2020	2019	2020	2019	2020	2019	2020	2019
Chemicals	170	302	-18	-37	-504	248	160	109
Materials	119	321	-102	319	-546	262	420	71
Industrial Solutions	240	407	133	228	78	207	179	47
Surface Technologies	217	144	-176	125	-803	192	175	202
Nutrition & Care	244	124	255	207	86	224	103	89
Agricultural Solutions	787	772	95	29	-304	43	4	84
Other	-321	-291	-128	-364	-645	160	-109	-23
BASF Group	1,456	1,779	59	507	-2,638	1,336	932	579

^a Quarterly results not audited

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 expand our competitiveness through technological leadership and operational excellence.

Divisions

Petrochemicals

Broad portfolio of high-quality basic chemicals and specialties tailored to the needs of internal and external customers that serve as starting materials for products such as dispersions, paints, coatings, plastics, insulating materials and hygiene products

Intermediates

Comprehensive portfolio of intermediates and specialties, which are used as precursors for products such as coatings, plastics, textile fibers, pharmaceuticals and crop protection products



Sales

Intermediates €2,645 million
Change: **-8%**
Percentage of sales: **33%**

2020:
€8,071 million
Change:
-15%

2019:
€9,532 million

Petrochemicals €5,426 million
Change: **-19%**
Percentage of sales: **67%**

Factors influencing sales

Volumes	0%	
Prices	-13%	
Portfolio	0%	
Currencies	-2%	
Sales	-15%	

Income from operations before special items

Million €		
2020	445	
2019	791	
Change: -€346 million		

Strategy

- Integrated production facilities form core of Verbund
- Technological leadership and operational excellence provide most important competitive edge

The Chemicals segment is at the heart of the Verbund. Its production facilities supply BASF's segments with basic chemicals and intermediates to produce higher value-added products. In this way, the segment makes a significant contribution to BASF's organic growth. The Chemicals segment is also a reliable supplier and provides chemicals of consistently high quality and markets them to customers in downstream industries.

We create value through process and product innovation and invest in research and development to implement new, sustainable technologies and to 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 classic 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. Furthermore, we are constantly improving our global production structures and aligning these with regional market requirements. We continuously improve our value chains and are expanding our market position – especially in Asia – with investments and collaborations in growth markets.

How we create value – an example



ChemCycling™

An innovative approach to recycling plastic waste

Value for the environment

Recycled raw materials used in the Verbund from 2025 onward

250,000 metric tons

ChemCycling™ is a vital lever in creating a circular economy for plastics. The project covers plastic waste for which high-value processing is not yet available and makes it possible to produce virgin-grade chemical products from recycled feedstocks. At the same time, greenhouse gas emissions are lower than for conventional products made from primary fossil resources as the waste is no longer incinerated. In 2020, we processed around 1,000 metric tons of recycled raw materials in the Verbund, saving the same amount of fossil resources. We plan to successively increase the use of recycled feedstocks over the coming years. The ChemCycling™ project will play a significant part in achieving BASF's target of using 250,000 metric tons of recycled and waste-based feedstocks annually from 2025 onward.

[For more information on ChemCycling™, see page 116 onward](#)

Value for BASF and for our customers

Number of sales products using recycled raw materials

40 products

As part of its ChemCycling™ project, BASF uses pyrolysis oil produced by partners from post-consumer plastic waste as a feedstock in its Verbund production. We manufacture virgin-grade plastics from the pyrolysis oil according to a mass balance approach. Currently, BASF already has 40 independently certified sales products with an allocated share of recycled raw materials in its portfolio. These products have the same properties as those produced from fossil raw materials. This means that our customers can process them in the same way as conventionally produced products and use them in demanding applications such as food packaging or automotive parts. Our customers commercially marketed the first applications based on chemically recycled plastic waste in 2020.

There is continued focus on the construction of an integrated Verbund site in Zhanjiang in the southern Chinese province of Guangdong.

As part of a memorandum of understanding signed in October 2019, the Abu Dhabi National Oil Company, the Adani group, BASF and Borealis AG have completed a joint feasibility study for a chemical complex in Mundra, India. The global economic uncertainties caused by the coronavirus pandemic led the partners to put the project on hold in November 2020. The partners remain convinced of the strong fundamentals represented by the Indian market and have agreed to re-examine market conditions in the future.

In our existing 50:50 joint venture BASF-YPC Company Limited (BYC) in Nanjing, China, BASF and Sinopec plan to further expand the site to strengthen the joint production of chemical products in China. In addition, in 2020 we increased the production capacity for neopentyl glycol at the Nanjing site to further support the growth of our customers in China. Strategically, we continue to invest in growth markets, such as the planned expansion of production capacities for tertiary butylamines in Nanjing, China, by 2022.

At our Verbund site in Antwerp, Belgium, we are expanding our ethylene oxide plant. The project also includes several downstream plants, for example, to produce surfactants. After completing the multi-stage startup process for the new, highly efficient acetylene plant in Ludwigshafen, Germany, we have improved our competitiveness and strengthened the product line's sustainability.

As part of the global optimization of production structures, BASF Idemitsu Co. Ltd, a joint venture between BASF and Idemitsu Kosan Co. Ltd., closed a production plant for butanediol in Chiba, Japan, in 2020. Another butanediol plant operated by our joint venture BASF Petronas Chemicals Sdn. Bhd. in Kuantan, Malaysia, will be closed in 2021.

Products, customers and applications

Division	Products	Customer industries and applications
Petrochemicals	Ethylene, propylene, butadiene, benzene, alcohols, solvents, plasticizers, alkylene oxides, glycols, acrylic monomers, styrene and polystyrene, styrenic foams, superabsorbents	Use in the BASF Verbund Chemical and plastics industry, construction, detergent, hygiene, automotive, packaging and textile industries; production of paints, coatings, cosmetics, oilfield and paper chemicals
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	Use in the BASF Verbund Chemical, plastics, coatings, construction, automotive, textile, pharmaceutical and agricultural industries; production of detergents and cleaners as well as crop protection products and textile fibers

Material investments

Location	Project	Additional annual capacity through expansion (metric tons)	Total annual capacity (metric tons)	Startup
Antwerp, Belgium	Expansion: ethylene oxide plant	n/a	n/a	2022
Nanjing, China	Expansion: neopentyl glycol plant ^a	40,000	80,000	2020
	Expansion: tertiary butylamine plant	30% increase	–	2022

^a Operated by a joint venture with Sinopec

Production capacities of selected products^a

Product	Sites				Annual capacity (metric tons)
	Europe	North America	Asia Pacific	South America, Africa, Middle East	
Acrylic acid	■	■	■	■	1,510,000
Alkylamines	■	■	■		250,000
Formic acid	■	■	■		305,000
Benzene	■	■	■		910,000
Butadiene	■	■	■		680,000
Butanediol equivalents	■	■	■		645,000
Ethanolamines and derivatives	■		■		430,000
Ethylene	■	■	■		3,480,000
Ethylene oxide	■	■	■		1,445,000
Neopentyl glycol	■	■	■		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	■	■	■	■	590,000
Plasticizers	■	■			595,000

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

Business review

- Sales down 15% to €8,071 million, mainly due to lower prices
- EBIT before special items declines 44% to €445 million as a result of considerably lower contributions from both divisions

Sales to third parties in the Chemicals segment declined by €1,461 million year on year to €8,071 million in 2020. This was primarily due to the considerable decrease in the Petrochemicals division, where sales declined by €1,244 million to €5,426 million. At €2,645 million, sales in the Intermediates division decreased by €217 million compared with the prior-year figure.

Factors influencing sales – Chemicals

	Chemicals	Petrochemicals	Intermediates
Volumes	0%	0%	1%
Prices	-13%	-17%	-7%
Portfolio	0%	0%	0%
Currencies	-2%	-2%	-2%
Sales	-15%	-19%	-8%

Sales development was mainly driven by significantly lower prices. In the Petrochemicals division, prices declined in almost all value chains as a result of lower raw materials prices and higher product availability on the market. Higher product availability on the market also led to lower prices in the Intermediates division, particularly in the acids and polyalcohols business and in the butanediol and derivatives business. Sales were also negatively impacted by currency effects.

Segment data – Chemicals

Million €	2020	2019	+/-
Sales to third parties	8,071	9,532	-15%
of which Petrochemicals	5,426	6,670	-19%
Intermediates	2,645	2,862	-8%
Intersegment transfers	2,861	3,428	-17%
Sales including transfers	10,932	12,960	-16%
Income from operations before depreciation, amortization and special items	1,305	1,574	-17%
Income from operations before depreciation and amortization (EBITDA)	1,237	1,545	-20%
EBITDA margin	15.3	16.2	-
Depreciation and amortization ^a	1,429	923	55%
Income from operations (EBIT)	-192	622	-
Special items	-637	-169	-
EBIT before special items	445	791	-44%
Return on capital employed (ROCE)	-2.2	6.8	-
Assets	7,896	8,978	-12%
Investments including acquisitions ^b	871	1,108	-21%
Research and development expenses	96	108	-11%

^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 matched the prior-year level. The Intermediates division recorded slightly higher volumes in Asia, mainly in the amines business. This was offset by lower sales volumes, especially in the amines business in Europe and in the butanediol and derivatives business in North America. In the Petrochemicals division, volumes were at the level of the previous year. Sales volumes declined, primarily due to the effects of the coronavirus pandemic and the unplanned outage at the steam cracker in Port Arthur, Texas. The main offsetting factor was higher volumes of steam cracker products in Europe.

Petrochemicals – Sales by region

Location of customer

South America, Africa, Middle East **6%**

Asia Pacific **11%**

North America **26%**

57% Europe

€5,426 million

Intermediates – Sales by region

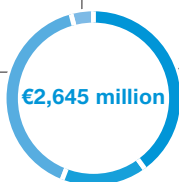
Location of customer

South America, Africa, Middle East 4%

Asia Pacific 40%

40% Europe

North America 16%



Income from operations (EBIT) before special items was €445 million, €346 million below the 2019 figure. The considerable decrease affected both divisions, but in particular the Petrochemicals division, and was primarily attributable to lower margins.

EBIT declined by €814 million year on year to –€192 million. This included special charges of €637 million, mainly for impairments on property, plant and equipment in North America, Asia and Europe. These primarily reflected expectations of a prolonged oversupply of basic chemicals and the resulting decrease in prices and margins.

[See page 155 for the outlook for 2021](#)

Materials

The Materials segment is composed of the Performance Materials division and the Monomers division. The Materials segment's portfolio comprises advanced materials and their precursors for new applications and systems. These include isocyanates and polyamides as well as inorganic basic products and specialties for the plastics and plastics processing industries. We want to focus primarily on organic growth through differentiation via specific technological expertise, industry know-how and customer proximity to maximize value in the isocyanate and polyamide value chains.

Divisions

Performance Materials

Polyurethanes, thermoplastics and foam specialties for sectors such as the transportation, construction and consumer goods industries, as well as for industrial applications

Monomers

Isocyanates and polyamides as well as inorganic basic products and specialties for sectors such as the plastics, automotive and construction industries



Sales

Monomers €5,101 million
Change: **-6%**
Percentage of sales: **48%**

2020:
€10,736 million

Change:
-6%

2019:
€11,466 million

Performance Materials €5,635 million
Change: **-7%**
Percentage of sales: **52%**

Factors influencing sales

Volumes	-5%	
Prices	-5%	
Portfolio	6%	
Currencies	-2%	
Sales	-6%	

Income from operations before special items

Million €

2020	835	
2019	1,003	
Change: -€168 million		

Strategy

- **Industry-leading portfolio of high-performance materials and their precursors, leveraging two integrated value chains**
- **Differentiated products and solutions for the automotive, construction and consumer goods industries**

The Materials segment provides a toolbox of high-performance materials that is unique in the industry. Our major integrated isocyanate and polyamide value chains are complemented by a number of specialties for the plastics and plastics processing industries. The Materials segment offers specially developed polymers and solutions to customer industries such as automotive, construction, electrical and electronics, and consumer goods.

We cater to the growing needs of consumers in all key markets by developing new applications, high-performance materials, systems and digital solutions. Application know-how, industry knowledge and customer proximity are key differentiators. BASF's competence in this field is extended by advanced material simulation capabilities, which are a unique selling proposition in the industry.

Additional differentiators, which continue to gain importance, are our products that enable a circular economy and our sustainable production approaches. BASF plays a vital role in substantial parts of plastic value chains, from monomers to polymers and their formulated specialties. This offers us the unique opportunity to shape and close cycles with our technological capabilities. One example is a recent development of a chemical recycling process for used mattresses.

Differentiated service and product offerings enable us to continuously expand the application horizon of our portfolio. The segment's global production network allows us to operate close to our customers.

How we create value – an example

Adipic acid

More sustainable adipic acid production in Ludwigshafen reduces carbon footprint



Value for the environment

CO₂ avoided per year

**100,000
metric tons**

Value for BASF

Annual production volume

720,000 metric tons

The synthesis of adipic acid is a very complex process in which nitrous oxide is produced. BASF re-uses the nitrous oxide in the Verbund instead of decomposing it, as is usual in the chemicals industry. Most of the nitrous oxide is isolated and used as a feedstock in the Intermediates division. BASF avoids 100,000 metric tons of CO₂ per year through investments in our production plants and the strength of our Verbund in Ludwigshafen, Germany. The carbon footprint can be further reduced with additional measures such as using the mass balance approach, electricity from renewable sources and the ChemCycling™ method.

Adipic acid is a monomer used in the production of polyamides and polyesters. It is also used as a chemical intermediate, for example to produce plastics for the automotive industry. BASF produces around 720,000 metric tons of adipic acid per year at its sites in Ludwigshafen, Germany; Chalampe, France; and Onsan, South Korea.

On January 31, 2020, BASF closed the acquisition of Solvay's integrated polyamide business, which was agreed in September 2017. The transaction broadens BASF's polyamide capabilities, allowing us to support our customers with even better engineering plastics solutions for applications such as autonomous driving and e-mobility. It also enhances access to growth markets in Asia as well as in North and South America. Through the backward integration into the key raw material adiponitrile (ADN), BASF now has

production plants along the entire value chain for polyamide 6.6. At closing, approximately 700 Solvay employees joined BASF.

[For more information on the transaction with Solvay, see page 51](#)

In May 2020, BASF started construction of the first plants at its smart Verbund site in Zhanjiang in the southern Chinese province of Guangdong. This came as another milestone in the development of the company's investment project since its official commencement in November 2019. The plants 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.

Products, customers and applications

Division	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	Use in the BASF Verbund Industries such as plastics, woodworking, furniture, packaging, textile, construction and automotive

Production capacities of selected products^a

Product	Sites				Annual capacity (metric tons)
	Europe	North America	Asia Pacific	South America, Africa, Middle East	
Ammonia	■	■			1,765,000
Chlorine	■				595,000
Urea	■				545,000
Isocyanates	■	■	■		2,610,000
Polyamides 6 and 6.6	■	■	■		925,000
Polyamide precursors	■	■	■		1,420,000
Propylene oxide	■				675,000
Sulfuric acid	■				920,000

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

Material investments

Location	Project	Startup
Geismar, Louisiana	Construction: MDI synthesis unit	2020
Guaratinguetá, Brazil	Capacity expansion: sodium methylate	2020
Zhanjiang, China	Construction: engineering plastics plant	2022

Business review

- **Sales 6% below previous year at €10,736 million, mainly as a result of lower prices and volumes**
- **EBIT before special items down 17% at €835 million, primarily due to lower polyamide margins and volumes**

Sales to third parties in the Materials segment declined by €730 million compared with 2019 to €10,736 million. The decline was mostly attributable to the Performance Materials division, where sales decreased by €429 million year on year to €5,635 million. The Monomers division recorded a sales decrease of €301 million to €5,101 million.

Factors influencing sales – Materials

	Materials	Performance Materials	Monomers
Volumes	–5%	–6%	–4%
Prices	–5%	–4%	–7%
Portfolio	6%	5%	7%
Currencies	–2%	–2%	–2%
Sales	–6%	–7%	–6%

The sales decrease was due in part to lower prices. In the Monomers division, prices levels declined for polyamides in particular due to lower raw materials prices and higher product availability on the market. Isocyanate prices also decreased. In the Performance Materials division, prices declined for engineering plastics and polyurethane systems in particular as a result of lower raw materials prices.

Sales were also reduced by lower volumes in both divisions due to the effects of the coronavirus pandemic. In the Performance Materials division, volumes declined for engineering plastics, polyurethane systems and Cellasto, primarily as a result of weaker demand from

Segment data – Materials

Million €	2020	2019	+/-
Sales to third parties	10,736	11,466	–6%
of which Performance Materials	5,635	6,064	–7%
Monomers	5,101	5,402	–6%
Intersegment transfers	720	849	–15%
Sales including transfers	11,456	12,315	–7%
Income from operations before depreciation, amortization and special items	1,714	1,719	0%
Income from operations before depreciation and amortization (EBITDA)	1,556	1,691	–8%
EBITDA margin	14.5	14.7	–
Depreciation and amortization ^a	1,665	718	132%
Income from operations (EBIT)	–109	973	.
Special items	–944	–30	.
EBIT before special items	835	1,003	–17%
Return on capital employed (ROCE)	–1.1	10.7	–
Assets	9,118	8,782	4%
Investments including acquisitions ^b	1,957	784	150%
Research and development expenses	182	193	–6%

^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

the automotive industry in Europe and North America in particular. The Monomers division recorded lower volumes, especially of toluene diisocyanates (TDI) and polyamides.

Currency effects had a slightly negative impact on sales.

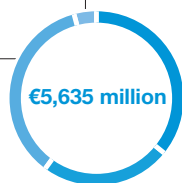
Sales in both divisions were positively impacted by portfolio effects from the acquisition of Solvay's integrated polyamide business.

In the Performance Materials division, sales to the automotive industry were considerably below the previous year due mainly to lower

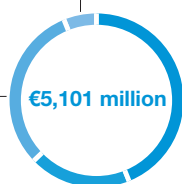
volumes. In Asia, sales volumes grew in 2020 after a weak first half of the year, driven by strong demand in China, while volumes in Europe and North America remained below the prior-year level. Sales in the consumer goods industry declined, primarily due to lower prices, while volumes were only slightly below the level of the previous year. Higher volumes in Asia, especially in the appliances segment, were able to partially offset lower sales volumes in Europe and North America. Sales also decreased considerably in the construction industry due to lower volumes and prices. Significantly higher sales volumes in Asia, especially in China, were unable to offset lower volumes in Europe and North America.

Performance Materials – Sales by region

Location of customer

South America, Africa, Middle East **4%**Asia Pacific **36%****36%** EuropeNorth America **24%****Monomers – Sales by region**

Location of customer

South America, Africa, Middle East **6%**Asia Pacific **31%****44%** EuropeNorth America **19%**

Income from operations (EBIT) before special items declined by €168 million compared with the previous year to €835 million. This was attributable to a considerable decrease in the Monomers division, mainly due to lower polyamide margins and volumes.

In the Performance Materials division, EBIT before special items was slightly above the prior-year level, primarily as a result of improved margins.

EBIT declined by €1,082 million year on year to –€109 million. This included special charges of €944 million, mainly for impairments on property, plant and equipment in Europe due to a continued over-supply and the resulting pressure on prices and margins.

[See page 155 for the outlook for 2021](#)

Industrial Solutions

The Industrial Solutions segment consists of the Dispersions & Pigments and the Performance Chemicals divisions. It develops and markets ingredients and additives for industrial applications, such as fuel and lubricant solutions, polymer dispersions, pigments, 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 in value-enhancing additives and solutions by leveraging our comprehensive industry expertise and application know-how.

Divisions

Dispersions & Pigments

Raw materials used to formulate products in the coatings, construction, paper, printing and packaging, adhesives and electronics industries

Performance Chemicals

Customized products for various customer industries such as chemicals, plastics, consumer goods, energy and resources, as well as automotive and transportation



Sales

Performance Chemicals €2,775 million
Change: **-14%**
Percentage of sales: **36%**

2020:
€7,644 million
Change:
-9%

2019:
€8,389 million

Dispersions & Pigments €4,869 million
Change: **-6%**
Percentage of sales: **64%**

Factors influencing sales

Volumes	-2%	<div></div>
Prices	-4%	<div></div>
Portfolio	-1%	<div></div>
Currencies	-2%	<div></div>
Sales	-9%	<div></div>

Income from operations before special items

Million €

2020	822	<div></div>
2019	820	<div></div>

Change: **€2 million**

Strategy

- **Tailor-made products and solutions improve our customers' applications and processes**
- **Global presence ensures reliable supply to customers in all regions**

We take on the challenges posed by important future issues, especially those resulting from population growth: scarce resources, environmental and climatic stressors, as well as the desire for better quality of life. To achieve this, we focus on research and development and maintain close relationships with leading companies in our customer industries. We position ourselves globally to reliably supply customers in all regions. We invest in the development of innovations that enable our products and processes – as well as our customers' applications and processes – to make a contribution to sustainability, for example, by allowing resources to be used more efficiently.

Through our focus on the development of sustainable solutions, our products create additional value for our customers and enable differentiation. We develop 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. Efficient production setups, backward integration in our Production Verbund's value chains, capacity management, and technology and cost leadership are also essential.

We support our customers by serving as a reliable supplier with consistently high product quality, good value offerings and lean processes. Through our in-depth application knowledge and technological innovations, we strengthen customer relationships in key industries.

We are increasing global production capacity for the antioxidant Irganox® 1010 by 40% through projects to expand production at our sites in Jurong, Singapore, and Kaisten, Switzerland. With the start

How we create value – an example

OPPANOL® B12 BMBcert™

First polyisobutene derived from 100% renewable resources



Value for the environment

Reduces greenhouse gas emissions by

up to **85%**

More and more industrial businesses are actively working to reduce their carbon footprint, and sustainable production is also playing an increasingly important role for customers when choosing which product to buy. Its properties make OPPANOL® a key building block for applications such as chewing gum, window sealants and adhesives. OPPANOL® improves product processing for our customers and makes their end products more efficient. BASF offers a sustainable alternative to conventional, fossil-based products with the new-generation polyisobutene OPPANOL® B 12 BMBcert™. By using 100% renewable resources like biogas in the production of OPPANOL® B 12 BMBcert™, BASF reduces greenhouse gas emissions by up to 85% compared with conventional production processes – without affecting product performance.

Value for BASF

Annual volume of the relevant market in Europe

>15,000 metric tons

BASF has been marketing and developing polyisobutene for almost 90 years, setting standards on the market for this unique product. Since being launched in 1931, OPPANOL® has been a key competitive differentiator in our customers' products, helping them to meet their targets. OPPANOL® offers solutions for a wide range of different applications. Formulations that provide a steam barrier, electrical insulation, good adhesion and flexibility at low temperatures (cold flow) are possible, depending on the requirements. The new and improved OPPANOL® B 12 BMBcert™ makes BASF the first company to use the biomass balance approach to produce and offer this product based on 100% renewable resources. The European market for OPPANOL® B 12 BMBcert™ has a volume of over 15,000 metric tons per year.

of production in Kaisten in 2019 and Jurong in 2021, BASF aims to better serve the growing demand from customers in Asia and Europe, the Middle East and Africa. In addition, we plan to increase production capacities for the antioxidant Irganox® 1520L by 20% at the Pontecchio Marconi site in Italy. The expansion is scheduled to come on stream in the first quarter of 2021.

To continue to provide a reliable supply of 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 January 2021.

We expanded our dispersions portfolio at our site in Huizhou, China, to better serve the fast-growing packaging industry in southern China. The expansion complements our production capacities in Shanghai, China, reduces lead times and improves raw material supply for our customers. Production capacities for water-based polyurethane dispersions at our Castellbisbal site in Spain were also expanded to meet rising demand.

In July and August 2020, we announced a strategic partnership with IntelliSense.io and a strategic investment by BASF in the company to combine expertise in mineral processing, ore beneficiation chemistry and industrial AI technology.

On August 29, 2019, we reached an agreement with DIC, Tokyo, Japan, on the acquisition of BASF's global pigments business. The purchase price on a cash and debt-free basis is €1.15 billion. The assets and liabilities to be divested were reclassified to a disposal group in the Dispersions & Pigments division as of this date. The transaction is expected to close in the first half of 2021, subject to the approval of the relevant competition authorities.

Products, customers and applications

Division	Products	Customer industries and applications
Dispersions & Pigments	Polymer dispersions, resins, additives, pigments, electronic materials	Coatings, construction, paper, printing and packaging, adhesives and electronics industries
Performance Chemicals	Antioxidants, light stabilizers and flame retardants for plastic applications	Chemicals, plastics, consumer goods, automotive and transportation industries, as well as energy and resources
	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	

Production capacities of selected products^a

Product	Sites				Annual capacity (metric tons)
	Europe	North America	Asia Pacific	South America, Africa, Middle East	
Acrylics dispersions	■	■	■	■	1,742,000
Formulation additives	■	■	■		66,000
Polyisobutene	■		■		265,000

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

Material investments

Location	Project	Startup
Castellbisbal, Spain	Capacity expansion: water-based polyurethane dispersions	2020
Cincinnati, Ohio	Construction: production plant for engine coolants	2020
Huizhou, China	Capacity expansion: dispersions for packaging	2020
Jinshan, China	Capacity expansion: synthetic esters	2022
Jurong, Singapore	Capacity expansion: antioxidants (Irganox®)	2021
Pasir Gudang, Malaysia	Capacity expansion: production plant for acrylics dispersions	2021
Pontecchio Marconi, Italy	Capacity expansion: light stabilizers (Tinuvin® NOR® 356)	2022
	Capacity expansion: antioxidants (Irganox®)	2021

Business review

- Sales down 9% to €7,644 million, mainly due to lower prices
- EBIT before special items of €822 million, on a level with the previous year

At €7,644 million, sales to third parties in the Industrial Solutions segment were €745 million below the prior-year figure in 2020. This was due to considerably lower sales in both divisions. Sales declined by €436 million to €2,775 million in the Performance Chemicals division and decreased by €309 million to €4,869 million in the Dispersions & Pigments division.

Factors influencing sales – Industrial Solutions

	Industrial Solutions	Dispersions & Pigments	Performance Chemicals
Volumes	–2%	0%	–5%
Prices	–4%	–5%	–3%
Portfolio	–1%	0%	–4%
Currencies	–2%	–1%	–2%
Sales	–9%	–6%	–14%

The sales performance was driven by lower price levels, especially in the Dispersions & Pigments division due to the decrease in raw materials prices.

Lower volumes overall also contributed to the sales decrease. In the Performance Chemicals division, the decline in sales volumes was most pronounced in the fuel and lubricant solutions and oilfield chemicals businesses. In the Dispersions & Pigments division, volumes were at the level of the previous year.

Segment data – Industrial Solutions

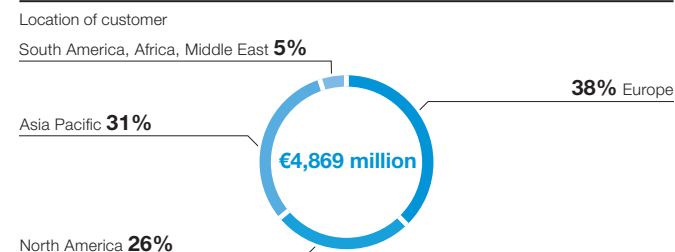
Million €	2020	2019	+/-
Sales to third parties	7,644	8,389	–9%
of which Dispersions & Pigments	4,869	5,178	–6%
Performance Chemicals	2,775	3,211	–14%
Intersegment transfers	375	524	–28%
Sales including transfers	8,019	8,913	–10%
Income from operations before depreciation, amortization and special items	1,189	1,249	–5%
Income from operations before depreciation and amortization (EBITDA)	1,099	1,327	–17%
EBITDA margin	14.4	15.8	–
Depreciation and amortization ^a	469	438	7%
Income from operations (EBIT)	630	889	–29%
Special items	–192	69	.
EBIT before special items	822	820	0%
Return on capital employed (ROCE)	9.3	12.5	–
Assets	6,402	6,903	–7%
Investments including acquisitions ^b	331	426	–22%
Research and development expenses	177	192	–8%

^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 were additionally reduced by negative currency effects in both divisions as well as portfolio effects from the transfer of BASF's paper and water chemicals business, which was previously reported under the Performance Chemicals division, to the Solenis group as of January 31, 2019.

Dispersions & Pigments – Sales by region



Performance Chemicals – Sales by region

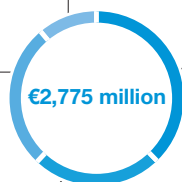
Location of customer

South America, Africa, Middle East **11%**

Asia Pacific **27%**

38% Europe

North America **24%**



Income from operations (EBIT) before special items was on a level with the previous year at €822 million. Considerably higher EBIT before special items in the Dispersions & Pigments division was offset by a considerably lower contribution from the Performance Chemicals division.

The increase in the Dispersions & Pigments division was largely attributable to lower fixed costs, mainly as a result of cost optimization measures. This more than offset lower margins, primarily from the price-related decrease in sales.

The decline in the Performance Chemicals division was mainly driven by lower volumes.

Compared with 2019, **EBIT** declined by €259 million to €630 million. EBIT included special charges of €192 million, mainly in connection with the carve-out of the pigments business and for impairments on property, plant and equipment in all regions. This primarily reflected the decline in production in the automotive industry as well as the expected slow recovery due to the effects of the coronavirus pandemic.

[See page 155 for the outlook for 2021](#)

Surface Technologies

The Surface Technologies segment comprises the Catalysts and Coatings divisions, which offer chemical solutions for surfaces. Its portfolio serves the automotive and chemical industries 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 and supply reliability 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.

Divisions

Catalysts

Mobile emissions catalysts, chemical catalysts and adsorbents, refining catalysts, battery materials, precious and base metal products and services, precious metal trading, recycling, clean air technologies

Coatings

Automotive OEM coatings, automotive refinish coatings and services, decorative paints, surface-applied treatments for metal, plastic and glass substrates for a wide range of industries



Sales

Coatings €3,089 million
Change: **-18%**
Percentage of sales: **19%**

2020:
€16,659 million

Change:
27%

2019:
€13,142 million

Catalysts €13,570 million
Change: **44%**
Percentage of sales: **81%**

Factors influencing sales

Volumes	-1%	
Prices	32%	
Portfolio	0%	
Currencies	-4%	
Sales	27%	

Income from operations before special items

Million €

2020	484	
2019	722	

Change: **-€238 million**

Strategy

- Development of chemical solutions for surfaces in close collaboration with our customers and partners
- Expanding growth and a leading market position in battery materials

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, and 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 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 in the automotive industry, and the associated rise in demand for battery materials for electromobility. Together with our customers, we are developing customized, sustainable solutions in these growth areas for battery materials, emission control, lightweight engineering concepts and functional coatings. Our specialties and system solutions enable customers to stand out from their competition.

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. In 2020, BASF announced plans to invest in a new production plant for cathode active materials in Schwarzheide, Germany. The new plant will use precursors from the precursor plant for cathode active materials in Harjavalta, Finland, which was announced in 2018. The two plants are scheduled for startup in 2022 and will produce cathode active materials for around 400,000 fully electric mid-size vehicles per year. With these invest-

How we create value – an example

FWC+ catalyst

Next generation of BASF's four-way conversion catalyst for highly efficient particulate removal



Value for our customers

Significantly reduces particulates in exhaust gas emissions by

up to **95%**

Our automotive customers are increasingly interested in developing environmentally friendly engines with lower exhaust emissions. We support them with highly efficient catalysts and filters and also help them to meet strict regulatory requirements. The FWC+ catalyst for gasoline engines is an example of BASF's expertise in mobile emissions control. The FWC+ catalyst is a highly efficient filter that reduces particulates in exhaust gas emissions by up to 95%. This reduces the environmental impact and significantly improves air quality.

Value for BASF

Estimated annual sales potential from 2022

>€20 million

The conventional four-way conversion catalysts used in gasoline engines filter out ultra-fine particles and chemically remove substances such as carbon monoxide (CO), unburned hydrocarbons (HC) and nitrogen oxides (NO_x) in exhaust gas. This exhaust purification technology was significantly improved with the development of the FWC+ catalyst – the next generation of the four-way conversion catalyst. These new, additional components in the exhaust system now filter particulates much more efficiently than in the past. The technology was initially introduced to the Chinese passenger car market in 2019 before being launched in Europe in 2020. It has an estimated annual sales potential of more than €20 million from 2022 onward.

ments in Finland and Germany, BASF aims to become the first cathode active materials supplier with local production capacities in what are currently the three main markets: Asia, the United States and Europe.

Products, customers and applications

Division	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
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

Material investments

Location	Project	Startup
Caojing, China	Capacity expansion: resin plant	2020
Greenville, Ohio	Capacity expansion: resin plant	2021
Harjavalta, Finland	Construction: precursor plant for cathode active materials	2022
Jiangmen, China	Capacity expansion: automotive refinish coatings plant	2022
Münster, Germany	Construction: plant for coating functional films	2020
	Construction: laboratory building for automotive coatings	2022
	Replacement: small can filling and packaging system	2021
	Construction: cathodic dip coating line	2022
Pinghu, China	New surface treatment site	2021
Shanghai, China	Construction: plant for mobile emissions catalysts	2019/2020
Schwarzheide, Germany	Construction: cathode active materials plant	2022
Środa Śląska, Poland	Capacity expansion: plant for mobile emissions catalysts	2020

Business review

- Sales rise 27% to €16,659 million due to growth in the Catalysts division, mainly as a result of significantly higher precious metal prices
- EBIT before special items 33% lower at €484 million due to decreases in both divisions

Sales to third parties in the Surface Technologies segment rose by €3,517 million to €16,659 million in 2020. This was due to considerably higher sales in the Catalysts division, which rose by €4,174 million year on year to €13,570 million. In the Coatings division, sales declined by €657 million to €3,089 million.

Factors influencing sales – Surface Technologies

	Surface Technologies	Catalysts	Coatings
Volumes	–1%	5%	–14%
Prices	32%	43%	1%
Portfolio	0%	0%	0%
Currencies	–4%	–4%	–5%
Sales	27%	44%	–18%

Sales growth was largely driven by the strong increase in precious metal prices in the Catalysts division. In precious metal trading, sales rose to €7,612 million, mainly as a result of higher prices (2019: €4,585 million). The Coatings division also achieved slightly higher prices, primarily in the decorative paints and surface treatments businesses.

Negative currency effects had an offsetting impact in both divisions.

Segment data – Surface Technologies

Million €

	2020	2019	+/-
Sales to third parties	16,659	13,142	27%
of which Catalysts	13,570	9,396	44%
Coatings	3,089	3,746	–18%
Intersegment transfers	203	212	–4%
Sales including transfers	16,862	13,354	26%
Income from operations before depreciation, amortization and special items	966	1,173	–18%
Income from operations before depreciation and amortization (EBITDA)	900	1,120	–20%
EBITDA margin	5.4%	8.5%	–
Depreciation and amortization ^a	1,487	457	225%
Income from operations (EBIT)	–587	663	.
Special items	–1,071	–59	.
EBIT before special items	484	722	–33%
Return on capital employed (ROCE)	–4.8%	5.7%	–
Assets	11,691	11,773	–1%
Investments including acquisitions ^b	585	565	4%
Research and development expenses	246	214	15%

^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 developments was also weighed down by slightly lower volumes overall. This was largely the result of weaker demand from the automotive and aviation industries due to the effects of the coronavirus pandemic, which significantly depressed volumes development in the Coatings division. Sales volumes declined significantly here, especially in the automotive OEM coatings, surface treatments and automotive refinish coatings businesses. Higher volumes in the Catalysts division for mobile emissions catalysts in Asia and in precious metal trading were unable to compensate for this. Sales volumes declined for chemical catalysts and refining catalysts in particular.

Catalysts – Sales by region

Location of customer

South America, Africa, Middle East **4%**

Asia Pacific **30%**

North America **31%**

35% Europe

€13,570 million

Coatings – Sales by region

Location of customer

South America, Africa, Middle East **13%**

Asia Pacific **29%**

North America **23%**

35% Europe

€3,089 million

Income from operations (EBIT) before special items amounted to €484 million, €238 million below the prior-year level due to lower earnings in both divisions. In the Coatings division, this was mainly attributable to the development of volumes. Lower fixed costs and lower raw materials prices were unable to compensate for this. EBIT before special items declined in the Catalysts division, mainly as a result of higher fixed costs, driven in particular by growth initiatives for battery chemicals. This could not be offset by a significant improvement in earnings in precious metal trading.

EBIT decreased by €1,250 million to –€587 million. EBIT included special charges, mainly for goodwill impairments of €786 million in the surface treatments cash-generating unit, and for property, plant and equipment, primarily in the Catalysts division in Europe. This largely reflected significantly weaker demand due to the effects of the coronavirus pandemic as well as the expected slow recovery in the automotive and aviation industries.

[See page 155 for the outlook for 2021](#)

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 plant nutrition. We strive to expand our position as a leading provider of ingredients and solutions for consumer applications in the areas of nutrition, home and personal care. Our goal is to drive organic growth by focusing on emerging markets, new business models and sustainability trends in consumer markets, supported by targeted acquisitions.

Divisions

Care Chemicals

Ingredients for the cosmetics, detergent and cleaner industries, agrochemical and technical applications

Nutrition & Health

Products for the food and feed industries, the flavor and fragrance industry, the pharmaceutical industry and the bioethanol industry



Sales

Nutrition & Health €2,030 million
Change: **4%**
Percentage of sales: **34%**

2020:
€6,019 million

Change:
–1%

2019:
€6,075 million

Care Chemicals €3,989 million
Change: **–3%**
Percentage of sales: **66%**

Factors influencing sales

Volumes	3%	
Prices	–1%	
Portfolio	0%	
Currencies	–3%	
Sales	–1%	

Income from operations before special items

Million €

2020	773
2019	793

Change: **–€20 million**

Strategy

- Organic growth driven by sustainable solutions for emerging markets, new business models and targeted acquisitions
- Efficient production structures through strong integration of standard products into the Verbund

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 technology capabilities in fields such as biotechnology and broaden our product portfolio with bio-based and biodegradable innovations. Targeted acquisitions complement our focus on emerging markets, new business models and sustainability trends in consumer markets. A strong integration of various standard products such as surfactants and vitamins into the Verbund enables efficient production structures and cost leadership.

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. In addition, the shift toward individualization and local production supports new players and business models. Digitalization and a focused technology and product portfolio as well as close cooperation with our customers is crucial to meeting these dynamic market requirements both now and in the future.

Innovation will be the key driver here, which is why we offer our customers tailor-made solutions and new functionalities via product and process innovation. Research platforms focusing on bio-based and biodegradable products have been established to complement our existing portfolio.

We are working on innovative approaches beyond the existing purely chemical solutions with research and development in white biotech and fermentation technologies. Our enzymes unit, founded in 2018, centrally steers the research, technology and production of

How we create value – an example

Kolliphor® P 188 Bio

High-purity poloxamer designed for biologics manufacturing

Value for our customers

Reduces process-related impurities

around **40-fold**

In drug manufacturing, cultivating cell cultures is a complex process with stringent regulatory requirements that must be met to ensure a high level of purity and cell viability. This enables consistent drug production. Kolliphor® P 188 Bio is a high-performance pharmaceutical processing aid from BASF that supports the cultivation of cell cultures. It is added to cell culture systems to reduce risks such as shear stress. A validated production process and regular controls ensure the purity and quality of Kolliphor® P 188 Bio. Its consistent performance and supply reduce process-related impurities in our customers' manufacturing processes around 40-fold. This saves them from conducting additional tests and simplifies the manufacturing process.

Value for BASF

Estimated annual volume growth

>10%

Identifying and enhancing key product characteristics in the manufacturing process enables BASF to meet the needs of its customers and at the same time, exploit new market opportunities. Kolliphor® P 188 Bio is an example of this. Developed and produced by BASF, this pharmaceutical processing aid is used in drug production and ensures product quality, consistency and performance in cell cultures. With Kolliphor® P 188 Bio, we expect to grow faster than the market for biologics processing aids in the future by winning new customers from other industries such as cosmetics. We anticipate annual volume growth of an estimated over 10%.

the enzyme businesses at BASF. In addition, this business unit markets enzymes directly. This allows us to focus and accelerate existing enzyme business in various industries.

In September 2019, BASF entered the market for natural flavors and fragrance ingredients with the acquisition of Isobionics, an innovation leader in biotechnology serving the global market for natural

flavors and fragrances, and through a cooperation agreement with Conagen, Bedford, Massachusetts, a leader in biotechnology research.

For standard products such as vitamins or surfactants, we focus on backward integration in our Production Verbund's value chains and cost leadership.

We expanded our existing ibuprofen production capacities in Bishop, Texas. Our expanded vitamin A production facilities in Ludwigshafen, Germany, will begin operation in 2021. BASF is also investing in its integrated complex for ethylene oxide and derivatives such as surfactants at the Verbund site in Antwerp, Belgium.

To meet rising demand for high-performance and safe UV filters, BASF is investing in a new production line at the Kaohsiung site in Taiwan and plans to double its global Uvinul® A Plus production capacity by mid-2022. The product is a photostable UVA filter that reliably filters the sun's dangerous UVA rays and provides protection against free radicals and skin damage.

By the end of 2021, 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. This involves an investment to construct 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.

Products, customers and applications

Division	Products	Customer industries and applications
Care Chemicals	<p>Ingredients for skin and hair cleansing and care products, such as emollients, cosmetic active ingredients, polymers and UV filters</p> <p>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</p> <p>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</p>	Cosmetics industry, detergent and cleaner industry, agrochemical industry, technical applications for various industries
Nutrition & Health	<p>Additives for the food and feed industries, such as vitamins, carotenoids, sterols, enzymes, emulsifiers, omega-3 fatty acids, human milk oligosaccharides</p> <p>Industrial enzymes for bioethanol and food production</p> <p>Natural and synthetic flavors and fragrances, such as citral, geraniol, citronellol, L-menthol and linalool, Isobionics® Santalol, valencene and nootkatone</p> <p>Excipients for the pharmaceutical industry and selected, high-volume active pharmaceutical ingredients, such as ibuprofen and omega-3 fatty acids</p>	Food and feed industries, flavor and fragrance industry, pharmaceutical industry and bioethanol industry

Production capacities of selected products^a

Product	Sites				Annual capacity (metric tons)
	Europe	North America	Asia Pacific	South America, Africa, Middle East	
Anionic surfactants	■	■	■	■	600,000
Citral	■		■		78,000
Chelating agents	■	■		■	170,000
Methane sulfonic acid	■				30,000
Nonionic surfactants	■	■	■		635,000

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

Material investments

Location	Project	Startup
Antwerp, Belgium	Capacity expansion: alkoxyates	2018–2022
Bishop, Texas	Capacity expansion: production plant for ibuprofen	2020
Düsseldorf, Germany	Gradual upgrade of production plants in accordance with the Good Manufacturing Practice Standard issued by the European Federation for Cosmetic Ingredients (EFFCI)	2022
Jinshan, China	Capacity expansion: alkoxyates	2020
Kaohsiung, Taiwan	New production line: UV filters	2022
Ludwigshafen, Germany	Capacity expansion: production plant for methane sulfonic acid	2021
	Construction: production plant for vitamin A	2021

Business review

- Sales decline €56 million to €6,019 million, mainly as a result of negative currency effects
- EBIT before special items decreases slightly by €20 million to €773 million due to lower contribution from the Care Chemicals division

Sales to third parties in the Nutrition & Care segment declined by €56 million year on year to €6,019 million in 2020. Sales in the Nutrition & Health division improved by €73 million to €2,030 million. This was unable to fully offset the slight sales decrease of €129 million to €3,989 million in the Care Chemicals division.

Factors influencing sales – Nutrition & Care

	Nutrition & Care	Care Chemicals	Nutrition & Health
Volumes	3%	2%	7%
Prices	–1%	–2%	0%
Portfolio	0%	0%	0%
Currencies	–3%	–3%	–3%
Sales	–1%	–3%	4%

The sales performance of both divisions was impacted by negative currency effects.

Sales were also reduced by lower price levels in the Care Chemicals division, especially in the home care, industrial and institutional cleaning and industrial formulators business. Prices in the Nutrition & Health division were on a level with the previous year.

Segment data – Nutrition & Care

Million €	2020	2019	+/-
Sales to third parties	6,019	6,075	–1%
of which Care Chemicals	3,989	4,118	–3%
Nutrition & Health	2,030	1,957	4%
Intersegment transfers	429	490	–12%
Sales including transfers	6,448	6,565	–2%
Income from operations before depreciation, amortization and special items	1,190	1,214	–2%
Income from operations before depreciation and amortization (EBITDA)	1,152	1,189	–3%
EBITDA margin	19.1	19.6	–
Depreciation and amortization ^a	464	545	–15%
Income from operations (EBIT)	688	644	7%
Special items	–85	–149	43%
EBIT before special items	773	793	–3%
Return on capital employed (ROCE)	10.6	10.0	–
Assets	6,214	6,399	–3%
Investments including acquisitions ^b	510	595	–14%
Research and development expenses	160	161	–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

Sales were positively impacted by higher volumes. Volumes rose significantly in the Nutrition & Health division, particularly in the pharmaceutical, aroma ingredients and human nutrition businesses. In the Care Chemicals division, we recorded higher sales volumes in the oleo surfactants and fatty alcohols business, as well as in the home care, industrial and institutional cleaning and industrial formulators business. This was partially offset by lower volumes in the personal care solutions business.

Care Chemicals – Sales by region

Location of customer

South America, Africa, Middle East **9%**

Asia Pacific **19%**

North America **20%**

52% Europe

€3,989 million

Nutrition & Health – Sales by region

Location of customer

South America, Africa, Middle East 10%

Asia Pacific 35%

North America 18%

37% Europe

€2,030 million

Location of customer	Percentage
Europe	37%
Asia Pacific	35%
North America	18%
South America, Africa, Middle East	10%

Income from operations (EBIT) before special items decreased by €20 million compared with the previous year to €773 million due to a slightly lower contribution from the Care Chemicals division. This was primarily the result of lower sales and a one-off payment received by the personal care solutions business in the previous year.

EBIT before special items in the Nutrition & Health division increased considerably compared with 2019. This was mainly attributable to higher volumes. Higher fixed costs had an offsetting effect. In the previous year, fixed costs were reduced by an insurance payment.

EBIT rose by €44 million year on year to €688 million. This included special charges of €85 million, mainly for impairments and provisions, primarily for the optimization of production structures in the Nutrition & Health division in North America and Europe.

[See page 155 for the outlook for 2021](#)

Agricultural Solutions

In the Agricultural Solutions segment, we aim to further strengthen our market position as an integrated provider of seeds, crop protection and digital solutions. Our connected offer comprises fungicides, herbicides, insecticides and biological solutions, as well as seeds and seed treatment products, 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 regulatory requirements are our innovation drivers.

Indications and sectors

Fungicides

Protecting crops against harmful fungal diseases

Herbicides

Reducing competition from weeds for nutrients, water and sunlight

Insecticides

Combating insect pests in agriculture and beyond

Seed Treatment

Improving seeds' potential with chemical and biological protection as well as inoculants

Seeds & Traits

Optimizing and developing seeds and new traits



Sales

Seeds & Traits €1,495 million

Change: **3%**

Percentage of sales: **19%**

Seed Treatment €609 million

Change: **-5%**

Percentage of sales: **8%**

Insecticides €825 million

Change: **3%**

Percentage of sales: **11%**

2020:
€7,660 million

Change:
-2%

2019:
€7,814 million

Fungicides €2,267 million

Change: **-2%**

Percentage of sales: **30%**

Herbicides €2,464 million

Change: **-6%**

Percentage of sales: **32%**

Factors influencing sales

Volumes	5%	
Prices	2%	
Portfolio	0%	
Currencies	-9%	
Sales	-2%	

Income from operations before special items

Million €

2020	970	
2019	1,095	

Change: **-€125 million**

Strategy

- **Innovation-driven strategy for profitable growth in selected markets**
- **Strong customer orientation with a focus on strategic, regional crop systems**
- **A wide-ranging portfolio with more sustainable solutions**

Farming is fundamental given that by 2050, the world's population is expected to increase by two billion people.¹ The growing demand for food must be reconciled with limited natural resources such as arable land and water. Agriculture is a key enabler in providing enough healthy, affordable food and responding to changing consumer behavior while reducing the impact on the environment. As one of the world's leading agricultural solutions companies, we want to create a positive impact and help shape a sustainable future for farming. At BASF, we believe that the way forward for agriculture is to find the right balance – for farmers, agriculture and future generations.

Farmers need to balance resources, technology, climate and societal uncertainty in order to produce in an economically sound way. We support them in finding the right balance by focusing more than ever on the needs of our customers, societal concerns and regulatory requirements. With a deep understanding of the way individual growers manage their farms and crop systems, we provide a connected offer, including seeds, traits, crop protection, and digital products and solutions.

Our innovation-driven strategy for agriculture focuses on four selected crop combinations, known as crop systems: 1. soy, corn (maize) and cotton in the Americas; 2. wheat, canola (oilseed rape) and sunflowers in North America and Europe; 3. rice in Asia; and 4. fruit and vegetables globally. We actively steer our connected offer for farmers and the agricultural industry toward sustainable solutions

How we create value – an example

BioSolutions by BASF

Natural partners for the cultivation of field and specialty crops and conventional crop protection

Value for our customers and the environment

Nemasys® C: biological pest control with an effectiveness of

up to **90%**

Beneficial nematodes provide flexible pest control as they fit into both conventional and organic farming practices and work across glasshouse and outdoor-grown field crops, fruits and vegetables as well as turf. These effective BioSolutions by BASF are in some cases the only option to limit the spread of destructive pests such as the codling moth. The larvae of this pest burrow under the bark of apple trees to overwinter, where they cannot be reached with other crop protection products. We have developed Nemasys® C beneficial nematodes that reach these overwintering larvae and provide up to 90% control in U.S. apple orchards, mitigating insect numbers for the following year.

by integrating sustainability criteria into all business and portfolio decisions.

The success of our customers depends on many factors such as weather, disease, pest and weed pressure, soil conditions and prices for agricultural produce. Our customers strive for better yield – yield produced in ways that are recognized as valuable by society, are kind to the planet and enable farmers to run their farms profitably in the long term while embracing digital and other new technologies in day-to-day farm operations.

Value for BASF

BioSolutions by BASF portfolio with annual sales of

>€150 million

BioSolutions are part of our portfolio for sustainable agriculture. To develop BioSolutions, we focus on leveraging in-house expertise and strategic partnerships. These solutions are based on natural mechanisms like beneficial nematodes, micro-organisms, plant extracts and pheromones. They are natural partners for a wide range of field and specialty crops and can be used in organic farming or as a complement to conventional crop protection products. Demand for BioSolutions, including seed treatment, soil and foliar applications, results in annual sales of over €150 million.

Our innovative digital products, marketed under the xarvio® Digital Farming Solutions brand, help farmers to make better decisions, enable precision farming and in this way, enhance sustainability.

Investments

The investment in a crop protection production hub in Singapore will, as announced in 2020, supply multiple formulation technologies in close proximity to farmers in Asia Pacific. We also invested in the expansion of our production site in Sparks, Georgia, establishing a

¹ Source: U.N. World Population Prospects 2019

new formulation plant for seed treatment products there. At the Nunhem site in the Netherlands, we started the expansion of our breeding facilities for vegetable seeds with a state-of-the-art tomato greenhouse. Further investments were made in the modernization of site infrastructure in the Americas and Europe. To meet continuing high demand for our innovative solutions in the future, between 2021 and 2025, we will invest more than €950 million in developing and expanding our infrastructure and in our production and formulation capacities for active ingredients as well as for seed solutions.

Research and development

Our research and development activities are aligned with our strategic crop systems to support our customers' success with innovations. In 2020, we spent €840 million on research and development in the Agricultural Solutions division, representing around 11% of the segment's sales. Our well-stocked innovation pipeline comprises novel seeds and traits, new chemical and biological crop protection products, new formulations and digital solutions to be launched between 2020 and 2030. ¹ With a peak sales potential¹ of more than €7.5 billion, our innovation pipeline has an even stronger focus on sustainable solutions – enabled by a research and development process that is driven by sustainability criteria. We innovate to create new business opportunities for farmers and for BASF by developing solutions that meet the needs of customers and consumers. By 2030, we will launch more than 30 major pipeline projects across all business areas. ² These will provide sustainable solutions to help farmers achieve better yield in their farm operations and promote healthy eating, balancing economic, environment and societal demands. Research and development activities in the Agricultural Solutions division range from seeds and traits, research and breeding capacities to solutions that protect plants against fungal diseases, insect pests and weeds, and improve soil management and plant health.

Our research and development is based on a global network of research sites, seed production and breeding capacities. It positions 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, sustainable crop solutions, our research platform on gene identification focuses on plant characteristics that enable higher yields and better quality, disease resistance and tolerance of negative environmental factors, such as drought. We apply state-of-the-art scientific methods, including genetic engineering and selective genome editing. These activities are closely connected to our activities in the field of biotechnology, which are part of BASF's Bioscience Research division. 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.

Sustainability

In 2020, we launched our Agricultural Solutions sustainability commitments. We focus on four areas to help farmers to find the right balance: climate-smart farming, sustainable solutions, digital farming and smart stewardship.

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, natural biological inoculants as well as digital solutions.

Sustainable solutions: We systematically steer our innovation pipeline according to sustainability criteria from an early stage. 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 every year increase the share of sales from solutions that make a substantial sustainability contribution.

Digital farming: Digitalization has the power to transform agriculture and make it more efficient, inclusive and sustainable. Our digital solutions help farmers to produce more with less by growing 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.

¹ Peak sales describes the highest sales value to be expected in one year. For more information, see the Glossary on page 322.

Products, customers and applications

Indications and sectors	Applications	Selected products
Fungicides	Protecting crops against harmful fungal diseases; improving plant health, securing yield and harvest quality	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, such as in the fields of public health, professional pest control and landscape maintenance	Alpha-cypermethrin, 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®

Business review

- Sales of €7,660 million, slightly below prior-year level despite higher volumes due to negative currency effects
- EBIT before special items of €970 million, down 11% from the 2019 figure mainly due to currency effects

At €7,660 million, sales to third parties in the Agricultural Solutions segment were €154 million below the prior-year level in 2020. Sales performance was significantly weighed down by negative currency effects, particularly in the region South America, Africa, Middle East. This contrasted with volume growth in a challenging market environment. Overall, prices were slightly above the prior-year level.

Factors influencing sales – Agricultural Solutions

Volumes	5%
Prices	2%
Portfolio	0%
Currencies	–9%
Sales	–2%

In **Europe**, sales declined by €85 million year on year to €2,035 million. This was largely attributable to lower volumes, especially of herbicides and fungicides, mainly as a consequence of dry weather conditions in large parts of Europe. Sales were also reduced by negative currency effects, primarily in Turkey and eastern Europe. Prices were on a level with the previous year.

Sales in **North America** decreased by €104 million to €3,004 million. Prices were slightly below the prior-year level in a continued challenging market environment, especially for herbicides and fungicides. Sales development was also weighed down by negative currency effects. This was partially offset by higher sales volumes, particularly for fungicides, after the distributor destocking and challenges relating to weather conditions and trade conflicts that dominated the previous year.

Segment data – Agricultural Solutions

Million €

	2020	2019	+/-
Sales to third parties	7,660	7,814	–2%
Intersegment transfers	91	197	–54%
Sales including transfers	7,751	8,011	–3%
Income from operations before depreciation, amortization and special items	1,680	1,809	–7%
Income from operations before depreciation and amortization (EBITDA)	1,582	1,647	–4%
EBITDA margin	20.7	21.1	–
Depreciation and amortization ^a	1,000	719	39%
Income from operations (EBIT)	582	928	–37%
Special items	–388	–167	.
EBIT before special items	970	1,095	–11%
Return on capital employed (ROCE)	3.6	5.3	–
Assets	14,840	16,530	–10%
Investments including acquisitions ^b	459	320	43%
Research and development expenses	840	879	–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

Sales in **Asia** rose by €59 million to €844 million. This was largely attributable to higher sales volumes, especially of herbicides and fungicides, primarily in India, China and Australia. Slightly higher price levels contributed to the positive sales development, while negative currency effects had a dampening impact.

Sales in the region **South America, Africa, Middle East** amounted to €1,777 million, €24 million below the previous year. This was primarily due to significantly negative currency effects, mainly from the depreciation of the Brazilian real. Considerably higher volumes in all indications and sectors, especially in Brazil, and higher price levels were unable to fully offset the negative currency developments.

Agricultural Solutions – Sales by region

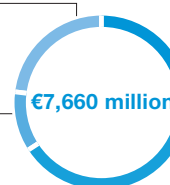
Location of customer

South America, Africa, Middle East **23%**

Asia Pacific **11%**

North America **39%**

27% Europe



Income from operations (EBIT) before special items was €970 million, €125 million below the 2019 figure. This was mainly due to currency effects.

EBIT amounted to €582 million, €346 million less than in the previous year. This figure included special charges in the amount of €388 million, primarily from impairments in connection with measures to streamline the global glufosinate-ammonium production network.

[🔗 See page 155 for the outlook for 2021](#)

Other

Sales in Other declined by €538 million compared with 2019 to €2,360 million. This was mainly due to the sales decrease in commodity trading and the remaining activities of BASF's paper and water chemicals business, which were not part of the transfer to Solenis and are reported under Other.

At –€769 million, **income from operations before special items** in Other was €188 million below the prior-year figure. This is largely attributable to lower contributions from other businesses and to positive effects in 2019, primarily from changes to pension benefits in the United States.

EBIT declined by €685 million to –€1,203 million. This included special charges, in particular for the realignment of the Global Business Services unit. The prior-year figure included special income from the sale of our share of the Klybeck site in Basel, Switzerland.

Financial data – Other^a

Million €	2020	2019	+/-
Sales	2,360	2,898	–19%
Income from operations before depreciation, amortization and special items ^b	–609	–414	–47%
Income from operations before depreciation and amortization (EBITDA) ^b	–1,032	–334	.
Depreciation and amortization ^c	171	184	–7%
Income from operations (EBIT) ^b	–1,203	–518	.
Special items ^b	–434	63	.
EBIT before special items ^b	–769	–581	–32%
of which costs for cross-divisional corporate research	–364	–397	8%
costs of corporate headquarters	–214	–231	7%
other businesses	143	179	–20%
foreign currency results, hedging and other measurement effects	–58	–89	35%
miscellaneous income and expenses	–276	–43	.
Assets ^d	24,131	27,585	–13%
Investments including acquisitions ^e	156	299	–48%
Research and development expenses	385	411	–6%

^a Information on the composition of Other can be found in the Notes to the Consolidated Financial Statements from page 241 onward.

^b The 2019 figures have been restated to reflect the reclassification of income from non-integral companies accounted for using the equity method to net income from shareholdings.

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

^d Contains assets of businesses recognized under Other as well as reconciliation to assets of the BASF Group

^e Additions to property, plant and equipment and intangible assets

Non-Integral Oil and Gas Business

Macroeconomic environment

The price of a barrel of Brent crude oil averaged \$42 in 2020 (previous year: \$64). Gas prices on the European spot markets declined significantly compared with the previous year. The strong price declines in the first half of 2020 were attributable to the drop in global macroeconomic demand caused by the coronavirus pandemic. Oil and gas prices partially recovered in the second half of the year.

Equity-accounted income of the oil and gas business

As of January 1, 2020, BASF no longer presents equity-accounted income from Wintershall Dea in the BASF Group's EBIT and EBIT before special items, but under net income from shareholdings. Wintershall Dea contributed –€890 million to net income from shareholdings in 2020. This included impairments of €791 million, mainly as a result of lower oil and gas price forecasts and changed reserve estimates. In the previous year, Wintershall's earnings were presented in income after taxes from discontinued operations until the merger of Wintershall and DEA on April 30, 2019. Equity-accounted income from Wintershall Dea in the period from May 1, 2019, to December 31, 2019, amounted to –€86 million.

Wintershall Dea conducts production, development¹ and exploration activities in the following countries:

- Egypt (production, development, exploration)
- Algeria (production)
- Argentina (production, development, exploration)
- Brazil (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, exploration)
- United Kingdom (production, development, exploration)

Wintershall Dea's activities in 2020

Wintershall Dea produced 227 million BOE (barrels of oil equivalent) in 2020, of which around 162 million BOE of gas. This corresponded to a daily production of 623 thousand BOE. Despite the macroeconomic downturn caused by the coronavirus pandemic, Wintershall Dea was able to increase daily production slightly compared with the period from May 1, 2019, to December 31, 2019.

Investment projects continued largely as planned. The AERfugl project in Norway started production of phase 1 on schedule and budget – a milestone for subsea development in the Norwegian Sea. However, a number of projects, such as the Njord and Nova projects in Norway, were delayed by the coronavirus pandemic. In Russia, the Achim Development joint venture operated with Gazprom, in which Wintershall Dea holds a 25.01% interest, continued field development in blocks 4A and 5A of the Achimov Formation. Production is expected to start in the first quarter of 2021. Another investment focus is Egypt, especially the Nile Delta. The Raven subproject there commenced production at the beginning of 2021.

The Achimgaz joint venture with Gazprom successfully drilled further production wells. Production is running at the expected high level. Severnftgazprom, a joint venture between Gazprom, Wintershall Dea and OMV, reached a major milestone in 2020: The Yuzhno-Russkoye field in Russia's Yamalo-Nenets Autonomous District has produced 300 billion cubic meters of natural gas since production began in 2007.

In October 2020, Wintershall Aktiengesellschaft, in which Wintershall Dea holds a 51% interest, transferred operatorship of Contract Areas 91 (formerly concession 96) and 107 (formerly concession 97)

onshore Libya's Sirte basin to Sarir Oil Operations B.V. (SOO), a newly established joint operating company with the National Oil Corporation (NOC).

Wintershall Dea drilled 11 exploration wells in 2020. Of these, around 64% were successful.

Wintershall Dea is also active in gas transportation. This includes interests in GASCADE Gastransport GmbH and OPAL Gastransport 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 involved in the financing of the Nord Stream 2 pipeline project, but does not hold an interest in the company.

As part of its climate strategy, which was communicated in November 2020, Wintershall Dea aims to achieve net zero emissions² from upstream activities by 2030 and reduce the methane intensity of its own natural gas production to 0.1% by 2025. During the next 10 years, Wintershall Dea intends to invest around €400 million in reducing and offsetting greenhouse gas emissions.

In 2020, Wintershall Dea continued to drive forward the integration that began with the merger and was able to realize the intended synergies. Wintershall Dea has undertaken preparations for a stock exchange listing, which is expected to take place over the course of 2021 subject to market conditions.

¹ Development activities include projects before and after the FID (final investment decision)

² Scope 1 and 2 emissions from upstream activities operated by Wintershall Dea and upstream activities not operated by Wintershall Dea on a pro rata basis

Regional Results

Regions

Million €

	Sales by location of company			Sales by location of customer			Income from operations by location of company ^a		
	2020	2019	+/-	2020	2019	+/-	2020	2019	+/-
Europe	24,223	25,706	-6%	23,129	23,827	-3%	-1,005	2,125	.
of which Germany	10,296	14,049	-27%	5,510	6,123	-10%	-1,712	504	.
North America	16,440	16,420	0%	15,709	15,948	-1%	-201	692	.
Asia Pacific	14,895	13,384	11%	15,406	14,203	8%	768	1,082	-29%
South America, Africa, Middle East	3,591	3,806	-6%	4,905	5,338	-8%	247	302	-18%
BASF Group	59,149	59,316	0%	59,149	59,316	0%	-191	4,201	.

^a The 2019 figures have been restated to reflect the reclassification of income from non-integral companies accounted for using the equity method to net income from shareholdings.

Europe

- Sales down 6% compared with 2019 at €24,223 million
- EBIT declines €3,130 million to -€1,005 million

Sales at companies located in Europe decreased by 6% year on year to €24,223 million. This was mainly due to considerably lower sales in the Chemicals and Materials segments. Sales also declined considerably in Other and in the Industrial Solutions and Agricultural Solutions segments, and slightly in the Nutrition & Care segment. Considerable sales growth in the Surface Technologies segment was unable to compensate for this.

Sales performance was primarily driven by lower volumes in almost all segments and in Other, but especially in the Materials segment as a result of weaker demand from the automotive industry. Price levels declined in the Chemicals segment in particular, especially for steam cracker products due to higher product availability on the market and lower raw materials prices, as well as in the Materials segment as a result of lower isocyanates prices. By contrast, prices in the Surface Technologies segment were well above the prior-year level.

Negative currency effects also contributed to the sales decrease. Portfolio effects in the Materials segment from the acquisition of Solvay's integrated polyamide business had an offsetting impact.

At -€1,005 million, EBIT was down €3,130 million from the previous year. All segments and Other recorded lower contributions, but especially the Materials segment. This was largely attributable to impairments.

We are strengthening our position in the European market with investments such as the construction of a precursor plant for cathode active materials in Harjavalta, Finland, and the construction of a cathode active materials plant in Schwarzheide, Germany. With these investments, BASF aims to expand its position as a leading and innovative provider of battery materials. The two plants are scheduled for startup in 2022 and will be able to equip around 400,000 fully electric mid-size vehicles per year.

North America

- Sales of €16,440 million at prior-year level
- EBIT declines €893 million to -€201 million

Sales at companies located in North America were on a level with the previous year, at €16,440 million. In local currency terms, they rose by 2%. Considerable sales growth in the Surface Technologies segment and slightly higher sales in the Nutrition & Care segment were offset by considerable sales decreases in the Chemicals, Materials and Industrial Solutions segments, as well as slightly lower sales in the Agricultural Solutions segment.

Sales performance was positively impacted by an increase in prices on the back of significantly higher price levels in the Surface Technologies segment. This more than compensated for lower prices in all other segments. Sales were weighed down by lower volumes, especially in the Surface Technologies, Materials, Chemicals and Industrial Solutions segments. This was mainly the result of lower demand from the automotive industry due to the effects of the coronavirus pandemic and the unplanned outage at the steam cracker in Port Arthur, Texas. Sales were also reduced by negative currency effects.

At -€201 million, EBIT was down €893 million from the prior-year figure due to significantly lower contributions from almost all segments, but especially from the Surface Technologies segment. EBIT includes special charges, mainly from impairments in the Surface Technologies, Agricultural Solutions and Chemicals segments. In addition, the contribution from the Industrial Solutions segment was lower, after the transfer of the paper and water chemicals business to the Solenis group had positively impacted the segment's earnings in the previous year. By contrast, EBIT rose considerably in Other and in the Nutrition & Care segment.

Sales by region

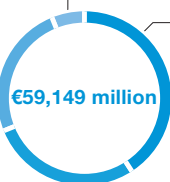
Location of company

South America, Africa, Middle East 6%

41% Europe

Asia Pacific 25%

North America 28%



Asia Pacific

- Sales growth of 11% to €14,895 million
- EBIT down 29% to €768 million

Sales at companies headquartered in the Asia Pacific region rose by 11% to €14,895 million in 2020. In local currency terms, sales were 14% above the prior-year level. This was largely due to considerably higher sales in the Surface Technologies segment. Sales also rose considerably in the Agricultural Solutions segment, while the Materials segment recorded a slight improvement. By contrast, sales declined considerably in the Industrial Solutions segment and slightly in the Chemicals segment. Sales were at prior-year level in the Nutrition & Care segment.

The sales performance was primarily the result of higher volumes in all segments, but especially in the Surface Technologies and Agricultural Solutions segments. Higher prices overall, mainly attributable to the Surface Technologies segment, also contributed to the increase in sales. By contrast, prices in the Materials, Industrial Solutions, Chemicals and Nutrition & Care segments were below the prior-year level. Sales were buoyed by portfolio effects, especially in the Materials segment following the acquisition of the integrated polyamide business from Solvay. Negative currency effects had an offsetting impact.

EBIT in the region declined by €314 million compared with 2019 to €768 million, primarily as a result of impairments. This was largely due to the considerable decrease in EBIT in the Chemicals and Surface Technologies segments. The Industrial Solutions segment's contribution was also significantly lower. By contrast, the Materials, Nutrition & Care and Agricultural Solutions segments posted much higher earnings.

Even in the coronavirus pandemic, the Asia Pacific region remains the strongest growth driver in the chemical industry. Our investments in local production plants and in research and development meet the needs of our local customers and lay the foundation for future growth in the Asian market. Following the official ground-breaking in November 2019, we started construction of the first plants at the planned integrated Verbund site in Zhanjiang in the southern Chinese province of Guangdong. The first plants will produce engineering plastics and thermoplastic polyurethane (TPU) to serve the growing demand in various growth industries in Asia, including in the southern Chinese market. We also expanded our dispersions portfolio at our site in Huizhou, China, to better serve the fast-growing packaging industry in southern China. At the Nanjing site, in 2020, we increased the production capacity for neopentyl glycol to meet our Chinese customers' demands for environmentally friendly automotive refinish coatings.

South America, Africa, Middle East

- Sales down 6% at €3,591 million
- EBIT declines 18% to €247 million

Sales at companies located in the region South America, Africa, Middle East declined by 6% year on year to €3,591 million. In local currency terms, by contrast, they rose by 22%. The decline in sales in euros was mainly due to considerably lower sales in the Surface Technologies segment. Sales were also considerably below the prior-year level in the Industrial Solutions segment and decreased slightly in the Agricultural Solutions segment. By contrast, the Materials segment

recorded considerable sales growth, while the Chemicals and Nutrition & Care segments posted slight increases.

Sales performance in South America was primarily attributable to negative currency effects. Higher price levels in all segments except Chemicals had an offsetting effect. We also increased sales volumes overall. Higher volumes, particularly in the Agricultural Solutions segment, more than compensated for lower sales volumes in the Surface Technologies segment due to the effects of the coronavirus pandemic. Portfolio effects, especially in the Materials segment from the acquisition of Solvay's integrated polyamide business, had a positive impact on sales.

Companies located in Africa and in the Middle East recorded a considerable sales decrease overall. Higher prices were unable to offset lower volumes and negative currency effects.

At €247 million, EBIT in the region South America, Africa, Middle East was down €55 million from the prior-year figure. This was due to lower contributions from Other and from the Agricultural Solutions, Industrial Solutions, Surface Technologies and Nutrition & Care segments. EBIT improved considerably in the Materials and Chemicals segments.

Responsible Conduct Along the Value Chain

SUPPLIERS

BASF

CUSTOMERS

We want to contribute to a world that offers a viable future with enhanced quality of life for everyone. That is why sustainability is firmly anchored in our corporate purpose, our strategy, our targets and our operating business (see page 42). It is 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 – from our suppliers and our own activities to our customers.

We contribute to a sustainable development and to the United Nations' Sustainable Development Goals (SDGs) in many different ways (see page 32). For instance, our innovations, products and technologies help to better use natural resources, produce enough food, enable climate-smart mobility, reduce emissions, or increase the capabilities of renewable energy. Alongside these positive contributions, our business activities also have negative impacts. For example, we create CO₂ emissions and procure raw materials, the sourcing of which by our suppliers involves a potential risk of human rights violations. This is why we are constantly working to broaden our positive impact on key sustainability topics (see page 42) along our value chains and reduce the negative impact.

Strategy

■ Comprehensive management and monitoring systems to uphold our responsibility to the environment and society

We are committed to doing business in a responsible, safe, 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 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, the Universal Declaration of Human Rights, or 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 global Responsible Care Management System covers environmental protection, health and safety (see page 121). We meet our responsibilities with respect to international labor and social standards chiefly through three elements: the Compliance Program (including internal and external compliance hotlines), close dialog with our stakeholders (such as with employee representatives or international

organizations) and the guideline on compliance with international labor norms, which applies Group-wide. This guideline specifies what the issues in our global Code of Conduct mean for our employees.

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 113).

We are involved in numerous 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) and OECD's Business for Inclusive Growth (B4IG) initiative, as well as networks with thematic focus like the Alliance to End Plastic Waste (AEPW), the Global Battery Alliance (GBA) or the

Roundtable on Sustainable Palm Oil (RSPO). In addition, we realize a wide range of projects – often together with partners – for example, to improve sustainability in the supply chain, to promote a circular economy model or on the responsible use of crop protection products.

🔗 For more information on sustainability management, see page 42 onward

For more information on responsible procurement, see page 113 onward

For more information on environmental protection, health and safety, see page 121 onward

For more information on employees, see page 144 onward

For more information on social engagement, see page 47 onward

For more information on corporate governance and compliance, see page 167 onward

Responsibility for human rights

- Human rights topics coordinated and steered by Corporate Compliance
- Creation of an independent Human Rights Advisory Council for trust-based dialog and consultation

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, non-governmental 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. 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. Nevertheless, we are committed to our values – including and especially there – and contribute to the respect of human rights.

We have embedded this into our Code of Conduct and our human rights position (for more information, see page 177). All employees and members of management bodies are responsible for ensuring that we act in accordance with our Code of Conduct and our human rights position. We uphold our standards worldwide, including where they exceed local legal requirements. We avoid causing or contributing to adverse human rights impacts through our own operations.

Our Corporate Compliance unit is responsible for steering human rights topics and developing binding policies. A group of internal experts from various specialist units – environment, health and safety, sustainability, legal, procurement, human resources and supply chain – and the operating divisions works closely together to coordinate measures across units. This 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. Together with our Human Rights Advisory Council, it ensures that we can meet our due diligence obligations.

We established the Human Rights Advisory Council 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 critical perspectives and to deal more openly with dilemmas. 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 council is chaired by our Chief Compliance Officer. Meetings are also attended by employees from Corporate Sustainability and Corporate Compliance. Other representatives, for example, from the operating divisions or procurement, are invited depending on the focus topics. Its composition allows the Human Rights Advisory Council to provide an external perspective on our processes and contribute this in discussions with senior management. Similarly, the Stakeholder Advisory Council brings outside views to discussions with the Board of Executive Directors. We see assuming our

human rights responsibilities as a continuous process. This is why we continuously review our policies and processes and update them if necessary.

In 2020, we conducted a comprehensive review of our human rights management system and the related processes. The review showed that we have achieved important milestones in the area of human rights and in terms of our due diligence processes. These include the introduction of explicit questions on due diligence aspects in the risk analyses conducted by business units, standard supplier assessments or evaluations of investment projects. The analysis, which was discussed with the Board of Executive Directors, did however also reveal potential for improvement that we have ambitions to pursue, such as awareness of human rights topics within our organization. Continued efforts are needed to help all employees better understand how these topics are relevant to our daily work. In addition, we want to expand our due diligence process to more effectively identify challenges at different stages of our value chain. A human rights risk assessment is to be more systematically incorporated into strategy development for our procurement units. We also want to further strengthen our grievance mechanisms and introduce a standardized global hotline and reporting system in 2021. In consultation with the Human Rights Advisory Council, Corporate Compliance is developing specific measures for improvement together with the expert group and the relevant units. Awareness-raising measures are currently being developed, including training concepts and content to make employees more conscious of human rights.

We want to ensure that our actions do not have a negative impact on human rights. We have long used monitoring and management systems to identify potential and actual negative impacts. 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 integrated into the evaluation of investment, acquisition and divestiture

projects, assessments along the product life cycle, and systems to monitor labor and social standards. Aspects of human rights related to site security, such as the right to liberty and security of person, are a component of the global qualification requirements of our security personnel. Respect for human rights is a mandatory element of any contract with service providers of the BASF Group who are active in this area.

As an international company, we are a part of society in the countries in which we operate and have business relationships with different partners around the world. We have trustful working relationships with our partners (joint venture partners, contractors, suppliers, and customers), expect them to comply with internationally recognized human rights standards and to demand the same of their partners further along the value chain. For instance, we contractually agreed with our two joint venture partners in the Chinese region of Xinjiang that the basis for joint activities is the BASF Code of Conduct and the requirements embedded in it to respect human rights and relevant labor and social standards (such as the exclusion of forced labor and discrimination in hiring, promotion and dismissal practices). We review this on a regular basis with audits. The most recent audits on compliance with labor and social standards at our joint ventures were performed in the first half of 2020, despite the challenges posed by the coronavirus pandemic. The audits were conducted with the support of a well-known external auditor. They reviewed the implementation of measures agreed in previous internal audits and again verified compliance with BASF's requirements regarding international labor and social standards.

We support our partners in their efforts to meet their respective responsibilities. This is because 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.

Employees and third parties around the world can report potential violations of laws or company guidelines to our compliance hotlines. Since 2020, employees have also been able to contact specialists directly via a new internal online platform or the corresponding app. In 2020, 261 human rights-related complaints were received by phone as well as by post and e-mail. All complaints received were reviewed and forwarded to the relevant departments for in-depth investigation. If justified, appropriate measures were taken.

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 113 onward

[For more information on our production standards, see page 121 onward](#)

[For more information on systems for monitoring labor and social standards, see page 144 onward](#)

[For more information on corporate governance and compliance, see page 167 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 \[basf.com/human-rights-council\]\(https://basf.com/human-rights-council\)](#)

Supplier Management

SUPPLIERS

BASF

CUSTOMERS

BASF sources a wide range of raw materials, technical goods and services. Our suppliers are an important part of our value chain. Our objective is to secure competitive advantages for BASF through our professional procurement structures. At the same time, together with our suppliers, we want to improve sustainability in the supply chain and minimize risks.

Strategy

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.¹ We work together in an open and transparent way to generate long-term benefits for both sides.

Our sustainability-oriented supply chain management helps to manage risks. We have defined our standards and processes in global guidelines and are constantly refining and optimizing these. Our risk-based approach aims to identify and evaluate sustainability risks 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 2020, 462 BASF employees received such training.

Our expectations of our suppliers are laid down in the global Supplier Code of Conduct. This clarifies for our suppliers the standards to be met and supports them in carrying out our requirements. We count on reliable supply relationships and want to make our suppliers' contribution to sustainable development visible to us.

2025 target

Share of relevant spend covered by sustainability evaluations

90%

2025 target

Percentage of suppliers with improved sustainability performance upon re-evaluation

80%

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 spend² and will develop action plans where improvement is necessary. In addition, we are working toward having 80% of suppliers improve their sustainability performance upon re-evaluation by 2025. In 2020, 80% of the relevant spend had been evaluated. Of the suppliers re-evaluated in 2020, 68% had improved. The global targets are embedded in the target agreements of persons responsible for procurement.

For more information on suppliers, see basf.com/suppliers

Worldwide procurement

Our more than 70,000 Tier 1 suppliers play an important role in value creation at our company. 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. Procurement management systems such as guidelines and targets are set centrally and are binding for all employees with procurement responsibility worldwide.

We acquired raw materials, goods and services for our own production worth approximately €31.5 billion in 2020. Of this, around 90% was procured locally.³ 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 standards. We also expect our suppliers to make an effort to implement 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 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, and antidiscrimination and anticorruption policies in

¹ 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.

² 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.

³ "Local" means that a supplier is located in the same region (according to BASF's definition) as the procuring company.

addition to protecting the environment. The Code of Conduct is available in the most relevant languages for our suppliers and is integrated into electronic ordering systems and purchasing conditions across the Group. In 2020, 4,918 new suppliers committed to our Code of Conduct.

BASF reserves the right to conduct audits or evaluations to ensure that suppliers comply with the applicable laws, rules and standards. In addition, BASF reserves the right to discontinue business relationships for non-adherence to international principles, failure to correct violations, or for displaying patterns of non-compliance with these standards. Potential violations of laws, rules or standards can be reported – including anonymously – to one of our more than 50 externally operated hotlines worldwide. Each case is documented and investigated, and appropriate measures are taken as necessary.

For more information on responsible conduct along the value chain, see page 110 onward

For more information on the Supplier Code of Conduct, see basf.com/suppliers

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 environmental, social and corporate governance standards. As such, the selection, evaluation and auditing of suppliers is an important part of our sustainable supply chain management. Approaches and responsibilities are set out in a global guideline. Due to the size and scale of our supplier portfolio, our suppliers are evaluated based on risk, including materiality and country and industry-specific risks. We also use observations from our employees in procurement and information from internal and external databases, such as Together for Sustainability (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 50 raw material supplier sites were audited on sustainability standards on our behalf in 2020. We received sustainability evaluations for 628 suppliers. We also take into account other certification systems and external audits, such as from the Roundtable on Sustainable Palm Oil, when evaluating our suppliers' sustainability performance. Depending on business requirements, we additionally conduct our own Responsible Care audits at selected suppliers (see page 121).

For more information on raw materials, see page 116 onward

For more information on Together for Sustainability, see basf.com/en/together-for-sustainability

Audit results

We carefully analyze the results of sustainability evaluations and on-site audits and document these in a central database. The 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 2020 identified improvements, for example the correct storage of hazardous substances, proper disposal of waste, the implementation of occupational and process safety measures, the correct implementation of emergency plans, and compliance with labor law requirements. In 2020, none of our audits identified any instances of child labor or dangerous work and overtime performed by persons under 18.

In January 2020, a full mining-specific re-audit was performed at our platinum supplier Sibanye-Stillwater in Marikana, South Africa,¹ in accordance with TfS standards to re-evaluate the situation following the previous audits in 2015 and 2017. This identified fundamentally solid management systems at Sibanye-Stillwater in line with good industry practice and international standards, especially in the area of health and safety. The audit also recognized the significant efforts by Sibanye-Stillwater since the acquisition of Lonmin in 2019 in the area of social engagement, as well as the establishment of an



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 evaluations and audits 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 in a database 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.

At the end of 2020, TfS had 29 members with a combined procurement spend of around €227 billion. A total of 258 audits and 4,675 online assessments were performed. As a TfS member, BASF itself is assessed and was one of the best-rated companies in 2020. With 80 points in sustainable procurement, BASF is among the top 1% in this category worldwide.


For more information on Together for Sustainability, see tfs-initiative.com

¹ In 2012, an extended strike at a mine formerly operated by Lonmin Plc, London, UK, in Marikana, South Africa, culminated in a violent confrontation between mine workers and armed South African police. Employees of the platinum supplier Lonmin were among the fatalities. Ownership of the Marikana mine was transferred to Sibanye-Stillwater with its acquisition of Lonmin in 2019.

inclusive stakeholder engagement forum. These include maintaining the cooperation between Sibanye-Stillwater and the authorities to improve local living conditions. In addition, the audit team recommended that the implementation and management of the social engagement strategy continue to be systematically monitored.

Need for action was identified in areas such as health and safety and the environment, for example in storing corrosive substances, fire-fighting capabilities and compliance with soil and water emission limits. All of the deviations identified by the audit were included in an action plan. BASF and Sibanye-Stillwater discuss the progress made on its implementation four times a year. The improvements were documented by the end of 2020 as planned. 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 in the South African platinum group metals sector and exchanging factors for success. BASF continued its regular dialog with local stakeholder groups in 2020.

We are also in regular contact with our supplier Nor Nickel on sustainability matters and other aspects relevant to our cooperation. These include current events and the findings from the mining-specific TfS audits conducted in 2017 at Nor Nickel's sites in Polar and Kola (both in Russia) and in Harjavalta, Finland. The audits identified some need for adjustment in the areas of waste, wastewater, emissions and land rehabilitation to mitigate environmental and production risks. A number of points have since been implemented, while others are still outstanding and are included in site-specific action plans. In addition, Nor Nickel has committed to becoming certified according to the standards of the International Council on Mining and Metals (ICMM) and the Initiative for Responsible Mining Assurance (IRMA). This involves comprehensive audits, which are planned for 2021.

 For more information on the supplier relationship with the Sibanye-Stillwater mine, see basf.com/en/marikana

Supplier development

Using TfS evaluations, we pursue a risk-oriented approach with clearly defined, BASF-specific follow-up processes. If we identify deviations from our standards, we ask our suppliers to develop and implement corrective measures within a reasonable time frame. We support them in their efforts, for example by providing training on environmental, social and corporate governance topics. We trained employees from 43 Chinese suppliers in 2020 as part of a partnership with the East China University of Science and Technology in Shanghai, China.

As part of TfS, training was developed for suppliers that already have a sustainability rating but have potential for improvement in environmental, social and corporate governance. In 2020, more than 1,000 participants attended TfS training on this topic in China and Brazil. The TfS Supplier Academy is also developing training opportunities for our suppliers around the world. These will be implemented in 2021.

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 2020, this was decided in four cases.

Raw Materials

SUPPLIERS

BASF

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In 2020, BASF purchased a total of around 30,000 different raw materials from more than 6,500 suppliers. Using resources as efficiently and responsibly as possible and the concept of a circular economy are firmly embedded in our strategy and our actions, supported by our Verbund structure and the use of renewable and recycled feedstocks. We expect our suppliers to source and produce raw materials responsibly. In the search for alternative raw materials, we employ solutions that also contribute to sustainability.

Strategy

Our strategy covers the entire value chain – from responsible procurement and using and recycling raw materials efficiently in our own processes to developing green products and technologies for our customers. We want to decouple growth from resource consumption with process and product innovations to drive forward the shift toward closed-loop value creation systems (see page 30). Alongside economic, environmental and social criteria, we also consider aspects such as product safety and supply security when selecting raw materials for our production processes.

Our expectations of our suppliers are laid down in the Supplier Code of Conduct (see page 113). We take a closer look at suppliers in critical supply chains, for example for mineral raw materials, renewable resources such as palm kernel oil, for a number of pigments or 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 raw materials supply more sustainable in joint initiatives with suppliers and other partners. Examples include our cooperative ventures to recycle battery materials (see page 119) or our joint activities on certified sustainable supply chains for renewable raw materials such as palm and castor oil.



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. It is not possible to physically or chemically match the feedstock to the output as our plants simultaneously process fossil, bio-based and recycled raw materials. The share of bio-based or recycled raw materials can be allocated to certain products 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 conventional products but make a substantial sustainability contribution to the use of bio-based or recycled raw materials. This method has already been applied to over 200 BASF products (2019: around 80 products), for example, for engineering plastics, superabsorbents, dispersions and intermediates. We share our expertise in various stakeholder platforms to harmonize and standardize different allocation methods and certification systems for mass balance products. For instance, BASF contributed to position paper on the mass balance approach published by the industry association PlasticsEurope in 2020.

For more information, see basf.com/massbalance

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 130). 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 (see page 30). For example, we are driving forward chemical recycling of mixed plastic waste and used tires in our ChemCycling™ project (see page 118).

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 production of our products, for example through more efficient processes or 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. Our products also improve our customers' resource efficiency and sustainability in many areas. For example, metal pretreatment using our innovative Oxsilan® thin-film technology requires significantly less material than conventional processes. At the same time, it can achieve water savings of up to 50% and reduce energy costs by up to 40%.

Fossil and petrochemical resources

BASF's most important raw materials (based on volume) include liquid gas and natural gas, as well as 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 mostly 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 high-performance 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, in striking the balance between competitiveness and the additional costs of using renewable energy, or between renewable resources and land use. We raise awareness of these trade-offs through close dialog with our stakeholders and our involvement in sustainability initiatives, and help to find solutions.

Renewable resources

■ Numerous projects and cooperative ventures to improve sustainability along the value chain

In addition to fossil resources, we employ renewable raw materials, mainly based on vegetable oils, fats, grains, sugar and wood. In 2020, we purchased around 1.2 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 or 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 on page 116). Examples include the biomass balance polyisobutene OPPANOL® BMBCert™ (see page 84) or 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 up 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 with measures, projects and targeted involvement in initiatives. Our activities here concentrate on value chains that are relevant quantitatively, such as palm-based raw materials, or that do not yet have certification standards, such as castor oil. We are also working on product innovations and on enhancing production processes to improve the profitability and competitiveness of renewable resources.

Palm oil, palm kernel oil and their derivatives are some of our most important renewable resources. 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 and have actively supported the Roundtable on Sustainable Palm Oil (RSPO) since 2004. Based on the Group-wide Supplier Code of Conduct (see page 113), we have laid down our expectations of suppliers in the oil palm value chain in an additional 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 227,213 metric tons of certified palm oil and palm kernel oil in 2020. We therefore reached our goal of only sourcing RSPO-certified palm oil and palm kernel oil by 2020. By 2025, we want to do the same for the most important intermediate products based on palm oil and palm kernel oil, including fractions and primary oleochemical derivatives as well as vegetable oil esters. We were able to trace 96% of our global palm footprint to oil mill level as of the end of 2020. In addition, we continued to drive forward the RSPO supply chain certification of our sites for cosmetic ingredients. At the end of 2020, 25 production sites worldwide were certified by the RSPO.

We continue to see growing demand for certified palm-based products from our customers. Sales volumes rose by more than 30% compared with the previous year. We are expanding our range of certified sustainable products in accordance with the RSPO's mass balance supply chain model. This helps our customers to 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 strengthen 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. We established the Sustainable Castor Initiative – Pragati in 2016 together with Arkema,

Jayant Agro and Solidaridad as there were previously no globally defined and recognized certification standards. The aim is to improve the economic situation of castor oil 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 the project, 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. Since the project was initiated, more than 4,500 smallholders and over 8,700 hectares of land have been certified for sustainable castor cultivation. Yields from this land have risen by at least 50% compared with baseline 2016. We will source the first certified sustainable castor oil from the program in 2021. In the long term, we want to increase the share of this oil to cover our total demand.

Our raw materials for cosmetic active ingredients mainly come from plants. Two examples of holistic programs that consider the various aspects of sustainability are our products based on rambutan and argan. The rambutan tree belongs to the soapberry family. Its fruit is mainly sold for food. Our research and development discovered a method to extract the bioactives contained in the peel, leaves and seeds. The commercialization of the rambutan tree's by-products, which were previously disposed of as waste, creates new income streams for farmers and expands our portfolio of natural active ingredients. As part of our rambutan program, we have worked closely together with two small plantations in the Vietnamese province of Dong Nai since 2014, which supply us with sustainably produced, certified organic raw materials. The partnership focuses in particular on responsible farming practices and social inclusion, including gender equality, safe working conditions and fair incomes.

We have cooperated with Targanine in the region of Agadir in Morocco since 2005. The network of six argan oil cooperatives supplies 16 products – including argan oil, essential oils and bee products – to BASF under fair trade conditions. Some 2,000 women from rural areas now work in the cooperatives. Commercialization

helps to preserve the argan forest and strengthens local communities, for example, by providing additional income and through literacy programs and health initiatives. In 2020, the certification organization Ecocert awarded our cosmetic active ingredient Lipofructyl™ Argan the "Fair for Life" label for the fourth time in a row, confirming the sustainability of the supply chain.

For more information on renewable resources, see basf.com/renewables

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 30).

One focus 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 partners use the thermochemical process of pyrolysis 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 structure as an alternative to fossil raw materials and use it to make new products. These have the same properties as products manufactured from fossil feedstocks. We use a certified mass balance approach to allocate the percentage of recycled materials to the end product (see box on page 116). Since 2020, we have been able to offer our customers the first commercial Cycled™ products. After investing in Quantafuel AS in 2019, we expanded our supply base with

pyrolysis oil from used tires in 2020 with a partnership with New Energy and an investment in Pyrum Innovations AG.

We also took a crucial step forward in the chemical recycling of used polyurethane foam mattresses in 2020: A wet chemical process developed by BASF can be used to break down soft polyurethane foam to recover the polyol originally used, which can be used to produce new polyurethane foam. The first test foams show promising results.

BASF continues to recycle the precious metals used in automotive, process and chemical catalysts. These contain precious metals like platinum, palladium and rhodium. Treating and recovering resources from spent automotive catalysts is a complex process. All of the precious metals we recover in this way are reused as feedstocks in catalyst production.

The growing demand for electromobility is also increasing the need for lithium-ion battery recycling. As a leading producer of battery materials with local production capacities in the three main markets – Asia, Europe and the United States – in the future, BASF has in-depth expertise in battery chemistry and process technology. Together with our partners, we are leveraging this expertise to develop a closed-loop system for the raw materials used to produce cathode active materials, such as nickel, cobalt, manganese and lithium. The objective is to further increase sustainability in the value chain for batteries. In 2020, we launched the project “Recycling lithium-ion batteries for electric vehicles” (ReLieVe) together with Eramet and SUEZ. The project received €4.7 million in funding from the European Union. The aim is to develop an innovative, large-scale process to recycle batteries along the entire value chain – from collecting end-of-life batteries and recovering mineral raw materials to using these in the production of new battery materials.

[For more information on BASF's Circular Economy Program, see page 30](#)

[For more information on recycled raw materials, see \[basf.com/circular-economy\]\(https://www.basf.com/circular-economy\)](#)

Mineral raw materials

We procure a number of mineral raw materials, which we use to produce mobile and process emissions 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 mobile and process emissions catalysts and using these as secondary resources (see “Recycled feedstocks”).

Sourcing mineral raw materials responsibly is important to BASF. We have selected suppliers confirm to us that they do not source minerals as defined in the Dodd-Frank Act from the Democratic Republic of Congo or its neighboring countries. If there is cause for concern, we reserve the right to audit suppliers and, if necessary, terminate the business relationship. We implemented the E.U. Conflict Minerals Regulation by the deadline in early 2021. This defines supply chain due diligence for importers and processors of certain mineral raw materials originating from conflict regions and high-risk areas.

In addition to responsible procurement of “conflict minerals,” BASF is committed to responsible and sustainable global supply chains for other mineral raw materials. These include cobalt, a key component in the production of battery materials for electric vehicles, among other applications. Our cobalt supply chain for battery materials is organized according to special sustainability criteria for cobalt procurement. For example, we do not purchase cobalt from artisanal mines and also aim to exclude this in supply chains through our supply chain management as long as responsible artisanal production cannot be verified. In addition, we have signed a long-term supply agreement with Nor Nickel for nickel and cobalt from a metal refinery in Finland. The agreement ensures locally sourced and secure supply of raw materials for battery production in Europe.

Together with BMW, Samsung SDI, Samsung Electronics, Volkswagen and the German governmental agency for international cooperation (Gesellschaft für Internationale Zusammenarbeit, GIZ), we have been involved in Cobalt for Development since 2018. The cross-industry initiative aims to identify how to improve working conditions in artisanal mines, as well as living conditions in the surrounding communities 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. Training for 12 mining cooperatives in Kolwezi started in October 2020. The initiative aims to train more than 1,500 artisanal cobalt miners on topics such as occupational safety and environmental management by mid-2021. Cobalt for Development also works closely together with local nongovernmental organizations and Bon Pasteur/the Good Shepherd International Foundation to create additional income opportunities for families and improve access to education. For example, a new building for Kisote's public elementary and secondary school was constructed and training was held on topics such as farming.

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 brings together 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 a battery pass. In the future, this “digital twin” will contain information on the sustainability of a battery to increase transparency in the value chain. The first test version will be developed in 2021 and the battery pass should be ready to be used by the end of 2022. BASF is also an active member of the Responsible Minerals Initiative (RMI).

Another mineral raw material that BASF processes is mica. We use mica to produce pigments, which are used in products such as coatings. For the majority of our demand, we use mica from our own mine in Hartwell, Georgia, and some of our businesses source exclusively from this mine. Third-party suppliers are requested to source mica in accordance with internationally recognized standards which, among other things, exclude child labor. As a member of the cross-industry Responsible Mica Initiative, BASF actively contributes to the eradication of child labor and unacceptable working conditions in the Indian mica supply chain.

 For more information on the Cobalt for Development project, see basf.com/cobalt-initiative

Environmental Protection, Health and Safety

Responsible Care Management System

SUPPLIERS

BASF

CUSTOMERS

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 contractors to know the risks of working with our products, substances and plants and to handle these responsibly.

Responsible Care Management System

■ Global EHS directives and standards

BASF is actively involved in the International Council of Chemical Associations' (ICCA) Responsible Care® initiative and has endorsed the Responsible Care® Global Charter. Our Responsible Care Management System comprises the global directives, standards and procedures for environmental protection, health and safety (EHS) for the various steps along our value chain. Our regulations cover the transportation of raw materials, activities at our sites and warehouses, and distribution of our products as well as our customers' application of the products. Specifications for implementing these measures are laid out in binding directives that are introduced in consultation with employee representatives. These describe responsibilities, requirements and assessment methods. The Environmental Protection, Health & Safety unit in the Corporate Center defines Group-wide management and control systems and monitors compliance with internal guidelines and legal regulations, while the sites and legal entities implement these requirements locally. Our policies and requirements are continuously updated. This is why we

also maintain dialog with government institutions, associations and international organizations.

We set ourselves ambitious goals for environmental protection, health and safety (see page 32) 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 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.

For more information on Responsible Care®, see basf.com/en/responsible-care

Audits

■ 131 audits to monitor performance and progress

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. Sites and companies acquired as part of acquisitions are audited in a timely manner to bring these into line with our standards and directives as necessary. After the integration phase is complete, they are generally audited within one to two years, depending on complexity and size. We have defined our regulations for Responsible Care audits in a global Corporate Requirement. 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. Our Responsible Care audit system complies with the ISO 19011 standard and is certified according to ISO 9001. Worldwide, 150

BASF production sites are certified in accordance with ISO 14001 and EMAS (Eco-Management and Audit Scheme) (2019: 183).¹ In addition, 54 sites worldwide are certified in accordance with OHSAS 18001 or ISO 45001 (2019: 53).

In the BASF Group in 2020, 112 environmental and safety audits were conducted at 60 sites (2019: 137 audits at 90 sites). The focus was on auditing sites based on the level of risk. For production plants with a medium and high hazard potential, we additionally conducted 19 short-notice audits at seven sites (2019: 42 audits at 33 sites). The sites of the businesses acquired from Bayer in 2018 were evaluated in 2020 as planned. We aim to audit the sites acquired from Solvay in 2020 from the end of 2021.

Due to the coronavirus pandemic, medical personnel including auditors had to concentrate on monitoring and responding to the pandemic and on global pandemic preparedness. For this reason and due to the travel restrictions, only one site was audited on occupational medicine and health protection in 2020 (2019: 15). All other audits and health performance control visits were postponed to 2021.]

For more information on occupational safety and health protection, see page 122 onward

Costs and provisions for environmental protection in the BASF Group

Million €	2020	2019
Operating costs for environmental protection	1,125	1,035
Investments in new and improved environmental protection plants and facilities ^a	231	328
Provisions for environmental protection measures and remediation ^b	693	654

^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 the Notes to the Consolidated Financial Statements on pages 252 and 289

¹ The decrease compared with the previous year is attributable to the sale of the construction chemicals business and the related sites.

Safety and security

SUPPLIERS

BASF

CUSTOMERS

For occupational and process safety as well as health and environmental protection and corporate security, we rely on comprehensive preventive measures and expect the cooperation of all employees and contractors. Our global 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.

Strategy

- Global safety standards
- Strengthening risk awareness
- Comprehensive incident analyses and global experience and information exchange

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 safety, security, and environmental and health protection. A worldwide network of experts ensures these are implemented. As part of our continuous improvement process, we regularly monitor progress toward our goals.

We promote risk awareness for every individual with measures such as systematic hazard assessments, specific and ongoing qualification measures and global 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.

By the end of 2020, we had introduced digital solutions and applications at around 250 plants worldwide to further increase safety, security, planning capability and availability. We plan to implement these at around another 170 plants by 2022. Such solutions include augmented reality: 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 applications 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 or heat exchangers.

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 could only take place to a limited extent in 2020. We will therefore expand our offering with digital formats in 2021.

Global safety initiative

■ First decentralized Global Safety Days

Our global safety initiative was established in 2008 and plays a key role in the ongoing development of our safety culture. For the first time, decentralized virtual safety days were held around the world in 2020. As a result of the new organizational structure and due to the different regional measures to fight the coronavirus pandemic, each

site could decide on the focus and implementation of the safety initiative. In the Asia Pacific region, many sites organized activities under the banner of "Safety, my responsibility!" while numerous events reflecting the motto of "Halt! Safety champions pause for safety" were held at the Ludwigshafen site in Germany. Many events were held online using interactive formats. In the interest of our employees' health, giving them the opportunity to find out about safety-related topics and to learn from each other. This involvement and lively discussion, even in times of a pandemic, make a major contribution to our safety culture.

For more information on the global safety initiative, see basf.com/global-safety-initiative

Occupational safety

■ Employees and contractors worldwide instructed on safe behavior

Our aim is to reduce the worldwide lost-time injury rate to no more than 0.1 per 200,000 working hours¹ by 2025. To prevent work-related accidents, we encourage and promote risk-conscious behavior and safe working practices for every individual, learning from incidents and regular discussion. We are constantly refining and enhancing our requirements and training.

2025 target

Reduction of 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 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.

¹ Hours worked by BASF employees, temporary employees and contractors



Easier with an app

Hazard assessments are the main occupational safety tool for preventing accidents and work-related illness. In the future, a new mobile hazard assessment app can be used at the Ludwigshafen site in Germany to report occupational hazards directly on site using explosion-proof smartphones or tablets. This information can later be edited on a computer. There are many advantages to this approach. Digital processes do not just save time and avoid transcription errors – images and notes also allow more detailed information to be passed on without having to enter this twice. This makes it easier to review the effectiveness of the measures, making the app a valuable, integrated tool that complements the existing backend application. The hazard assessment app was tested at the first plants in 2020 and made more user-friendly based on the findings. We want to expand availability to further plants at the Ludwigshafen site from 2021 and share experiences from the pilot phase in a global network.

In 2020, 0.3 work-related accidents per 200,000 working hours¹ occurred at BASF sites worldwide (2019: 0.3). The share of chemical-related accidents declined slightly to 6% (2019: 7%). Unfortunately, there was one fatal work-related accident in 2020 (2019: 1). At the Gunsan site in South Korea, an employee of a contractor succumbed to injuries sustained from falling after receiving an electric shock during painting work on a high-voltage transmission tower. BASF supported the relevant authorities in their investigation 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 information and awareness campaigns.

[For more information on occupational safety, see \[basf.com/occupational_safety\]\(https://www.basf.com/occupational_safety\)](https://www.basf.com/occupational_safety)

Process safety

- **Regular review of plant safety concepts and performance of implementation checks and safety-related measures**
- **Global initiatives to reduce process safety incidents**
- **Production networks and global training methods foster dialog**

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 standards 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 plant safety concept and implementation check for every plant that considers the key aspects of safety, health and environmental protection – from conception to startup – and stipulates specific protection measures.

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 in line with changing technologies and as necessary.

2025 target

Reduction of worldwide process safety incidents per 200,000 working hours

≤0.1

We use the number of process safety incidents (PSI) per 200,000 working hours¹ 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 2020, we recorded 0.3 process safety incidents per 200,000 working hours worldwide (2019: 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 potential safety risks. In reducing plant safety incidents, the main focus is on the implementation of technical measures. Bolstered by a greater risk awareness, avoiding and detecting all leaks was again a key priority in 2020 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 also held as virtual meetings or taught using web-based applications in 2020.

¹ Hours worked by BASF employees, temporary employees and contractors

We play an active role in improving process safety around the world in a global network of internal and external experts, through our involvement in organizations such as the International Council of Chemical Associations (ICCA) or the Center for Chemical Process Safety (CCPS), and by fostering dialog with government institutions.

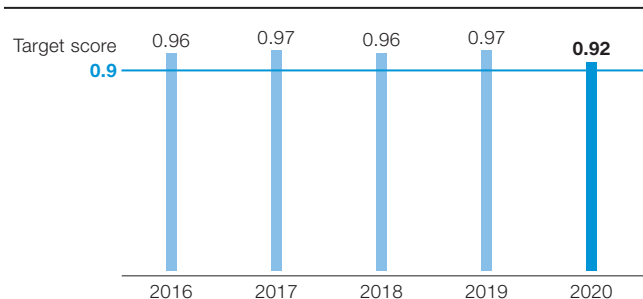
For more information on process safety, see basf.com/process_safety

Health protection

- Global standards for corporate health management
- 2020 Global Health Campaign: "Protect yourself and others"

Our global corporate health management serves to promote and maintain the health and productivity of our employees. Our worldwide standards for occupational health are specified in a requirement. A global network of experts provide implementation support. We monitor compliance with these standards at BASF sites with regular audits.¹ 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.

Development of the Health Performance Index (HPI)



With an HPI of 0.92, we once again reached this target in 2020 (2019: 0.97). The figure is slightly lower than in previous years due to the coronavirus pandemic, as a result of which a number of criteria crucial to the HPI could not be fully met. For instance, activities that required physical participation such as emergency drills, examinations or first aider training could not be held on the usual scale.

The coronavirus pandemic also made many health protection measures necessary in 2020. Activating our pandemic plans, which have been mandatory for all sites since 2010, sharing information in our global BASF medical network, and working closely together with the authorities, employee representatives and our partners at BASF sites enabled us to make and successfully 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 developing hygiene concepts, tracing and breaking infection chains, and providing information to and raising awareness among employees via the intranet and at the site gates.

In light of the coronavirus pandemic, the annual global health campaign on the theme "Protect yourself and others – stay healthy in 2020" was developed at short notice and offered around the world. The focus was on preventive hygiene measures, vaccinations and preventing infection. There were also special offerings on remote working, such as videos and consultations on nutrition, exercise/ergonomics and psychological stress. Over 450 sites worldwide took part in the health campaign with activities such as workshops, courses, talks and exercises. Another focus in 2020 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 three times more employees participated in the vaccination campaign than in past years.

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.

For more information on occupational medicine, health campaigns and the HPI, see basf.com/health

¹ In 2020, medical personnel including auditors had to concentrate on monitoring and responding to the pandemic situation and on global pandemic preparedness. For this reason and due to the coronavirus-related travel restrictions, only one site was audited on occupational medicine and health protection in the year under review (see page 121).

Emergency response, corporate security and cybersecurity

- **Regular review of emergency systems and crisis management structures**
- **Comprehensive protection measures against third-party interference**

We are well prepared for crisis situations thanks to our global crisis management system. In the event of a crisis, our global, regional or local emergency response plans and crisis management structures are engaged, depending on the impact scope. We involve situation-related partners and suppliers as well as cities, communities and neighboring companies. An IT system to support emergency response helps us to speed up communication between the relevant players in the event of a crisis and maintain the best possible overview of the situation. This enables the crisis management team to record and process events around the world better and in more detail.

We regularly check our emergency systems, crisis management structures and drill procedures with employees, contractors, local authorities and emergency rescue workers. For example, in 2020 we conducted 176 drills and simulations in Ludwigshafen, Germany, to instruct participants on our emergency response measures.

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. 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, for example, analyzing potential security risks in the communities surrounding our production sites and addressing in depth the issue of cybersecurity. BASF applies the "security by design" principle. As early as the concept phase, all internet of things applications are critically reviewed from a cybersecurity perspective. We are continually developing our ability to prevent, detect and react to security incidents with various measures and training programs. Our global Cyber Security Defense Center monitors and protects our IT systems against hacker attacks. We cooperate closely with a global network of experts and partners to ensure that we can protect ourselves against cyberattacks as far as possible. Our IT security system is certified according to ISO 27001:2013. This also includes ISO 27019:2018 for critical infrastructure.

Around the world, we work to sensitize our employees about protecting information and know-how. For example, we further strengthened our employees' awareness of risks in 2020 with mandatory online training for all employees and other offerings such as seminars, case studies and interactive training. We have defined mandatory information protection requirements to ensure compliance with our processes for protecting sensitive information and perform audits to monitor this.

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 2020. 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 \[basf.com/emergency_response\]\(https://basf.com/emergency_response\)](https://basf.com/emergency_response)



Global Be Secure month

Cyberattacks have become commonplace. Social engineering calls in particular have risen sharply in recent times. Alongside technical security, every individual's conduct plays an important role in protecting companies against information theft and cybercrime.

We want to raise employee awareness around cybersecurity and give them the tools to effectively defend themselves. As well as online training, which is compulsory for all employees, we hold a Be Secure month every year in October. In 2020, over 16,000 employees participated in around 90 events in nine languages. These ranged from talks on topics such as counter-espionage at BASF to live hacking demonstrations by an external digital forensics expert. In addition, information protection officers around the world organized regional and local events, mainly held online due to the coronavirus pandemic.

Product stewardship

SUPPLIERS

BASF

CUSTOMERS

We review the safety of our products from research and development through production and all the way to our customers' application. 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.

Strategy

■ Global directives with uniformly high standards

Product stewardship is of central importance for us. We want to ensure that our products meet our customers' quality expectations and pose no risk to people, animals or the environment when used in the manner intended. We are committed to continuously minimizing the negative effects of our products on the environment, health and safety along the value chain – from development to disposal – and to the ongoing optimization of our products. This commitment to product stewardship is enshrined in our Responsible Care® charter and the initiatives of the International Council of Chemical Associations (ICCA). Our aim is 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 stewardship standards worldwide. In some cases, voluntary initiatives exceed local statutory regulations. We regularly conduct internal audits to monitor compliance with global standards.

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 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 CLP Regulation in the European Union or HazCom in the United States. We train our employees, customers and logistics partners worldwide on the proper handling and optimal use of selected products with particular hazard potential. In associations and together with other manufacturers, BASF is pushing for the establishment of voluntary global commitments to prevent the misuse of chemicals.

BASF supports the implementation of initiatives such as the Global Product Strategy (GPS) of the ICCA. GPS is establishing worldwide standards and best practices to improve the safety management of chemical substances and to support governments in the introduction of local chemical regulations. We are also involved in initiatives such as workshops and training seminars in emerging markets. In 2020, these included the virtual ASEAN (Association of Southeast Asian Nations) workshop on regulatory cooperation.

For more information on GPS, see basf.com/en/gps

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 European Union, TSCA in the United States, KKDİK in Turkey or K-REACH in South Korea. BASF Group companies work closely together with a global network of experts to ensure that BASF complies with the applicable regulations. For example,

we submitted the relevant substances to the Turkish authorities in 2020 – an important milestone in the pre-SIEF notification process.¹

After successfully registering all substances in Europe, our REACH activities concentrate on aspects such as dossier evaluation, substance evaluation, authorization and restriction. We are also required to continually update our registration dossiers. To satisfy the complex requirements of REACH, we are in regular contact with suppliers, customers, industry associations and government authorities. For example, BASF is working together with the European Chemicals Agency (ECHA) on a project to improve the quality of REACH dossiers. BASF was one of the first companies to join this industry-wide initiative.

Product stewardship for crop protection products and seeds

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. Potential risks are assessed and minimized throughout the research, development and registration process, and on an ongoing basis following successful 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 regional markets as crops, soils, climate conditions, plant diseases and farming practices vary around the world. Consequently, product approvals differ from country to country.

BASF adheres to the International Code of Conduct issued by the World Health Organization (WHO) and the Food and Agriculture

¹ Pre-SIEF notification for KKDİK, Turkish REACH, is similar but not identical to pre-registration under E.U. REACH. It serves to bring together future registrants for the purposes of joint registration and to enable the creation of a SIEF (substance information exchange forum).

Organization (FAO) for the distribution of crop protection products. These are only marketed once they have been approved by the relevant authorities. We want to ensure and meet high safety standards worldwide for our products. This applies in particular to distribution in countries that do not have their own or only low-level regulation for crop protection products, as is the case in many emerging markets. We no longer market 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 in a global database. If necessary, we take appropriate measures in 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 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 or our FarmNetwork Sustainability in Europe.

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 around 150,000 agricultural workers and around 29,000 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 are additionally involved in numerous scientific and public organizations and initiatives. Together, we are working on solutions for sustainable agriculture that meet long-term economic, ecological and social needs.

We also work closely together with associations such as Crop Life International and the European Crop Protection Association (ECPA) to promote the safe and proper use of crop protection products. For example, we support the two associations' safe use initiatives 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.

[For more information on our Agricultural Solutions segment, see page 100 onward](#)

[For more information on biodiversity, see page 142 onward](#)

Environmental and toxicological testing

■ Use of alternative methods for animal studies

Before launching products on the market, we subject them to a variety of environmental and toxicological testing using state-of-the-art knowledge and technology. Animal studies are only conducted when they are required by law, for example as part of REACH, and none of the alternative methods approved by the authorities are available.

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 already use alternative methods in more than a third of our toxicological tests. Currently, 35 alternative

methods are being used in our labs and another 14 are in the development stage. BASF spent €3.5 million toward this purpose in 2020. The development of alternative methods for testing the potential of substances to induce developmental toxicity has been a focus area of our research since 2017.

Since 2016, BASF SE's Experimental Toxicology and Ecotoxicology department has been working together with a total of 39 partners on one of the largest European collaborative projects for alternative methods. The project, planned to run for six years, aims to develop alternative methods to the point that chemical risk assessments can be efficiently conducted largely without animal testing. We are also involved in initiatives such as the European Partnership for Alternative Approaches to Animal Testing (EPAA) to strengthen the cross-sector development of alternative methods.

Management of new technologies

■ Continual safety research on 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. In recent years, we have conducted over 250 scientific studies and participated in numerous Verbund projects related to the safety of nanomaterials in Germany and around the world. The results were published in more than 150 scientific articles.

Together with partners from academia and government authorities, we are working on E.U.-funded projects to develop and validate methods for evaluating and grouping nanomaterials without the use of animal studies. In particular, grouping nanoforms can reduce

animal testing since individual forms do not have to undergo full toxicological testing – only one or more representative of the entire group. This is why we are developing new methods to group nanomaterials in groups with the same hazard potential in the E.U.'s PATROLS project. In the E.U.'s GRACIOUS project, we are developing concepts for defining and then evaluating the toxicological effects of these groups. In addition, together with the European Centre for Ecotoxicology and Toxicology of Chemicals (ECETOC), we developed an internet application (NanoApp) and put this online in late November 2020. This makes the concepts developed to date available for the entire industry together with the regulatory requirements. The aim is to simplify the registration of nanomaterial groups under REACH.

Appropriate OECD testing and implementation guidelines must be developed for the new requirements for nanomaterials under REACH, the European chemicals regulation. We support this process by contributing our expertise in various working groups of the European Chemicals Agency (ECHA) and the OECD's Business and Industry Advisory Group (BIAC). Many of the methods developed for nanoparticles could, in our view, also be used to evaluate solid particles in the future, an approach we bring up in regulatory discussions.

BASF makes successful use of biotechnology. We produce a range of products with the help of biotechnological methods. This provides us with extensive experience in their safe use in research and development as well as in production. Biotechnological methods are used to develop and produce products such as natural flavors and fragrances, enzymes and vitamins. Another application is the development of seeds for agriculture. We use both conventional and molecular biological methods to develop plants with improved characteristics, such as greater resistance to drought, pests or the pathogens that cause plant diseases. Tolerance of certain herbicides also secures yields and enables sustainable, no-till crop systems to increase CO₂ retention in the soil. Innovative breeding technologies can play a key role in the sustainable development of agriculture, for

example, with varieties that are better adapted to changing environmental conditions or that have higher disease tolerance. In using biotechnology, we want to adhere to all relevant standards and legal regulations governing production and marketing. We are also guided by the code of conduct set out by EuropaBio, the European biotechnology association.

Transportation and storage

SUPPLIERS

BASF

CUSTOMERS

Our regulations and measures for transportation and warehouse safety cover the delivery of raw materials, the storage and distribution of chemical products among BASF sites and customers, and the transportation of waste from our sites to the disposal facilities.

Strategy

■ Risk minimization along the entire transportation chain

We want our products to be safely loaded, transported, handled and stored. This is why we depend on reliable logistics partners, global standards and an effective organization. Our goal is to minimize risks along the entire transportation chain – from loading and transportation to unloading. Some of our guidelines for the transportation of dangerous goods go above and beyond national and international dangerous goods requirements. We have defined global guidelines and requirements for the storage of our products and regularly monitor compliance with these through audits and assessments.

Accident prevention and emergency response

■ Risk assessments for transportation and storage

We regularly assess the safety and environmental risks of transporting and storing raw materials and sales products with high hazard potential using our global requirement. This is based on the Guidance on Safety Risk Assessment for Chemical Transport Operations published by the European Chemical Industry Council (CEFIC). We also have binding global standards for load safety.

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

We are systematically implementing our measures to improve transportation safety. We report in particular on goods spillages that could lead to significant environmental impacts such as dangerous goods leaks of BASF products in excess of 200 kilograms on public traffic routes, provided BASF arranged the transport.

We recorded two incidents in 2020 with spillage of more than 200 kilograms of dangerous goods¹ (2019: 3). None of these transportation incidents had a significant impact on the environment (2019: 0).

Securing raw materials supply via the Rhine River

At the Verbund site in Ludwigshafen, Germany, around 50% of incoming volumes are transported to the site by ship under normal conditions. In recent years, hot and dry summers often led to extended low water levels on the Rhine River, temporarily impacting logistics. We are implementing various measures to make the site more resilient to extended low water events in particular. These include a digital early warning system for low water, which was introduced in 2020. This makes it possible to forecast water level trends up to six weeks in advance, which significantly simplifies planning for raw materials supply and alternative transportation routes. We are also working with the German Federal Institute for Hydrology to improve water level forecasts. In addition, we chartered more ships that can navigate low water levels and invested in making loading stations more flexible. Together with partners, we are also developing our own type of ship designed for extreme low-water situations, which should start operation in late 2022. We support the hydraulic engineering measures proposed by the German Federal Ministry of Transport's "Low water on the Rhine" action plan, in particular

optimizing fairways on the Middle Rhine to improve long-term shipping conditions on the Rhine. We recorded no extended low water events that significantly restricted our logistics in 2020.

Activities in external networks

We are actively involved in external networks, which quickly provide information and assistance in emergencies. These include the International Chemical Environmental (ICE) initiative and the German Transport Accident Information and Emergency Response System (TUIS), in which BASF plays a coordinating role. In 2020, we provided assistance to public emergency response agencies and other companies in 112 cases (2019: 165). 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.

For more information on transportation safety, see basf.com/distribution_safety

For more information on emergency response, see basf.com/emergency_response

¹ Hazardous goods are classified in accordance with national and international hazardous goods regulations.

Energy and climate protection



As an energy-intensive company, we are committed to energy efficiency and global climate protection. We want to further reduce emissions along the value chain. To achieve this, we rely on efficient technologies for generating steam and electricity, for example, and the increased use of renewable energies. We make our production processes as energy efficient as possible with the help of comprehensive energy management. We are researching and developing completely new processes and technologies to reduce our greenhouse gas emissions over the long term. In addition, our climate protection products make an important contribution toward emission reduction and resource efficiency.

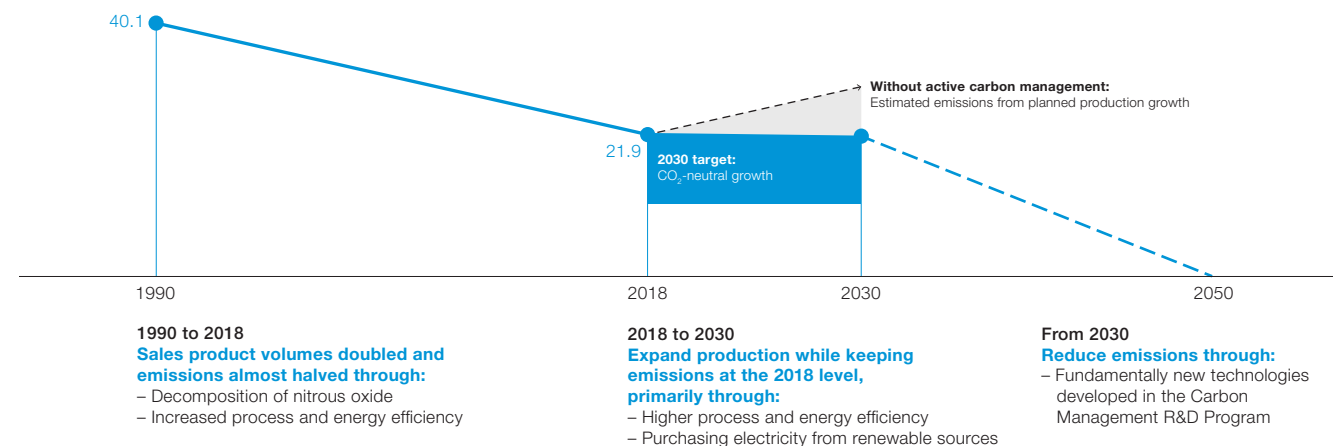
Strategy

- **Climate protection target: CO₂-neutral growth until 2030**
- **Carbon management to reduce emissions**

Climate protection is very important to us and is an important part of our corporate strategy. As a leading chemical company, we want to achieve CO₂-neutral¹ growth until 2030. We aim to keep total greenhouse gas emissions from our production sites and our energy purchases stable at the 2018 level while growing production volumes. Based on our growth plans until 2030, this would mean reducing our specific greenhouse gas emissions by up to one-third compared with 2018. To achieve this, we have adopted comprehensive carbon management (see page 135) with three strategic levers: optimizing our plants, increasingly sourcing low-carbon energy, and developing completely new, low-emission technologies and processes. With these innovations, we want to lay the foundation for significant emissions reductions from 2030 onward. In connection with our climate protection target, we made Group-wide CO₂ emissions one of our most important key performance indicators at the

Schematic overview: development of the BASF Group's greenhouse gas emissions (Scope 1 and 2)

Million metric tons of CO₂ equivalents



beginning of the 2020 business year (see page 33). This makes emissions even more important to the operational and strategic steering of the BASF Group.

Our climate protection activities are based on a comprehensive analysis of our emissions. We report on greenhouse gas emissions in accordance with the Greenhouse Gas Protocol as well as the sector-specific standard for the chemical industry. Sharp increases in our greenhouse gas emissions, due for example to the startup of large-scale plants, are progressively offset. We assess investments and acquisitions with respect to the impact on our climate protection target. If, for technical or economic reasons, our carbon management activities cannot stabilize emissions at the 2018 level, we will also consider taking short-term external offsetting measures such as purchasing certificates.

Most of our greenhouse gas emissions are from the consumption of energy. At sites with internal supply capabilities, we primarily rely on

highly efficient combined heat and power plants with gas and steam turbines, and on the use of heat released by production processes. Furthermore, we are committed to energy management that helps us analyze and further improve the energy efficiency of our plants on an ongoing basis. 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 offer our customers solutions that help prevent greenhouse gas emissions and improve energy and resource efficiency. More than 40% of our annual research and development spending² goes toward developing these products and optimizing our processes, as well as toward research projects to make our processes more energy and resource-efficient and to prevent greenhouse gas emissions.

We participate in the program established by the international non-profit organization CDP for reporting on data relevant to climate

¹ The goal includes other greenhouse gases according to the Greenhouse Gas Protocol, which are converted into CO₂ equivalents.

² 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.

protection and have done so since 2004. BASF achieved a score of A– in CDP's 2020 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.

Climate protection is a shared global task. This is why we support various international initiatives and are involved in partnerships. For instance, we are committed to an ambitious climate policy as part of the Business 20 (B20) – the central dialog platform between business and politics in the G20 group of countries. In 2020, we helped draft climate protection recommendations for the G20 Summit in Saudi Arabia as a member of the B20's taskforce on Energy, Sustainability & Climate. BASF also supports the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). In 2020, we contributed to the TCFD report on climate-related scenario analyses as a member of a TCFD advisory group. 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).

For more information on climate protection, see basf.com/climate_protection

Global target and measures

We want to achieve CO₂-neutral growth until 2030. In other words, we aim to maintain total greenhouse gas emissions from our production sites (excluding emissions from sale of energy to third parties) and our energy purchases at the 2018 level (21.9 million metric tons of CO₂ equivalents) while increasing production. In 2020, the emissions reported under this target amounted to 20.8 million metric tons of CO₂ equivalents, an increase of 3.5% compared with the previous year (2019: 20.1 million metric tons of CO₂ equivalents). The decline in emissions due to measures to increase energy effi-

BASF Group's greenhouse gas emissions according to the Greenhouse Gas Protocol^a

Million metric tons of CO₂ equivalents

	2020	2019	2018 (baseline)
BASF operations			
Scope 1 ^b			
CO ₂ (carbon dioxide)	16.860	15.855	17.025
N ₂ O (nitrous oxide)	0.609	0.598	0.677
CH ₄ (methane)	0.025	0.023 ^c	0.027
HFC (hydrofluorocarbons)	0.032	0.082	0.091
Scope 2 ^d			
CO ₂	3.279	3.519	4.067
Total	20.805	20.077 ^e	21.887
Offsetting	0	0	0
Total after offsetting	20.805	20.077^e	21.887
Sale of energy to third parties (Scope 1) ^e			
CO ₂	0.869	0.779 ^e	0.773
Total	21.674	20.856^e	22.660
Use of biomass^f			
CO ₂	0.024	0.004	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 N₂O, CH₄ and HFC have been translated into CO₂ 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. HFC (hydrofluorocarbons) are calculated using the GWP factors of the individual components.

^c The comparative figure for 2019 has been adjusted to reflect updated data.

^d Market-based approach. Under the location-based approach, Scope 2 emissions were 3.552 million metric tons of CO₂ in 2019 and 3.362 million metric tons of CO₂ in 2020.

^e Includes sales to BASF Group companies; as a result, emissions reported under Scope 2 can be considered twice in some cases.

^f Emissions are reported separately from Scope 1 and Scope 2 in accordance with the Greenhouse Gas Protocol.

ciency and optimize processes as well as lower production volumes were more than offset by the integration of the polyamide business acquired from Solvay in January 2020 and the fact that there were fewer shutdowns of large-scale, emission-intensive plants.

Despite the global economic recovery and growing demand for chemical products, CO₂ emissions are expected to be at the prior-year level in 2021. We will implement targeted measures to stabilize emission levels. These include the implementation of further projects

2030 target

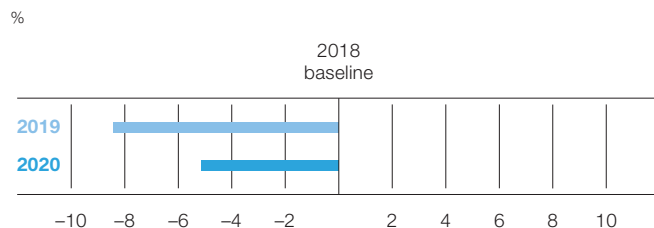
CO₂-neutral growth:
Annual greenhouse gas emissions compared
with baseline 2018

(BASF operations excluding sale of energy to third parties, including offsetting)

constant

to increase energy efficiency and optimize processes, for example, to significantly reduce nitrous oxide emissions in Ludwigshafen, Germany. In addition, we are switching energy supply agreements to renewable energy sources, for example, in Freeport, Texas, where we have signed long-term supply agreements for wind power. Emissions will also be reduced by the divestiture of BASF's global pigments business in 2021.

Greenhouse gas emissions from BASF operations (excluding sale of energy to third parties) compared with baseline 2018



Specific greenhouse gas emissions in 2020 amounted to 0.639 metric tons of CO₂ equivalents per metric ton of sales product,¹ an increase of 11.3% compared with the previous year (2019: 0.574 metric tons of CO₂ equivalents per metric ton of sales product). This was mainly due to changes in BASF's portfolio from the acquisition of the carbon-intensive polyamide business from Solvay and the sale of the less carbon-intensive construction chemicals business. In addition, some plants could not be run at optimal capacity due to weaker demand as a consequence of the coronavirus pandemic, which led to higher specific emissions. Since 1990, we have been able to lower our overall greenhouse gas emissions from BASF operations by 48.1% and even reduce specific emissions by 72.1%.

Energy supply of the BASF Group 2020

Electricity supply

Purchased **30%**

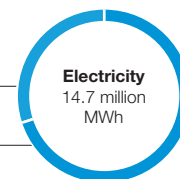
Internally generated **70%**

Steam supply

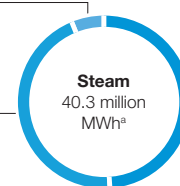
Purchased **6%**

Waste heat **45%**

Internally generated **49%**



Electricity
14.7 million MWh



Steam
40.3 million MWh^a

Fossil and residual fuels used for own generation in power plants of the BASF Group

82.7% **Natural gas**
31.1 million MWh

0.3% **Heating oil**
0.1 million MWh

2.1% **Coal**
0.8 million MWh

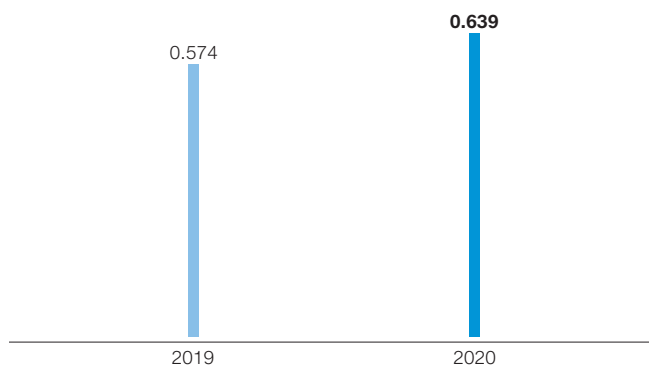
14.9% **Residual fuels**
5.6 million MWh

Total: 37.6 million MWh

^a Conversion factor: 0.75 MWh per metric ton of steam

Specific greenhouse gas emissions from BASF operations

Metric tons of CO₂ equivalents per metric ton of sales product¹



We achieved our goal of introducing certified energy management systems according to DIN EN ISO 50001 at all relevant production sites² by the end of 2020.

Through the introduction and ongoing maintenance of certified energy management systems, we want 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.

A global working group is responsible for steering the introduction of certified energy management systems and providing ongoing implementation support. All energy efficiency measures are recorded in a global database, analyzed and made available to BASF sites as best practices. We are currently pursuing more than 200 technical and organizational measures to reduce energy consumption and increase competitiveness. Further sites across all regions were

¹ Sales product volumes include sales between BASF Group companies; merchandise is not taken into account.

² The selection of relevant sites is determined by the amount of primary energy used and local energy prices; does not yet include the polyamide business acquired from Solvay.

Additional key indicators for energy and climate protection in BASF operations

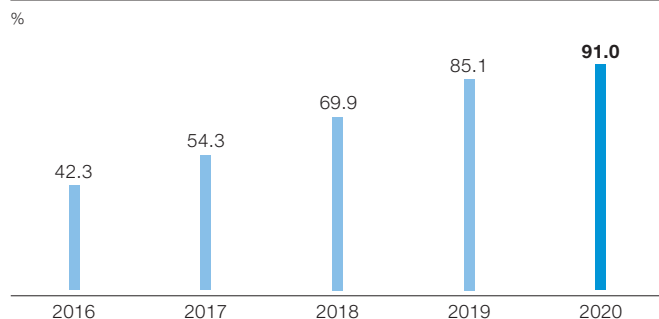
	2020	2019	2018 (baseline)
Specific greenhouse gas emissions ^a (metric tons of CO ₂ equivalents per metric ton of sales product ^b)	0.639	0.574	0.577
Primary energy demand ^c (million MWh)	60.256	58.520	60.586
Energy efficiency (kilograms of sales product ^b per MWh)	540	598	626

^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

certified in accordance with ISO 50001 in 2020. These include four sites in the United States, three sites in China, and one additional site each in France and Chile. At the end of 2020, 81 sites were certified worldwide, representing 91% of our primary energy demand.

Certified energy management systems (ISO 50001) at BASF Group sites worldwide, in terms of primary energy demand^a

^a Relevant sites are selected based on the amount of primary energy used and local energy prices; does not yet include the polyamide business acquired from Solvay.

Energy supply and efficiency

Internal supply and Verbund system as important components of our energy efficiency strategy

To generate our own steam and power, we mainly use natural gas (82.7%) and what are known as substitute fuels (14.9%). These are residues from chemical production plants that can no longer be reused. We cover more than 70% of the BASF Group's electricity demand with gas and steam turbine plants in highly efficient combined heat and power plants. Compared with separate methods of generating steam and electricity, we saved 12.0 million MWh of fossil fuels and avoided 2.4 million metric tons of carbon emissions in 2020. In 2020, internally generated power in the BASF Group had a carbon footprint of around 0.24 metric tons of CO₂ per MWh of electricity and was below the national grid factor at most BASF Group locations. The figure for purchased electricity in 2020 was around 0.41 metric tons of CO₂ per MWh (market-based approach). As part of our carbon management (see page 135), we therefore initially aim to reduce the carbon footprint of purchased electricity.

The Verbund system is an important component of our energy efficiency strategy: Waste heat from one plant's production process is used as energy in other plants. In this way, the Verbund saved us around 18.7 million MWh in 2020, which translates to 3.8 million metric tons less CO₂ 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 6.2 million metric tons of carbon emissions in 2020.

We further improved energy and resource consumption in production with numerous projects around the world in 2020. In China, for example, we reduced our steam demand by optimizing steam traps at the Caojing site and installing a steam cooler at the Nanjing site. In the United States, we saved electricity by replacing a cooling tower at the Geismar site and modernizing a chilling unit in Freeport, among other measures. Process improvements at many other sites led to additional savings in steam, electricity and fuel.

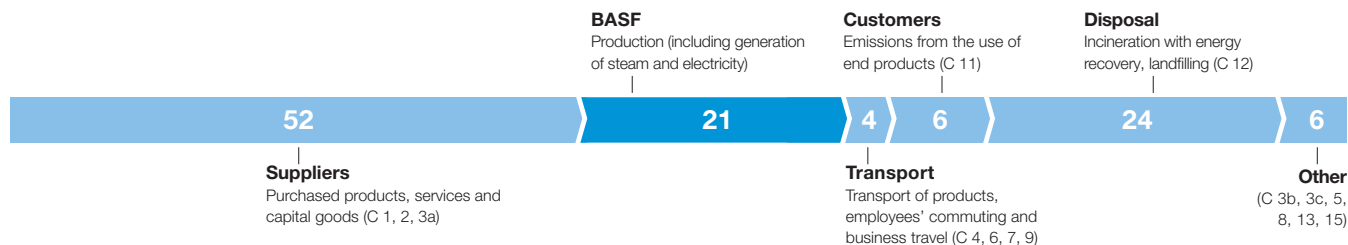
We also rely on locally available sources to supply our sites with power. We generally consider the use of renewable energies in our decision-making processes, especially when purchasing electricity. Our research also helps to increase the efficiency of technologies for using renewable energy sources.

Carbon footprint and climate protection products

- Reporting on greenhouse gas emissions along the entire value chain
- Customers' use of BASF climate protection products avoids greenhouse gas emissions
- Calculation of product carbon footprints to increase transparency for our customers

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. It also shows, on the basis of selected climate protection products, the emissions avoided through the use of these products.

The greenhouse gas emissions arising before and after BASF's activities in the value chain (Scope 3 in accordance with the Greenhouse Gas Protocol) amounted to around 92 million metric tons of

Greenhouse gas emissions along the BASF value chain in 2020^{a, b}Million metric tons of CO₂ equivalents

^a According to Greenhouse Gas Protocol; Scope 1, 2 and 3; categories within Scope 3 are shown in parentheses. For more information on Scope 3 emissions reporting, see basf.com/corporate_carbon_footprint

^b Emissions figures do not yet include the polyamide business acquired from Solvay.

CO₂ equivalents in 2020 (2019: 100 million metric tons of CO₂ equivalents). In 2020, BASF implemented a new digital application to calculate transport-related emissions, which evaluated around 68 billion metric ton kilometers for transport within BASF and to BASF customers by distance and transportation mode.

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 45) – rates the use of these Accelerator solutions as particularly good with respect to climate protection and energy.

One example of Accelerator products are our lubricant additives, which give hydraulic fluids long-term lubrication stability combined with wear and corrosion protection. These can be used to design high-quality products with a longer service life. Together with our customer Fuchs Petrolub, we examined the environmental and climate friendliness of different hydraulic fluids. A joint eco-efficiency analysis analyzed three mineral oil-based fluids from Fuchs over their entire life cycle, including over 8,000 hours of use in a crawler excavator.

This showed that a standard hydraulic fluid has the lowest carbon footprint during the production stage. BASF uses more energy to produce the lubricant additives needed for high-performance hydraulic fluids, which means that these have higher carbon emissions. However, these products offer a significant advantage during the use phase: Compared with a standard hydraulic fluid, these reduce friction and increase pump efficiency, which significantly reduces the excavator's fuel consumption. They save 9,600 liters of diesel over 8,000 hours of crawler excavator operation. Viewed over the entire life cycle, the high-performance hydraulic fluids therefore have a much better carbon footprint than standard hydraulic fluids. Overall, the reduction in greenhouse gases corresponds to around 30 metric tons of CO₂ equivalents. In addition, high-performance hydraulic fluids have a much longer service life, which also saves fossil resources.

The findings of the study show that the advantages of high-performance oils first become clear in a holistic cradle-to-grave assessment that also considers the use phase. The product-related greenhouse gases emitted from resource extraction to the production of precursors and the BASF product (cradle to gate) are an important part of this approach.

In the future, we will calculate cradle-to-gate greenhouse gas emissions for almost all of our products to increase carbon transparency for our customers. We use an in-house digital solution to calculate the product carbon footprint (PCF). 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. We used the new method to calculate PCFs for the first products in 2020. We want to make the data for around 45,000 sales products available by the end of 2021. The transparency this creates enables us to target our CO₂ reduction measures to those areas where our customers can later achieve the greatest value added from lower carbon emissions in the value chain.

[For more information on the sustainability analysis of our product portfolio, see page 45 onward](#)

[For more information on our emissions reporting, see \[basf.com/corporate_carbon_footprint\]\(https://basf.com/corporate_carbon_footprint\)](#)

Climate protection with carbon management

Climate protection is firmly embedded in our corporate purpose, “We create chemistry for a sustainable future,” and is a cornerstone of our strategy. We are committed to the Paris Climate Agreement and the goal of limiting global warming to below 2 degrees Celsius. Our innovative climate protection products such as insulation materials for buildings or battery materials for electromobility play a role here. We are also continually working to reduce our own carbon emissions. We have already almost halved our carbon emissions since 1990 through improvements to processes and methods – while simultaneously doubling sales product volumes.

Until 2030, we want to grow our production without adding further CO₂ emissions.¹ Our carbon management bundles our global activities to meet this climate protection target and further reduce our greenhouse gas emissions over the long term. We have adopted a three-pronged approach: We aim to increase production and process efficiency, purchase electricity from renewable sources, and develop completely new low-emission technologies and processes. We want to use these to significantly reduce our CO₂ emissions from 2030 onward.

Further improving process and energy efficiency

We aim to make our plants and processes even more efficient and resource-saving. When investing in our sites, we draw on our expertise and innovative technologies to optimize the use of raw materials and in this way, reduce CO₂ emissions. For example, our gas and steam turbine power plant at the Schwarzeide site in Germany is currently undergoing a €73 million modernization. Once it is started up in 2022, it will produce 10% more electricity and the CO₂ emissions factor of the power generated will be around 10% lower thanks to higher fuel efficiency.

CO₂ avoided by the Verbund and combined heat and power generation in 2020

6.2 million metric tons

BASF's Verbund concept also plays a key role in increasing efficiency. It helps us to realize synergies across all segments and to efficiently steer value chains. Intelligently linking production and energy demand enables us to use fewer resources and reduce our emissions. Together, combined power and steam generation and our continuously enhanced Energy Verbund avoided a total of 6.2 million metric tons of carbon emissions in 2020 (see page 133).

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.

Increasing use of renewable energy

Our carbon management aims to increase the share of renewables in our energy supply. Nineteen sites in Europe and North America already source partially or fully emission-free electricity from suppliers.

Number of sites partially or fully powered by emission-free electricity in 2020

19

Wherever possible, we incorporate renewable energies when constructing plants and modernizing or establishing new sites. For example, we only used hydropower for the construction of our new battery materials plant in Harjavalta, Finland, in 2020 (planned startup: 2022). We plan to mainly use locally generated renewable electricity in the operational phase as well. This will enable us to offer cathode active materials with a lower carbon footprint. In 2020, we also started up photovoltaic plants with a nameplate capacity of around 1,300 kWp (kilowatt peak), for example at the Caojing and Pudong sites in China.

Developing climate-smart technologies

Most of our production processes and methods are already highly optimized, making further improvements to existing plants an increasingly difficult task. As a result, completely new technologies are needed to reduce greenhouse gas emissions over the long term and on a large scale. BASF researchers are working at full speed on this in our Carbon Management R&D Program, which focuses on the production of basic chemicals. These are the basis for many

¹ The goal includes other greenhouse gases according to the Greenhouse Gas Protocol, which are converted into CO₂ equivalents.

value chains and account for around 70% of the chemical industry's greenhouse gas emissions in Europe.

Potential CO₂ avoided
by electrical heating concepts
for steam crackers

up to **90%**

As part of this R&D program, we are developing an innovative, climate-friendly production process for hydrogen (methane pyrolysis) together with partners from academia and industry in a project sponsored by the German Federal Ministry of Education and Research, to name one example. Hydrogen is used as a reactant in many chemical processes, such as ammonia synthesis. However, the processes currently used to produce hydrogen from methane, such as steam reforming, are extremely CO₂ emission-intensive. In methane pyrolysis, by contrast, methane is split directly into hydrogen and carbon. The resulting solid carbon could be used in the future to produce aluminum, for example. Methane pyrolysis requires around 80% less electricity than the alternative method of producing hydrogen using water electrolysis. If this energy comes from renewable sources, the process could be made carbon-free. Following extensive groundwork, including research into the reaction kinetics of the pyrolysis process and technical feasibility studies, we started up a test facility for methane pyrolysis at the Ludwigshafen site in Germany in 2020. It will provide insights into the heating concept, as well as the use of new types of high-temperature materials.

Another focus area of the R&D program is alternative heating concepts for our steam crackers. These large-scale industrial plants are used in the chemical industry to split petroleum into olefins and aromatics. To do this, it needs to reach temperatures of 850°C and higher. The cracker's furnaces are usually operated with natural gas. An interdisciplinary team is working on developing a fundamentally new furnace concept based on an electrical resistance heater (e-furnace). If powered by renewable energy, this could avoid up to 90% of CO₂ emissions.

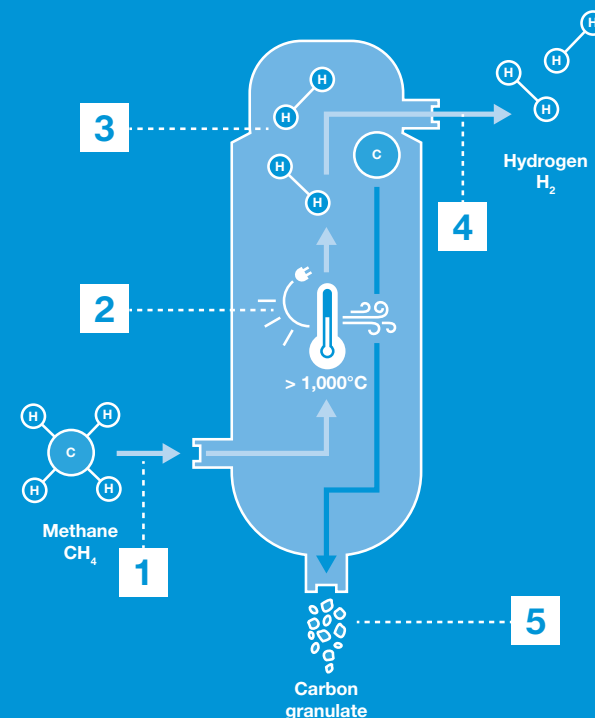
Another example from our Carbon Management R&D Program, which has been marketed since mid-2019 in cooperation with Linde, is a process known as dry reforming to produce syngas from methane and CO₂. Thanks to BASF's newly developed SYNSPIRE™ catalyst in combination with an innovative process technology from Linde, less water vapor is required in syngas production and CO₂ is used in the process as a raw material. In this way, the DRYREF™ technology improves plants' energy and carbon footprint.

The framework for the transformation

The transition toward a climate-friendly society remains a fundamental challenge of the 21st century. There are many ways in which the chemical industry can be part of the solution. The political and regulatory environment is also crucial to the development and industrial application of completely new production processes. Demand for green electricity will increase sharply with innovative, more climate-friendly technologies. At the Ludwigshafen site in Germany alone, we would need to roughly triple or quadruple our current electricity use (2020: 6.0 TWh) to fully implement new, low-carbon electricity-based production processes. As well as its availability, the price of green power is also a critical success factor. High prices are already hindering the more widespread adoption of green power today and impact the economic feasibility of future, new production processes. Sectors like the chemical industry, which compete in an international market, cannot pass on the additional costs caused by low-carbon technologies to their customers until a comparable carbon pricing mechanism exists globally – or at least at G20 level. Until then, governments must implement measures to ensure the competitiveness of climate-friendly processes.

[For more information on carbon management, see \[basf.com/en/carbon-management\]\(https://www.basf.com/en/carbon-management\)](https://www.basf.com/en/carbon-management)

Methane pyrolysis



1. Methane flows into the reactor.
2. Methane is heated to over 1,000°C using electricity from renewable sources (such as solar and wind power).
3. The methane is split in the hot center of the reactor. Gaseous hydrogen and solid carbon are formed.
4. The hydrogen rises to the top and can be extracted.
5. The carbon produced is a solid granulate.

Air, waste and soil

SUPPLIERS

BASF

CUSTOMERS

We want to minimize the impact of our activities on people and the environment by further reducing emissions to air, preventing waste and protecting the soil. Our plants are operated responsibly and we use natural resources with respect. We have set ourselves standards in global requirements and are continually improving the resource efficiency of our processes with our Operational Excellence program.

Strategy

- Minimizing environmental impacts
- Maximizing recovery options

Regular monitoring of our emissions to air is a part of our environmental management. In addition to greenhouse gases (see page 130 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. If this is not possible, we review the options for recycling or energy recovery in terms of a circular economy. Non-recyclable waste is disposed of properly and in an environmentally responsible manner. BASF's Verbund structure helps us to avoid or reduce waste. We regularly audit external waste disposal companies 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.

Emissions to air

■ Emissions to air slightly lower

Total emissions of air pollutants from our production plants amounted to 23,791 metric tons in 2020 (2019: 25,040 metric tons¹). Emissions of ozone-depleting substances as defined by the Montreal Protocol totaled 14 metric tons in 2020 (2019: 26 metric tons¹). The successive changeover to alternative coolants has significantly reduced these emissions, down from 229 metric tons in 2002. Emissions of heavy metals² in 2020 amounted to 4 metric tons (2019: 5 metric tons¹).

Emissions to air

Metric tons		
Air pollutants from BASF operations	2020	2019
CO (carbon monoxide)	3,507	3,530
NO _x (total nitrogen oxides)	10,010	10,534
NM VOC (nonmethane volatile organic compounds)	4,702	4,496
SO _x (total sulfur oxides)	1,861	1,982
Dust	2,000	2,320 ^a
NH ₃ (ammonia) and other inorganic substances	1,711	2,178
Total	23,791	25,040^a

^a The comparative figure for 2019 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 of this is the production of adipic acid at the Ludwigshafen site in Germany. The nitrous oxide generated in the process is not broken down, but isolated and used in the BASF Verbund as a feedstock for intermediates. This reduces our emissions and simultaneously increases process and resource efficiency.

In addition, our portfolio contains a variety of products to help reduce the emission of air pollutants – from process catalysts for industry applications and plastics additives to catalysts for the automotive industry.

Management of waste and contaminated sites

- Total waste volume slightly lower
- Systematic management of contaminated sites

We use the BASF Verbund to efficiently manage our material flows. The by-products of one plant often serve as feedstocks for another plant, avoiding waste. At the Antwerp site in Belgium, for example, we re-use a carboxylate solution from the cyclohexanone plant in the production of soda ash. Other material flows can be used to generate steam, which saves fossil fuels.

We are working intensively on solutions for a circular economy (see page 30). We want to further reduce our demand for primary resources and at the same time, help to reduce waste generation through better recycling, for example, of platinum group metals, or the use of recycled feedstocks such as pyrolysis oil from mixed plastic waste or used tires (see see page 119). We are also involved in various initiatives to avoid waste and strengthen the circular economy. For example, as a founding member of the Alliance to End Plastic Waste (AEPW), we cooperate with around 50 other companies along the value chain to put plastic waste to good use and reduce the amount that enters the environment. The AEPW intends to invest up to \$1.5 billion in various projects and cooperative ventures to this end, mainly in Asia and Africa (see box on page 138).

¹ The comparative figure for 2019 has been adjusted to reflect updated data.

² Heavy metals are included in the figure for dust (see the table "Emissions to air").

Waste generation in the BASF Group

Million metric tons

	2020	2019
Total waste generation	2.21	2.34
Waste recovered	0.96	0.99
Recycled	0.44	0.45
Thermally recovered	0.52	0.54
Waste disposed of	1.25	1.35
Through incineration	0.74	0.78
In surface landfills	0.35	0.38
Other ^a	0.16	0.19
Classification of waste for disposal^b		
Nonhazardous waste	0.36	0.43
Hazardous waste	0.89	0.92
of which transported hazardous waste	0.25	0.28

^a Physical/chemical and biological treatment, underground disposal^b Waste is classified as hazardous or nonhazardous waste according to local regulations.

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 customized 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 2020 and planning was concluded on future remediation projects.

For more information on provisions for environmental protection, see the Notes to the Consolidated Financial Statements on pages 230 and 260

For more information on the Alliance to End Plastic Waste, see basf.com/en/aepw and endplasticwaste.org

**Alliance to End Plastic Waste**

In 2019, we co-founded the Alliance to End Plastic Waste (AEPW) with other companies from along the value chain – from plastics producers and consumer goods manufacturers to waste disposal companies. The AEPW has around 50 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. BASF supports the AEPW's goal of establishing a circular economy for plastics with its ChemCycling™ project. BASF is also involved in Alliance initiatives such as cleanup efforts. For instance, almost 300 BASF employees participated in the AEPW's All Together Global Cleanup campaign in Ludwigshafen, Germany, and Shanghai, China, in September 2020.

Water



Water is of fundamental importance in chemical production. It is used as a coolant, solvent and cleaning agent, to make our products and transport our goods. We are committed to its responsible use along the entire value chain and especially in our production sites' water catchment areas. We have set ourselves a global target for sustainable water management.

Strategy

■ Using water responsibly with sustainable water management

BASF is committed to the United Nations' Sustainable Development Goals. These cover topics such as the responsible use and sustainable management of water (SDG 6). We have defined global standards and processes in our Responsible Care Management System.

Sustainable water management has been a central element of our strategy to use water responsibly for many years. We aim to introduce sustainable water management at all relevant production sites. These include our Verbund sites and sites in water stress areas.¹ Our sustainable water management aims to protect water as a resource, continuously improve water use efficiency, and consistently reduce emissions. We consider the quantitative, qualitative and social aspects of water use.

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 113). In addition, we support a wide range of initiatives to promote sustainability in the supply chain (see page 117). Our Responsible Care Management System (see page 121) and global process and trans-

portation safety standards (see pages 123 and 129) aim to maintain good water quality and minimize the risk of product spillages into water bodies.

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. Together with other companies from along the value chain, we are also involved in global initiatives such as the Alliance to End Plastic Waste (see page 138), the World Plastics Council and Operation Clean Sweep to prevent plastics from entering the environment, especially water bodies.

We report transparently and comprehensively on water. For instance, we again provided detailed answers to the 2020 water survey from the nonprofit organization CDP. In the final assessment, BASF again achieved the top grade of A and thus Leadership status. 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 – including at the customers of the companies being evaluated – can contribute to sustainable water management.

[For more information on the CDP water survey, see basf.com/en/cdp](https://www.basf.com/en/cdp)

Global target and measures

Our goal is to introduce sustainable water management at our production sites in water stress areas and at our Verbund sites by 2030, covering 93% of BASF's total water abstraction. We achieved 46.2% of our target in 2020 (2019: 35.8%).² Sustainable water management was introduced at six sites in 2020 (2019: 8).

2030 target

Introduction of sustainable water management at our production sites in water stress areas and at our Verbund sites

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. In addition, we are a member of the global Alliance for Water Stewardship.

We identify and implement potential for improvement as part of sustainable water management. For instance, we use wastewater from municipal wastewater treatment plants to reduce our freshwater demand at our sites in Tarragona, Spain (since 2013) and Freeport, Texas (since 2019). At the Pontecchio site in Italy, our need for river and groundwater is reduced by the use of rainwater and optimized sludge dewatering, which started up in late 2020. At the Ludwigshafen site in Germany, we have continually optimized cooling water needs over the past few years with technical improvements, most recently in the production of higher carboxylic acids, for example. In addition, the startup of a new recooling plant in 2020 makes the site less dependent on changes in water temperature and water levels on the Rhine. We have also taken numerous measures to secure the supply of raw materials to the site and the transportation of our products by ship on the Rhine River, even in the case of extended periods of low water (see page 129).

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 (Aquaduct 3.0) published by the World Resources Institute. For more information, see [wri.org/aquaduct](https://www.wri.org/aquaduct).

² 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.

Water balance

■ Optimizing demand and efficient use

Our water abstraction totaled 1,728 million cubic meters in 2020 (2019: 1,717). This demand was covered for the most part by fresh-water such as rivers and lakes (87% 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 2020, 5% of our total water demand was covered by third parties.

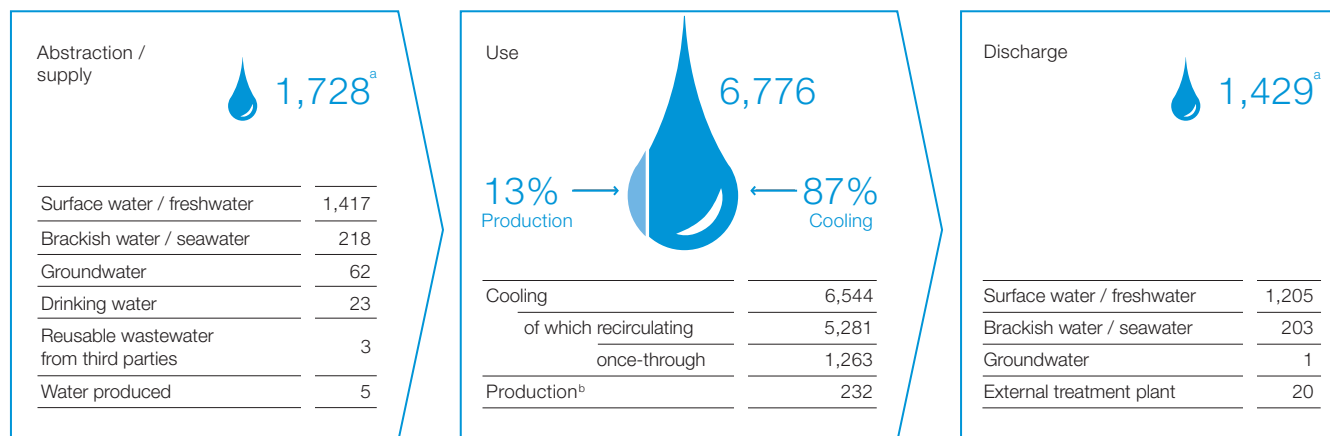
We predominantly use water for cooling purposes (87% of water abstraction), after which we discharge it back to our supply sources. We reduce our demand for cooling water by recirculating as much of it as possible. To do this, we use recooling plants that allow water to be reused several times. Around 13% of our total water abstraction is used in production plants, for example, for extraction or dissolution processes or for cleaning. Most of this water is discharged back to our supply sources after being treated in BASF or third party plants.

The BASF Group's water consumption describes the amount of water that is not discharged to a supply source, meaning that it is no longer available to other users. Consumption is mainly attributable to the evaporation of water during closed-circuit cooling. A smaller amount is from the water contained in our products. Water consumption in 2020 amounted to around 63 million cubic meters (2019: 61).

In 2020, around 25% of our production sites were located in water stress areas. These sites accounted for 1% of BASF's total water abstraction (2019: 1%).¹ This demand was covered for the most part by freshwater (97%). We mainly source water from third parties

Water in the BASF Group 2020

Million cubic meters per year



^a The difference between the volume of water abstracted and the volume discharged is primarily attributable to evaporation losses during recirculation of cooling water and limited accuracy in measuring cooling water discharge.
^b Total from production processes, graywater, rinsing and cleaning in production

(73%). Water consumption in water stress areas accounted for around 11% of our total water consumption (2019: 14%) and was primarily attributable to evaporation in cooling processes.

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. One example of this is the nitric acid Verbund at the Ludwigshafen site in Germany. Various recooling optimization measures not only significantly reduce the use of cooling water there, but also save 12 gigawatt hours of energy and avoid 3,500 metric tons of CO₂ every year.

Emissions to water

■ Emissions slightly lower

A total of 1,429 million cubic meters of water were discharged from BASF production sites in 2020 (2019: 1,509), including 166 million cubic meters of wastewater from production. Total wastewater in water stress areas was less than 1%. As cooling water is recirculated as much as possible there, the share of wastewater from production processes is comparatively higher than at other BASF sites.

BASF carefully assesses the impact of wastewater discharge in accordance with the applicable laws and regulations. The responsible local authorities regularly review our analyses and precautions in accordance with the relevant local requirements to prevent contaminants from entering water bodies.

¹ Aqueduct 3.0 was used to identify sites in water stress areas to determine pro rata water abstraction and water consumption.

Emissions of nitrogen to water amounted to 2,900 metric tons in 2020 (2019: 3,000). Around 11,500 metric tons of organic substances were emitted in wastewater (2019: 12,100). Our wastewater contained 22 metric tons of heavy metals (2019: 25). Phosphorus emissions amounted to 270 metric tons (2019: 260).

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. Suitable methods are used, 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

Biodiversity

SUPPLIERS

BASF

CUSTOMERS

Biodiversity describes the variety of life forms on Earth. Animals and plants fulfill a variety of functions and guarantee the ability of their ecosystem to withstand alterations such as climate change. As a chemical company, we depend on ecosystem services like the availability of renewable resources and air, water and soil quality, while also influencing them. Protecting biodiversity is therefore a key element of our commitment to sustainability.

Thanks to responsible procurement practices, the efficient use of raw materials, our product solutions and involvement in numerous initiatives, our business conduct is consistent with the United Nations' Sustainable Development Goals and we reduce our negative impact on biodiversity. It is currently extremely difficult to measure impacts on biodiversity and thus BASF's impacts in full. At the same time, we help to measure significant impacts on land use in individual steps of the value chain, for example with our Value to Society method. We also initiated a pilot project in 2020 to improve methodological measurement of the impacts of individual product applications on biodiversity.

Our responsibility to our supply chains

The business activities of our raw materials suppliers often involve land use and the associated impact on biodiversity, whether it is in natural gas and crude oil production, mineral extraction or cultivation of crops such as oil palms and castor-oil plants. Our expectations with regard to environmental, labor and social standards in the supply chain are laid down in the Supplier Code of Conduct (see page 113).

We published our Position on Forest Protection in June 2020. In it, we commit to the preservation of areas of High Conservation Value, High Carbon Stock forest areas and peatlands when procuring

renewable raw materials. Our aim is to prevent these areas from being developed for intensive economic use. Furthermore, we want any land use development activity to respect the rights of indigenous and local communities. We are working with partners to increase supply chain sustainability, for instance with the Roundtable on Sustainable Palm Oil (RSPO) in our supply chain for palm-based raw materials (see page 117).

BASF procures a variety of renewable raw materials. Particularly palm and palm kernel oil, soy oil and its derivatives as well as ligno-sulphonates, which are extracted from wood, have been determined to have a high deforestation risk. Based on purchasing volume, palm oil products are the most relevant renewable raw materials for BASF. To achieve greater sustainability in this supply chain, a detailed Palm Commitment went into effect in 2011 and was extended in 2015. It was put into practice through our Palm Sourcing Policy. Furthermore, we are involved in a range of projects in other supply chains promoting responsible use of natural resources and biodiversity (see page 118). BASF was rated for the first time in 2020 in the nonprofit organization CDP's forest assessment (grade: A-). It evaluates companies' management of environmental risks and opportunities. It is based on detailed insights into our palm value chain and the impact of our activities on ecosystems and habitats.

In cooperation with partners, we are also developing innovative solutions to reduce pressure for economic use of forests. For example, the Nutrition & Health division and Isobionics® launched Isobionics® Santalol in 2020, which is a biotechnologically produced fragrance and a convincing alternative to natural sandalwood oil. This oil is extracted from the wood and roots of the sandalwood tree, which is on the Red List of the International Union for Conservation of Nature (IUCN) because it is highly endangered by overexploitation. Our newly developed fragrance addresses customer demand for reliability in the supply of raw materials while conserving natural resources.

Our responsibility to our sites and our production

Preservation of biodiversity is also taken into consideration in the management of our sites. We respect natural resources at all our production sites and have committed to the following measures: We operate our facilities in a responsible manner and minimize negative effects on the environment, including forests, by keeping air, water and soil emissions as low as possible and reducing and avoiding waste (see page 137). Moreover, we conduct systematic assessments of sustainability aspects when making decisions about investments in the construction of new sites or expansion of existing ones, including the potential impact on forests and biodiversity. Our water management (see page 139) and our involvement in organizations such as the Alliance to End Plastic Waste (AEPW) (see page 138) contribute to the preservation of biodiversity in bodies of water.

Our management of our product impact

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. 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 inappropriate application of our products (see page 126).

All types of land development, such as agriculture and forestry, play a role in changing biodiversity. Activities such as tillage, drainage, fertilization and the use of crop protection products can affect flora and fauna by influencing their food sources.

We strengthened our commitment to sustainable agriculture in 2020. We focus on four areas to help farmers to find the right balance: climate-smart farming, sustainable solutions, digital farming and smart stewardship (see page 102). 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.

Our biodiversity initiatives

Engaging in an ongoing dialog with a variety of stakeholders is of utmost importance to BASF. For this reason, we will continue to pursue an exchange with partners in the value chain, in government and in civil society to preserve the natural habitats of plants and wild animals and thus play our part in protecting biodiversity. We work with a number of organizations including the Roundtable on Sustainable Palm Oil (RSPO), the Sustainable Palm Oil Forum, the Brazilian Coalition on Climate, Forests and Agriculture and the High Carbon Stock Approach Steering Group. We seek to collaborate with additional relevant stakeholders and organizations to raise and increase awareness and drive the necessary market transformation

to make an impact on the ground. To promote biodiversity, we are pursuing various initiatives such as the BASF FarmNetwork Sustainability, the Mata Viva® Initiative and the “Lark’s Bread” project (see box on the right).

The BASF FarmNetwork Sustainability was established in 2013 with the goal of developing feasible measures to increase biodiversity across intensively farmed land. The network is composed of farms in Europe, including in Germany, the United Kingdom, France, Italy and Poland. Independent external experts on nature conservation and environmental protection assess the development of biodiversity at some of these farms.

The Mata Viva® Initiative in Brazil is a collaboration between BASF and the Fundação Espaço ECO® organization as well as partners from many facets of society. It was established in 1984 to preserve water quality and soil and create a natural habitat for indigenous animal and plant species. To date, a total of 730 hectares of land have been reforested and 1.2 million seedlings have been planted. A program started in 2020 restores forests in the Mata do Barreiro Rico green reserve. The reserve is one of the last sanctuaries of the southern muriqui monkey (*Brachyteles arachnoides*), which is classified by the IUCN as critically endangered.

[For more information on our responsible management of resources, see page 116](#)

[For more information on product stewardship, see page 126](#)

[For more information on our commitment to biodiversity, see \[basf.com/biodiversity\]\(https://basf.com/biodiversity\)](#)

[For more information on our position on forest protection, see \[basf.com/forestprotection\]\(https://basf.com/forestprotection\)](#)



The “Lark’s Bread” project to foster biodiversity

With this project, BASF is showing in Germany that striking a balance between productive agriculture and biodiversity is possible. In a pilot project with a local bakery chain and a mill, four farmers from the BASF FarmNetwork Sustainability have created “lark windows” on a total of 40 hectares of winter wheat fields. These “lark windows” are open spaces in fields with an area of about 20 m², which skylarks use as “runways” when they brood in the fields and search for food. The harvested wheat is processed into “lark’s bread” and sold at a markup that compensates farmers for their efforts and yield loss as well as supports further biodiversity measures.

Employees

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.

110,302

Employees around the world

Employee engagement and leadership impact

on center stage

Strategy

- We are committed to valuing and treating people with respect, and fostering an inspiring working environment

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 talents and potential. This positions us to meet the challenges of an increasingly rapidly

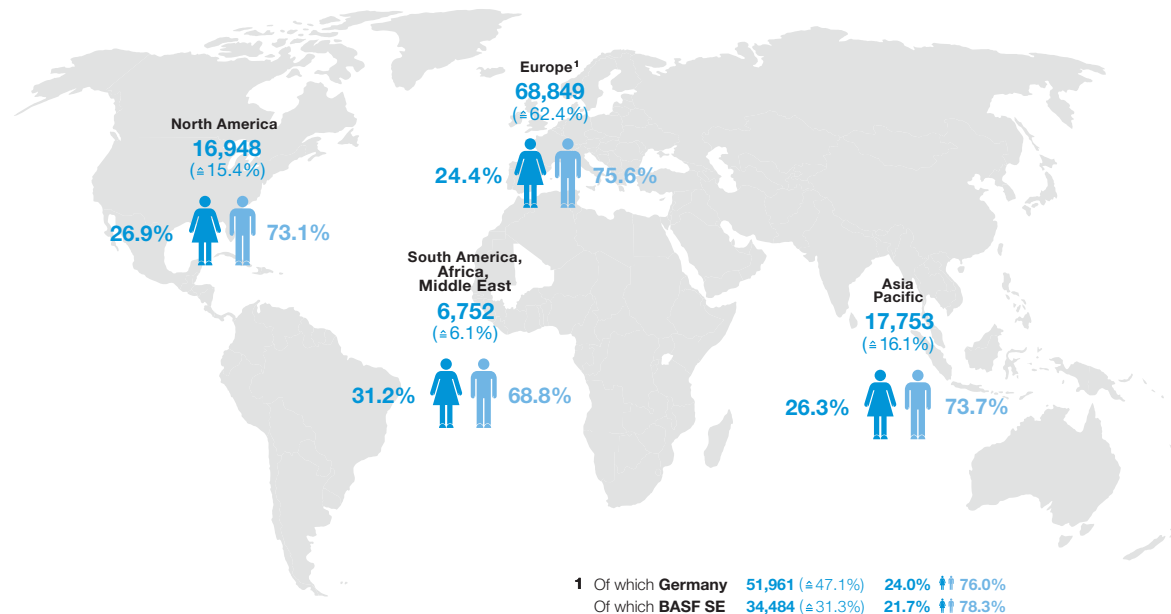
changing environment, demographic change and the digital workplace. In everything we do, we are committed to complying with internationally recognized labor and social standards. We want our working conditions to be a motor for innovation, and one way of achieving this is through inclusion of diversity. Lifelong learning and individual employee development lay the foundation for this. Compensation and benefits as well as offerings to balance personal and professional life complete our attractive total offer package. We track our employer rankings so that we can continue to attract talented people to the company in the future. Our employees play an important role here as ambassadors for BASF.]

Number of employees

As of December 31, 2020, the number of employees decreased to 110,302 employees compared with 117,628 employees as of December 31, 2019. The decrease was due primarily to the sale of the construction chemicals business, which affected around 7,500 employees. An offsetting factor was the acquisition of Solvay's polyamide business due to which around 1,200 employees joined the BASF Group including the employees of the Butachimie SNC and Alsachimie S.A.S. joint operations, both in Chalampé, France, which were counted on a pro rata basis. We employed 3,120 apprentices¹ (2019: 3,161). 2,128 employees were on temporary contracts (of which 44.0% were women).

BASF Group employees by region

(Total: 110,302, of which 25.5% women, as of December 31, 2020)



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

Employee engagement

- Own employee engagement target met
- Engagement index of 82%

BASF can rely on the engagement of its employees. Employee engagement is shown by, for example, a passion for the job, a dedication to top performance and a commitment to BASF. Global employee surveys and pulse checks are an established feedback tool 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 employee engagement determined by these surveys at a high level 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. Overall, more than 72,000 employees worldwide participated in this year's survey, representing 66% of survey recipients.¹

The 2020 survey revealed an engagement index of 82% (2019: 79%). This result reinforces our existing approach taken by our corporate strategy, even in a difficult environment. It also shows that we can rely on our engaged employees, even in a challenging year dominated by the coronavirus pandemic.

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.

What we expect from our leaders

- Leaders as role models
- CORE Leadership Values as the basis for our leadership culture

Our leaders and their teams should make a sustainable contribution 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 (see box on the right).

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. Regular feedback plays an important role in the development of leaders. This is why we implemented the comprehensive FEEDback&forward program for all leaders Group-wide in 2020, in which employees provide regular feedback on their managers' leadership skills. The questionnaire focuses on behaviors like empathy or the ability to make difficult decisions and approach change positively. Employees can also report back to their leaders which leadership behaviors they want in the future. In this way, FEEDback&forward promotes regular and open dialog between employees and leaders, and encourages them to reflect on them-



CORE Leadership Values

The CORE Leadership Values serve as the guiding principles for all leaders and set out BASF's expectations of leadership behavior. We have derived specific descriptions of desired leadership skills from each individual CORE corporate value.

Excellent leadership is crucial to our customer focus, growth, value creation, employee performance, sustainable goals and new ways of working. The expectations surrounding specific leadership behaviors are aligned with BASF's strategic goals and reflect our company's leadership vision.

Regular training and company-wide dialog on best practices in implementing the CORE Leadership Values in all relevant processes across the company – such as the recruitment and development of talented employees – are important tools to ensure a consistent global leadership culture.

selves and their own skills. This enables them to drive forward change together with their teams.

¹ Scope of employees surveyed goes beyond the scope of consolidation presented on page 6. However, there are exceptions for companies that represent joint ventures and joint operations, as well as companies held for sale.

To optimally support our leaders – including during the challenging times of the coronavirus pandemic – existing leadership development tools were converted to virtual formats and our internal toolbox was expanded to include new elements such as a CORE leadership podcast or a website with information on how to handle challenges during the pandemic.

Inclusion of diversity

- **Fostering diversity is part of our company culture**
- **Progress made in increasing the proportion of women in leadership positions**

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. This is enshrined in our global Competency Model, which provides a framework for our employees and leaders. The inclusion of diversity is anchored in this model as one of the behaviors expected of employees and leaders.

Our leaders play an important role in its implementation. We support them with various, flexible offerings. For instance, we have provided a toolbox with a wide range of content to enable a change of perspective and on promoting diversity and inclusion. A new podcast series from leaders shows the importance of appreciative, fair and inclusive leadership.

Integrating different perspectives is very important to BASF. There are a large number of Employee Resource Groups around the world dedicated to different aspects of diversity.

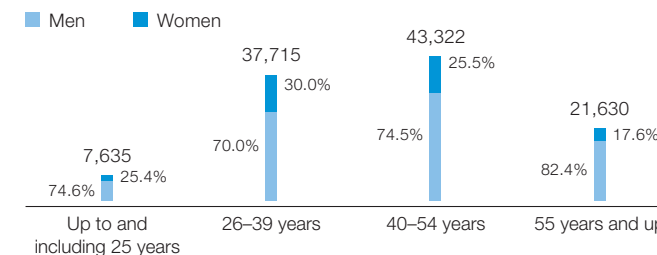
In North America, conversational formats on the inclusion of diversity were developed for employees and leaders. These led to the creation of further action areas, such as promoting talent and training on intercultural communication and leadership, with the aim of further increasing the inclusion of diversity. BASF also took a stand against racism with various internal and external activities in 2020.

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. The U.N. recommendations show the many opportunities companies have to contribute to positive social change. As part of pride month, employees promoted openness, acceptance and tolerance with campaigns at various sites around the world.

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: 110,302, of which 25.5% women, as of December 31, 2020)



We also promote diversity in leadership development. Since 2015, BASF has set itself global quantitative goals for increasing the percentage of women in leadership positions.

After achieving our original target for women in leadership positions ahead of schedule, BASF set a new, more ambitious target in 2020 to further strengthen diversity. By 2030, we aim to increase the proportion of women in leadership positions to 30%. We have made important progress toward this goal. In the BASF Group, the global proportion of female leaders with disciplinary responsibility was 24.3% at the end of 2020 (2019: 23.0%). We intend to employ various measures to reach our ambitious target.

2030 target

Proportion of women in leadership positions with disciplinary responsibility

30%

We have developed a global dashboard to permanently monitor our progress toward this target.

Another step toward digitalization is the jobsharing app introduced in 2020, which leaders and employees that wish to share a position can use to network with each other. Job sharing is a future-ready working model that offers benefits for both sides and makes it easier for employees to balance their personal and professional lives.

BASF also renewed its commitment to promoting gender equality by endorsing the United Nations' Women's Empowerment Principles (WEPs) in 2020. The WEPs are seven principles providing guidance to business on how to promote gender equality and women's empowerment in the workplace, the labor market and the community.

In the global Business for Inclusive Growth (B4IG) initiative, which we joined in 2019, we campaign together with other companies alongside the G7 and the OECD for inclusive growth, greater gender equality, and the promotion of diversity and inclusion in business. 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.

Leaders and professionals in the BASF Group

	December 31, 2020	Of which women (%)
(Senior) executives ^a	8,881	24.3
Professionals ^b	38,484	31.8

^a Employees with disciplinary leadership responsibilities

^b Specialists without disciplinary leadership responsibilities

For more information on health protection, see page 124

For more information on diversity in the Board of Executive Directors and the Supervisory Board, see page 169 onward

For more information, see basf.com/diversity

Competition for talent

- Positioning as an attractive employer
- Addressing specific target groups, including during the coronavirus pandemic

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 appeal in the global labor markets. Target group-specific campaigns focus on sustainability, digital ways of working and innovation for the future – reflecting our strategic action areas and key labor market trends.

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 used digital solutions for our talent search activities in 2020. For instance, in order to still be present at career fairs, we participated virtually. As a result, we were able to continue to attract and recruit talented employees. We also offered virtual tours of the Ludwigshafen site for universities in Germany. In addition, we consistently take part in specific career events to directly reach and attract talented female recruits in the natural sciences.

The talent program for external students and former interns was redesigned and expanded to include targeted retention measures. For example, special online events on different career opportunities and an exclusive journal help to maintain contact with talented students who impressed us with their outstanding personal qualities

and skills. Mentors at BASF also keep in contact until they have completed their degree and can be recruited.

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.

We once again achieved high scores in a number of employer rankings in 2020. For example, in a study conducted by Universum, engineering and IT students ranked BASF as the 51st most attractive employer in the world (2019: 47th). In North America, DiversityInc named BASF as one of the top 50 companies for diversity in recruiting for the eighth consecutive year. In Asia, Top Employer recognized BASF China as one of the best employers for the eleventh time in succession. In South America, BASF was recognized by Valor Econômico newspaper as one of the employers with the best personnel management in Brazil.

The BASF Group hired 6,340 new employees in 2020. The percentage of employees who resigned during their first three years of employment – the early turnover rate – was 1.0% worldwide in 2020. This turnover rate was 0.7% in Europe, 1.5% in North America, 1.8% in Asia Pacific and 1.8% in South America, Africa, Middle East. Our early turnover rate is therefore at a desirable low level.

BASF Group new hires in 2020

	December 31, 2020	Of which women (%)
Europe	3,163	30.0
North America	1,399	33.0
Asia Pacific	1,234	28.1
South America, Africa, Middle East	544	38.1
Total	6,340	31.0

As of December 31, 2020, the BASF Group was training 3,120 people in 15 countries and around 50 occupations. We spent a total of around €113 million on vocational training in 2020.

For more information, see basf.com/apprenticeship

Learning and development

- Lifelong learning concept
- Focus on virtual learning and digitalization

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 lifelong, self-directed learning. 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, the Digitalization & Me platform was established as a central resource where employees and leaders can find a wide range of online training, learning paths on LinkedIn Learning, or virtual continuous professional development events. Both target groups can also hold joint workshops in an avatar-based 3D working and learning environment.

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. This fosters an agile learning and working culture, which will ultimately also help us to master the digital transformation.

To harness the opportunities of the digital transformation for BASF, the #liveitleadit initiative for leaders focused on agility in 2020. Over 3,000 participants discussed methods, best practices and insights into agile working and digital leadership in monthly digital events.

In addition, more and more academies in the divisions and service units, which teach specific professional content, offer virtual training. We have offered virtual presence training since 2018, which gives all employees the opportunity to attend professional development courses via digital communication channels such as virtual meetings.

Compensation and benefits

- Compensation based on employee's position and individual performance as well as company's success
- ROCE determines variable compensation

We want to attract engaged and qualified employees, retain them and motivate them to achieve top performance with an attractive package including 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 local and regional level.

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 2020, for example, around 27,600 employees worldwide (2019: around 25,400) participated in the “plus” share program.

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.

BASF offers senior executives¹ the opportunity to participate in a share price-based compensation program, the long-term incentive (LTI) program. The BASF Group's share price-based compensation program (BASF Option Program, BOP), which has 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. From 2020 onward, the previous LTI program for senior executives will be replaced by a new LTI (Strive!) in the form of a performance share plan. The new, four-year program takes into account the development of the total shareholder return and incentivizes the achievement of strategic growth, profitability and sustainability targets. To take part in this new LTI, participants must hold BASF shares, the amount of which is based on their individual fixed compensation. In 2020, around 94% of the people eligible to participate in the new LTI around the world did so, investing between 30% and 70% of their fixed annual compensation in BASF shares.

[For more information, see the Notes to the Consolidated Financial Statements from page 307 onward](#)

Personnel expenses

The BASF Group's expenses for wages and salaries, social security contributions and pensions and assistance in 2020 totaled €10,576 million (2019: €10,924 million). This amount included proportional personnel expenses for 2020 from the disposal group for the construction chemicals business in the amount of €291 million. In 2019, personnel expenses from the disposal groups for the construction chemicals business and proportionally for the oil and gas business totaled €557 million. The decrease in personnel expenses was primarily due to lower bonus provisions and the lower average number of employees which resulted, in particular, from the divestiture of the construction chemicals business. A higher wage and salary level as well as higher pension expenses because of increased service costs had an offsetting effect.

BASF Group personnel expenses

Million €	2020	2019	+/-
Wages and salaries	8,416	8,825	-4.6%
Social security contributions and assistance expenses	1,424	1,545	-7.8%
Pension expenses	736	554	32.9%
Total personnel expenses	10,576	10,924	-3.2%

Balancing personal and professional life

- **Wide range of offerings for different phases of life**
- **Flexible working models support employees during the coronavirus pandemic**

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. BASF helps employees to adapt working hours and location to their personal circumstances with a wide range of established options, including flexible working hours, part-time employment and remote working. We are constantly working to expand these options and increasingly support the effective use of digital solutions here.

Our flexible tools proved extremely helpful during the coronavirus pandemic. They help our employees to master the increased challenges around work and personal life during the pandemic. One of the tools that increases flexibility is moving larger employee events that were previously held in-person to virtual formats and recording these. We have developed a global policy and framework for the future of work to integrate the positive experiences from the surge in remote working into our working culture. The aim is to further promote and facilitate flexible working models for interested employees.

¹ The term "senior executives" refers to leadership levels 1 to 4, whereby level 1 denotes the Board of Executive Directors. In addition, individual employees can attain senior executive status by virtue of special expertise.

Regional initiatives specifically address the needs of our employees at a local level. For example, our startup 1000 Satellites continued to expand the number of flexible co-working spaces in the Rhine-Neckar region in Germany and tested these in pilot projects.

Our Work-Life Management employee center in Ludwigshafen, Germany, (LuMit) offers a number of services under one roof: child-care, fitness and health, and social counseling and coaching offered by BASF Stiftung. 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.

Dialog with employee representatives

Trust-based cooperation with employee representatives is an important component of our corporate culture. Our open and ongoing 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, we involve employee representatives to develop socially responsible implementation measures at an early stage. In 2020, this happened in connection with the transformation of the newly created Global Business Services unit, for example. Our actions are aligned with the respective legal regulations and the agreements reached, as well as operational considerations. During the coronavirus pandemic, we developed solutions together with employee representatives to continue our trust-based cooperation, despite the necessary pandemic-related restrictions. This enabled us to sign a new site agreement with the Works Council of BASF SE for the Ludwigshafen site in Germany in May 2020, which contains a clause that excludes forced redundancies until 2025.

By focusing our discussions on the local and regional situations, we aim to find tailored solutions to the different challenges and legal considerations 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.

For more information, see basf.com/employeerepresentation

International labor and social standards

■ Alignment with U.N. Guiding Principles on Business and Human Rights

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 external 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 what the human rights issues and international labor standards in our global Code of Conduct mean as these relate to our employees.

It forms the basis for our global 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 our central due diligence system.

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 audit 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 111

For more information on compliance, see page 177 onward

 For more information on labor and social standards, see basf.com/labor_social_standards

Forecast

Economic Environment in 2021¹

We expect the global economy to gradually recover in 2021 after the sharp downturn resulting from the coronavirus pandemic. Gross domestic product (GDP) will return to roughly the pre-crisis level. We assume that global GDP will grow by 4.3% (2020: -3.7%). Consumers and companies in many countries remain restricted in their freedom of actions for the time being due to measures to combat the pandemic. Positive seasonal impulses should start to make themselves felt as the year progresses. We expect that growing immunization of the population – especially risk groups – will increasingly support the economic recovery in the second half of 2021. Regional differences will presumably remain significant: While we assume emerging markets in Asia will experience robust growth, momentum in Europe, the United States and Japan is likely to initially remain sluggish. Uncertainty about future developments is exceptionally high. It is very difficult to predict how the coronavirus pandemic will progress. Furthermore, the aftereffects of the sharp economic decline in the business sector and the labor market from the past year will materialize further.

Trends in the global economy in 2021

- **Moderate growth expected in Europe and the United States**
- **Strong growth likely in Asia**

We anticipate an overall moderate GDP growth rate of 3.0% (2020: -6.4%) in the **European Union** (E.U.). We expect base effects to support growth momentum in countries that were hit especially hard by the pandemic. These include southern European countries with

a high percentage of tourism, but also economies in northwestern and eastern Europe where industry is specialized in investment goods and automotive production. It is likely, though, that measures, to contain the coronavirus pandemic, which vary in degree among the different E.U. member countries, will continue to have a significant impact on economic growth. Furthermore, we expect Brexit to have a negative effect on economic growth in the E.U. In the United Kingdom, we are forecasting weak GDP growth of 2.4% due to Brexit and extremely high infection rates at the beginning of the year, after the considerable decline in the previous year (2020: -9.9%).

We expect a GDP growth rate of 4.0% in the **United States**. A further government spending plan is likely to significantly bolster the economy. However, since the 2020 economic decline in the United States was only about half of what the E.U. saw, base effects should have a smaller impact. Private consumption in 2020 was significantly supported by government payments. Consequently, no strong catch-up effects can be expected in the consumption of goods in 2021. Moreover, we expect the labor market to recover more slowly than in the previous year. While the weaker U.S. dollar should have a positive effect on exports, import prices will foreseeably rise year on year. We do not expect tariffs imposed on imported intermediate or consumer goods from China to drop for the time being, and thus no favorable effect on import prices is foreseeable.

The **emerging markets of Asia** will presumably see considerably higher growth rates. In **China**, private consumption will increasingly bolster growth. Global economic recovery should also have a stimulating effect on exports. Overall, growth is likely to slow during the course of the year. Year on year, growth will still be relatively high, at over 7%, and thus above average for recent years. We expect India to see a continuation of the dynamic recovery that began in the second half of 2020. In the other Asian emerging markets, we anticipate a growth rate comparable to the long-year average before the crisis, slightly above 4%.

In **Japan**, we expect moderate GDP growth of just slightly above 2%. Although this country has been able to control the pandemic better than other advanced economies so far, domestic demand for consumer and investment goods will presumably only recover slowly after the sharp decline in the previous year. Exports are likely to see a considerably better upswing, especially due to increasing demand from China.

Growth prospects in **South America** will probably remain subdued. We are forecasting total GDP growth in this region of slightly above 4%. Fiscal impetus in Brazil is likely to weaken over the course of the year and dampen further economic recovery (2021: +3.5%; 2020: -4.6%). Macroeconomic imbalances, primarily rising inflation rates coupled with continued low interest rates and growing national debt, will presumably continue to burden the Brazilian currency. In Argentina, too, the debt and currency crisis are expected to dampen the country's economic recovery following the sharp decline in the previous year (2021: +5.0%; 2020: -10.4%). In the other countries of South America, we anticipate moderate growth in domestic demand and a favorable impact on demand for industrial and agricultural raw materials from the recovering global economy.

¹ Our assumptions account for current estimates by external institutions, including economic research institutes, banks, multinational organizations and consulting firms.

Outlook for gross domestic product 2021

Real change compared with previous year

World	4.3%	
European Union	3.0%	
United States	4.0%	
Emerging markets of Asia	6.9%	
Japan	2.3%	
South America	4.4%	

Trends in gross domestic product 2021–2023

Average annual real change

World	3.7%	
European Union	3.0%	
United States	3.2%	
Emerging markets of Asia	5.6%	
Japan	1.6%	
South America	3.3%	

Outlook for key customer industries

■ Recovery expected in the automotive industry and for consumer goods

Overall, we anticipate 4.4% (2020: –4.0%) growth in global industrial production. Growth in advanced economies (2021: +3.1%; 2020: –6.5%) is likely to be weaker than growth in emerging markets (2021: +5.5%; 2020: –1.8%).

We are forecasting a considerable recovery in the **transportation industry**¹ as a whole after the sharp decline in the previous year. We expect global automotive production to grow significantly. In China,

we anticipate moderate growth momentum in 2021 following the rapid recovery in 2020. By contrast, we expect stronger recovery effects in western and eastern Europe as well as in North America, India and Japan. The percentage of hybrid and electric vehicles should continue to rise due to buying incentives, vehicle tax rebates and the expansion of the charging infrastructure.

In the **energy and raw materials** sector, we expect moderate overall growth in energy demand and demand for industrial raw materials. Production growth should only be small in advanced economies. In the emerging markets by contrast, we are forecasting considerable growth. Approximately half of total global growth is expected to be in Asia.

Production in the **construction industry** will presumably grow moderately in 2021. We anticipate low growth rates in commercial construction but higher growth in housing construction and in the infrastructure segment. While the construction business in Europe is likely to grow moderately, we only foresee a slight increase in the United States. This is because of small base effects after the upswing in the housing market in the previous year and government spending on construction, which is only likely to benefit from the economic stimulus packages after a delay. By contrast, we expect considerably higher growth rates in Asia.

Due to recovery effects, overall **production of consumer goods**, primarily textiles and consumer durables, will foreseeably grow at a somewhat higher rate than global GDP. Production of care products, by contrast, will grow approximately in line with the gross domestic product.

The **electronics industry** should benefit from the ongoing digitalization trend, more frequent use of electronic parts in the automotive industry and the advancement of connectivity and automation. We therefore continue to expect above-average growth.

In line with overall economic recovery, the **health and nutrition** sector should grow markedly in the year to come. We expect above-average growth in the pharmaceutical industry, which will be favorably affected by global vaccine activities. Expansion in the nutrition sector should almost equal that of the global economy.

Under normal weather conditions, **agricultural production** will presumably see similar growth in 2021 to the past few years. In Europe, we expect a slight increase in agricultural production given the low basis for comparison. In the United States, the trade agreement with China is likely to boost agricultural exports again in 2021, and similarly high growth rates are expected to those of 2020. In Brazil, economic recovery and the considerable currency devaluation should be favorable to the sales volumes of agricultural products. For this reason, higher growth in sales volumes can be expected. In Asia, which is by far the largest agricultural market because of the size of its population, we expect solid growth in agricultural production.

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).

Outlook for the chemical industry

Above-average growth expected in the chemical industry

Global chemical production (excluding pharmaceuticals) is expected to grow by 4.4% (2020: -0.4%) in 2021, which is above average for the years prior to the coronavirus pandemic. This growth should be seen predominantly in emerging markets (2021: +5.4%; 2020: +1.8%). In advanced economies, we anticipate a growth rate of 2.5% (2020: -4.2%), which is above average for pre-crisis years. The level of production from 2019 will thus already be surpassed in 2021 in emerging markets. Overall, production in advanced economies will presumably still be considerably lower.

In **China**, the world's largest chemical market, we are forecasting a growth rate in chemical production of 6.3% (2020: 3.4%). Momentum is likely to slow down after the rapid recovery in production in 2020. Nevertheless, we anticipate demand across all customer industries to grow for intermediate inputs from the chemical industry, in particular consumer goods and in the automotive industry.

In the **European Union**, we are forecasting an increase in chemical production of 3.2% (2020: -1.9%), roughly in line with GDP growth. The expected marked recovery in the automotive industry along with moderate growth in the construction industry and in consumables in the health and nutrition sector, as well as somewhat stronger growth in consumer durables should bolster domestic chemical demand. We anticipate weaker growth momentum in the United Kingdom. Higher transaction costs are likely to dampen chemical production due to the end of the Brexit transition period and the negative economic impact of the coronavirus pandemic (2021: +2.0%; 2020: +1.0%).

We expect chemical production in the **United States** to grow by 2.6% (2020: -4.3%). Further recovery in automotive production and considerable growth in health and nutrition and in electronics should have positive effects on chemical demand, whereas the construction and oil and gas industries are only expected to provide weak growth stimulus.

In **Japan**, we anticipate moderate growth in chemical production, analogous to the modest overall economic recovery.

In **South America**, chemical production will presumably lag slightly behind the economy as a whole (2021: +3.0%; 2020: -1.1%). Chemical growth will be buoyed by the recovery in automotive production, as well as in the agriculture, nutrition and industrial raw materials sectors.

Outlook for chemical production 2021 (excluding pharmaceuticals)

Real change compared with previous year	
World	4.4%
European Union	3.2%
United States	2.6%
Emerging markets of Asia	5.9%
Japan	1.0%
South America	3.0%

Trends in chemical production 2021–2023 (excluding pharmaceuticals)

Real change compared with previous year	
World	3.9%
European Union	2.3%
United States	2.6%
Emerging markets of Asia	5.3%
Japan	1.0%
South America	2.5%

Outlook 2021

We expect the global economy to recover in 2021 after the sharp downturn resulting from the coronavirus pandemic. However, uncertainty about future developments remains exceptionally high. Our forecast therefore includes wide ranges to account for the possibility of significant disruptions to global supply chains and negative effects on the entire economy. At the same time, we are confident that without such negative impacts, we will be able to achieve earnings at the upper end of the forecast range. Our forecast assumes growth in our customer industries. For the automotive industry in particular, we are forecasting significant production growth compared with 2020. The global economy should see significant growth of 4.3% compared with 2020 (–3.7%). Global chemical production is expected to expand by 4.4%, well above the prior-year level (2020: –0.4%). We anticipate an average oil price of \$50 for a barrel of Brent crude and an exchange rate of \$1.18 per euro.

Based on these assumptions, we aim to increase our sales to between €61 billion and €64 billion (2020: €59,149 million). The BASF Group's income from operations (EBIT) before special items is expected to be between €4.1 billion and €5.0 billion (2020: €3,560 million). The return on capital employed (ROCE) should be between 8.0% and 9.2% (2020: 1.7%).

For 2021, we anticipate Accelerator sales of between €18 billion and €19 billion (2020: €16.7 billion). Our CO₂ emissions are expected to stabilize at between 20.5 million metric tons and 21.5 million metric tons in 2021 (2020: 20.8 million metric tons).

For more information on our expectations for the economic environment in 2021, see page 152 onward

For more information on our opportunities and risks, see page 158 onward

Sales, earnings and ROCE forecast for the BASF Group¹

- Sales growth to between €61 billion and €64 billion
- EBIT before special items of between €4.1 billion and €5.0 billion
- ROCE of between 8.0% and 9.2%

In 2021, we expect the BASF Group as a whole to increase sales to between €61 billion and €64 billion (2020: €59,149 million). The main drivers should be volume growth and higher prices. By contrast, currency and portfolio effects will have a negative impact. The Materials segment and Other are expected to see considerable sales growth. We are forecasting slightly higher sales in the Surface Technologies, Chemicals, Agricultural Solutions and Nutrition & Care segments, and a slight year-on-year decline in the Industrial Solutions segment.

The BASF Group's EBIT before special items is expected to increase to between €4.1 billion and €5.0 billion (2020: €3,560 million). We anticipate considerably higher contributions from the Materials and Chemicals segments, Other and the Surface Technologies segment. The Agricultural Solutions and Nutrition & Care segments should record slightly higher EBIT before special items. By contrast, we are forecasting slightly lower EBIT before special items in the Industrial Solutions segment.

Based on the expected recovery in the global economy, a positive business trajectory and a lower cost of capital basis in 2021, we expect the BASF Group's ROCE to be between 8.0% and 9.2% (2020: 1.7%). We expect a considerable increase in ROCE in all segments compared with the previous year.

Our forecast for 2021 takes into account the agreement between BASF and DIC on the sale of the global pigments business. The transaction is expected to close in the first half of 2021, subject to the approval of the U.S. competition authorities, which is still outstanding. Until closing, the assets and liabilities to be divested will be presented in a disposal group in the Dispersions & Pigments division.

Accelerator sales and CO₂ emissions forecast for the BASF Group

We expect Accelerator sales to increase to between €18 billion and €19 billion in 2021 (2020: €16.7 billion), in line with the global economic recovery and growing demand for chemical products. The divestiture of BASF's global pigments business will also reduce sales of Accelerator products in BASF's portfolio. Compensating factors will include the expected increase in Accelerator products from the initial portfolio segmentation of the businesses acquired from Solvay.

Despite the global economic recovery and growing demand for chemical products, CO₂ emissions are expected to stabilize at between 20.5 million metric tons and 21.5 million metric tons in 2021. We will keep emissions roughly at the prior-year level (2020: 20.8 million metric tons) with targeted measures. These include the implementation of further projects to increase energy efficiency and optimize processes, for example, to significantly reduce nitrous oxide emissions in Ludwigshafen, Germany. In addition, we are switching energy supply agreements to renewable energy sources, for example in Freeport, Texas, where we have signed long-term supply agreements for wind power. Emissions will also be reduced by the divestiture of BASF's global pigments business in 2021.

The significant opportunities and risks that could affect our forecast are described under Opportunities and Risks on pages 158 to 166.

¹ For sales, "slight" represents a change of 1%–5%, while "considerable" applies to changes of 6% and higher. "At prior-year level" indicates no change (+/–0%). For earnings, "slight" means a change of 1%–10%, while "considerable" is used for changes of 11% and higher. "At prior-year level" indicates no change (+/–0%). At a cost of capital percentage of 9% for 2021, 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 percentage points) as "at prior-year level."

Forecast by segment^a

Million €

	Sales		EBIT before special items		ROCE	
	2020	Forecast 2021	2020	Forecast 2021	2020	Forecast 2021
Chemicals	8,071	slight increase	445	considerable increase	-2.2%	considerable increase
Materials	10,736	considerable increase	835	considerable increase	-1.1%	considerable increase
Industrial Solutions	7,644	slight decline	822	slight decline	9.3%	considerable increase
Surface Technologies	16,659	slight increase	484	considerable increase	-4.8%	considerable increase
Nutrition & Care	6,019	slight increase	773	slight increase	10.6%	considerable increase
Agricultural Solutions	7,660	slight increase	970	slight increase	3.6%	considerable increase
Other	2,360	considerable increase	-769	considerable increase	-	-
BASF Group	59,149	€61 billion–€64 billion	3,560	€4.1 billion–€5.0 billion	1.7%	8.0%–9.2%

^a For sales, "slight" represents a change of 1%–5%, while "considerable" applies to changes of 6% and higher. "At prior-year level" indicates no change (+/-0%). For earnings, "slight" means a change of 1%–10%, while "considerable" is used for changes of 11% and higher. "At prior-year level" indicates no change (+/-0%). At a cost of capital percentage of 9% for 2021, 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 percentage points) as "at prior-year level."

Sales and earnings forecast for the segments

For the **Chemicals** segment in 2021, we expect a slight increase in sales, mainly driven by growth in volumes in line with a market recovery and higher prices. In the Petrochemicals division, we expect an improved availability of steam cracker products following the unplanned outage at the steam cracker in Port Arthur, Texas, in 2020. In the Intermediates division, we anticipate higher sales volumes in all business areas. Price levels will likely rise, primarily due to higher raw materials prices in both divisions and from a favorable product mix in the Petrochemicals division. Currency effects are expected to dampen sales performance. We expect considerable growth in EBIT before special items, mainly through higher sales volumes, due in part to improved availability of steam cracker products, and a recovery in margins.

For the **Materials** segment, we expect sales to be considerably above the previous year in 2021 due to higher volumes. In the Performance Materials division, we expect higher demand from all

customer industries. For the Monomers division, we anticipate higher volumes, specifically for isocyanates and polyamides. Currency effects should reduce sales performance. We want to considerably increase EBIT before special items through the increase in volumes and a recovery in margins, especially in the Monomers division.

Sales in the **Industrial Solutions** segment will likely decline slightly in 2021, mainly as a result of the agreement to divest BASF's global pigments business to DIC. This should be partially offset by higher volumes in both divisions. We anticipate slightly lower EBIT before special items, due in particular to the sale of BASF's global pigments business and higher fixed costs. This will not be completely offset by the expected growth in volumes.

In the **Surface Technologies** segment, we are forecasting slight sales growth in 2021, primarily from higher precious metal prices in the Catalysts division and higher volumes in both divisions. We aim to considerably improve the segment's EBIT before special items

compared with 2020, mainly through volume growth. We anticipate considerably higher EBIT before special items in the Coatings division but a slight 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 slightly higher sales than in 2020. Higher volumes in both divisions will likely be partially offset by negative price and currency effects. Our planning assumes improved product availability, especially in the Nutrition & Health division. We expect the segment's EBIT before special items to be slightly above the previous year, due to a higher contribution from the Nutrition & Health division, driven by volume growth. For the Care Chemicals division, we are forecasting a slight year-on-year decrease in EBIT before special items as a result of slightly higher fixed costs due to costs for the startup of new plants.

We expect sales to be slightly above the prior-year level in the **Agricultural Solutions** segment. We aim to increase our sales volumes and prices, which should more than offset negative currency effects. Overall, we expect a slight increase in EBIT before special items. Alongside higher sales, this will be driven by stringent fixed cost management. In addition, we will benefit from the measures to increase efficiency initiated in 2020. We will continue to invest in research and development and digitalization at a high level in 2021. Currency effects will presumably have a significantly negative impact on EBIT before special items in 2021.

Sales in **Other** are expected to be considerably above the 2020 level in 2021. This will be driven by sales growth in commodity trading. We anticipate a considerable improvement in EBIT before special items compared with the previous year. This should mainly reflect lower research expenses and higher contributions from other businesses.

Capital expenditures (capex)

■ Capex of around €3.6 billion planned for 2021

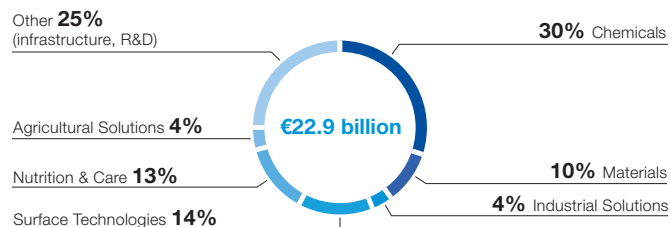
We are planning capital expenditures (additions to property, plant and equipment excluding acquisitions, IT investments, restoration obligations and right-of-use assets arising from leases) of around €3.6 billion for the BASF Group in 2021. For the period from 2021 to 2025, we have planned capital expenditures totaling €22.9 billion. The investment volume in the next five years will thus be below that of the planning period 2020 to 2024 (€23.6 billion). A focus area is our investment project in Zhanjiang, China, to expand our businesses in Asia.

Projects currently being planned or underway include:

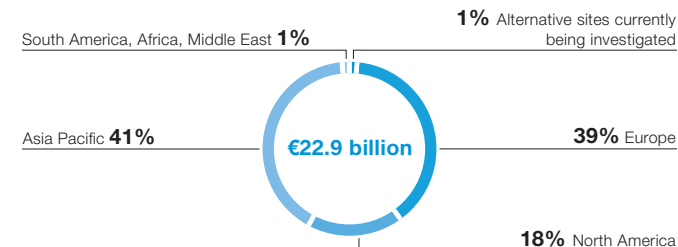
Capex: selected projects

Location	Project
Antwerp, Belgium	Capacity expansion: integrated ethylene oxide complex Gradual capacity expansion: alkoxyates
Geismar, Louisiana	Capacity expansion: MDI plant
Harjavalta, Finland, and Schwarzheide, Germany	Investment: battery materials
Ludwigshafen, Germany	Construction: production plant for vitamin A
Zhanjiang, China	Planned construction: integrated Verbund site

Capex by segment 2021–2025



Capex by region 2021–2025



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 2021, we expect cash outflows in the equivalent amount of around €1.0 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

There have been no significant changes in the company's situation or market environment since the beginning of the 2021 business year.

Opportunities and Risks

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.

Opportunities

Potential successes that exceed our defined goals

Risks

Events that can negatively impact the achievement of our goals

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. This way, we achieve an overall view of opportunities and risks at a portfolio level, allowing us to take effective measures for risk management.

Overall assessment

- Significant opportunities and risks arise from overall economic developments, margin and exchange rate volatility
- No threat to continued existence of BASF

For 2021, we anticipate a considerable global economic recovery after the downturn in the previous year due to the coronavirus pandemic. General economic uncertainty will nevertheless remain high until widespread immunization of the population has been achieved. Specifically, production stoppages due to official orders or high infection rates can lead to disruptions in the supply chains of 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. 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. These developments could have a negative impact on demand for intermediate and investment goods worldwide. Opportunities arise from continued strong demand, supported by earlier and better availability and broader acceptance of the coronavirus vaccine than is assumed in our forecasts. 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. From today's perspective, Brexit does not give rise to any material opportunities or risks for the BASF Group due to the trade agreement reached between the European Union and the United Kingdom.

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, such as the intensification of the coronavirus crisis.

Ultimately, however, residual risks (net risks) remain in all entrepreneurial activities that cannot be ruled out, even by comprehensive risk management.

Potential short-term effects on EBIT of key opportunity and risk factors subsequent to measures taken^a

Possible variations related to:	Outlook – 2021 +	
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	□□□□■	□□□□□
Law	□□□□■	□□□□□
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

^a Using a 95% confidence interval per risk factor based on planned values; summation is not permissible

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.

Risk management process

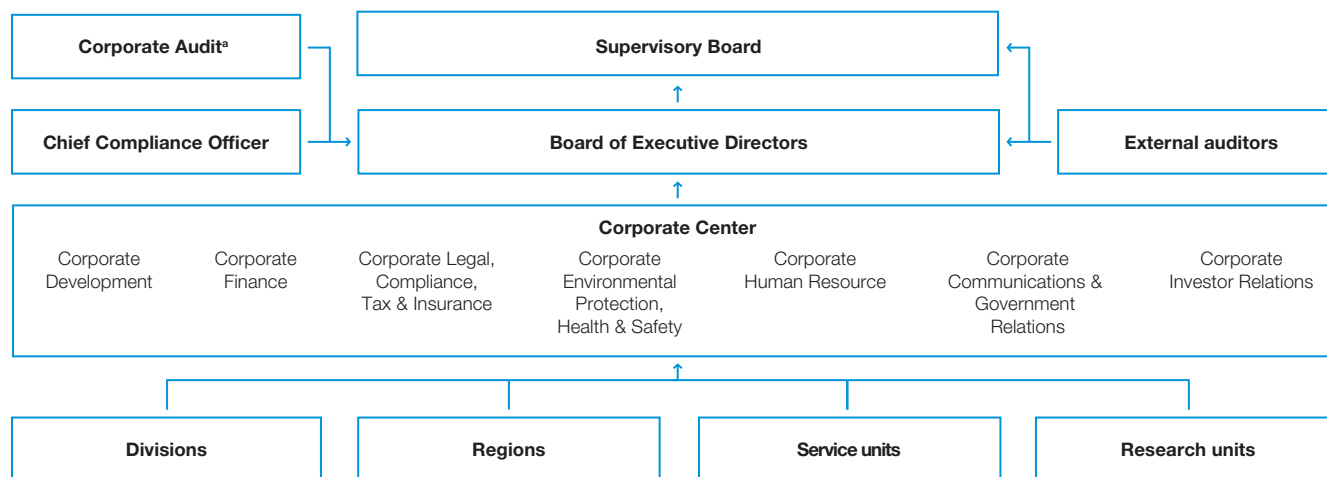
- **Integrated process for identification, assessment and reporting**
- **Decentralized management of specific opportunities and risks**
- **Aggregation at a Group level**

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.

Organization of BASF Group's risk management since January 1, 2020



^a The Corporate Audit unit is part of the Corporate Center.

- Members of the risk committee are the head of Corporate Finance (president), the head of Corporate Development, the head of Corporate Legal, Compliance, Tax & Insurance and representatives of the Corporate Audit and Corporate Environmental Protection, Health & Safety 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. Financial risks are an exception. The management of liquidity, currency and interest rate risks is conducted in the Corporate Finance unit. The management of commodity price risks takes place in the Global Procurement unit or in authorized Group companies.
- 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.

- 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 the Corporate Finance department. In addition, Corporate Finance provides information twice a year on the aggregated opportunity/risk exposure of the BASF Group. Furthermore, if a new individual risk is identified which has a more than €10 million impact on earnings or bears reputational risks, it must be immediately reported.
- As part of strategy development, the Corporate Development unit conducts strategic opportunity/risk analyses for long-term opportunities and risks with a 10-year assessment period. These analyses are annually reviewed as part of strategic controlling and are adapted if necessary.
- BASF's Chief Compliance Officer (CCO) manages the implementation of our Compliance Management System, supported by additional compliance officers worldwide. He regularly reports to the Board of Executive Directors on the status of implementation

as well as on any significant results. He also 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) were added to the catalog in 2020.
- 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.

[For more information on our sustainability management processes, see page 42 onward](#)

- 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 177 onward](#)

Significant features of the internal control and risk management system with regard to the Group financial reporting process

- **Conducted in accordance with standardized Group guidelines**
- **Segregation of duties, principle of dual control and clearly regulated access rights**
- **Annual evaluation of the control environment and relevant processes at significant companies**

The Consolidated Financial Statements are prepared by a unit in the Corporate Finance department. BASF Group's accounting process is based on a uniform accounting guideline that sets out accounting policies and the significant processes and deadlines on a Group-wide basis. 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 regional 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.

The significant 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.

In these companies, the process comprises the following steps:

- **Evaluation of the control environment**
Adherence to internal and external guidelines that are relevant for 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, samples are taken to test whether, in practice, the controls were executed as described and effective.
- **Monitoring of control weaknesses**
The managers responsible receive reports on any control weaknesses identified and their resolution, and an interdisciplinary committee

investigates their relevance for 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.

Short-term opportunities and risks

Market growth

The development of our sales markets is one of the strongest sources of opportunities and risks. 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, can be found under Economic Environment in 2021 on pages 152 to 154.

We also consider risks from deviations in assumptions. Stronger demand caused by an accelerated lifting of lockdowns, for example as a result of high efficacy and acceptance of coronavirus vaccines, 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 expanded, and that global economic growth slows as a result. Additional macroeconomic risks result from the escalation of geopolitical conflicts and the ongoing 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.

Margin volatility

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 driven by the supply side continues for longer than expected. However, new capacities or 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 \$42 per barrel in 2020, compared with \$64 per barrel in the previous year. For 2021, we anticipate an average oil price of \$50 per barrel. We therefore expect price levels for the raw materials and petrochemical basic products that are important to our business to rise slightly.

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 and political risks

Risks for us can arise from intensified geopolitical tensions, new trade sanctions, stricter emissions limits for plants, changes in chemical regulations and energy and climate laws.

In addition, risks to the BASF Group can be posed by further regulations in key customer industries or on the use or registration of agricultural and other chemicals.

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 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.

Purchasing 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 or hurricanes) are subject to change 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.

In 2019/2020, we implemented a package of climate resilience measures at our Verbund site in Ludwigshafen, Germany: 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, are currently developing our own type of ship designed for extreme low-water

situations. These measures are already making long periods of low water on the Rhine River, like in 2018, 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 the 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 a package of measures to increase cooling capacity, including expanding and optimizing the central recooling plants and optimizing cooling water flows. These are capable of avoiding production outages due to extreme heatwaves like the one in 2018.

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 work together in collaborations 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 acquisitions and divestitures in 2020, see page 51](#)

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 149](#)

[For more information on risks from pension obligations, see page 164](#)

Information technology risks

BASF relies on a large number of IT systems. Their nonavailability, violation of confidentiality or the manipulation of data 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, such as 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.

BASF also established the Cyber Defense Center in 2015, is 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 certified according to ISO/IEC 27001:2013.

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 EBIT of the BASF Group.

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.

Financial opportunities and risks

Detailed guidelines and procedures exist for dealing with financial risks. Among other things, they provide for the segregation of 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 condi-

tions 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 in 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 bank 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 revalued 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

BASF offers 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.

From 2020 onward, the previous long-term incentive (LTI) program for senior executives will be replaced by a new LTI program in the form of a performance share plan. The new 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.

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.

Long-term opportunities and risks

Long-term demand development

We assume that growth in chemical production (excluding pharmaceuticals) will be slightly stronger than global gross domestic product over the next five years and will be considerably stronger than the previous five-year average. 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. We counter this risk through active portfolio management.

We continuously improve our processes in order to remain competitive through our operational excellence. We are streamlining our administration, sharpening the roles of services and regions, and simplifying procedures and processes as part of our ongoing Excellence Program.

In order to achieve lasting profitable growth, tap into new market segments and make our customers more successful, our research and business focus is on highly innovative business areas, some of which we enter into through strategic cooperative partnerships.

[For more information on the Excellence Program, see page 21](#)

Innovation

The central research areas Process Research & Chemical Engineering, Advanced Materials & Systems Research and Bioscience Research serve as global platforms headquartered in our regions: Europe, Asia Pacific and North America. Together with the development units in our operating divisions, they form the core of the global Know-How Verbund. Our strong regional presence opens up opportunities to participate in local innovation processes and gain access to local talent. We optimize the effectiveness and efficiency of our research activities through our global Know-How Verbund.

Research activities funded by the BASF Group promote the targeted development and enhancement of key technologies as well as the establishment of new business areas. Focus areas in research are determined based on their strategic relevance for BASF, above and beyond existing business areas.

We also address the risk of the technical or economic failure of research and development projects by maintaining a balanced and comprehensive project portfolio, as well as through professional, milestone-based project management.

Potential applications of digital technologies and solutions along the entire value chain are evaluated and implemented in the divisions and service units as well as by cross-divisional teams. They are supported here by the Global Digital Services unit. We analyze the opportunities and risks of digitalization in Production, Logistics, Research & Development and for business models as well as in corporate functions such as Finance, Human Resources, Procure-

ment & Supply Chain Services, Legal, Taxes, Insurance and Intellectual Property.

The opportunities and risks of digitalization are steered by the divisions and service units.

The trust of customers and consumers is essential for the successful introduction of new technologies. That is why we enter into dialog with our stakeholders at an early stage of development. The trend toward increased sustainability requirements in our customer industries continues. Our aim is to leverage the resulting opportunities in a growing market even more effectively in the future with innovations. This is why we applied the Sustainable Solution Steering method, which is used to evaluate the sustainability of our product portfolio, to assessments of innovation projects, and integrated it into an early stage of our research and development processes as well as the development of our business strategies. In this way, we want to benefit from the higher profitability of our Accelerator products compared with the rest of our evaluated portfolio. At the same time, we reduce reputational and financial risks by phasing out products for which we have identified substantial sustainability concerns ("Challenged" products) within five years of initial classification as such at the latest. We develop action plans for these products at an early stage to minimize any potential financial risks. These can include research projects, reformulations or even replacing one product with another.

[For more information on innovation, see page 35 onward](#)

Portfolio development through investments

Our decisions on the type, scope and locations of our investment projects are based on assumptions related to the long-term development of markets, margins and costs, as well as raw material availability and country, currency and technology risks. Opportunities and risks arise from potential deviations in actual developments from our assumptions. We expect the increase in chemical production in emerging markets in the coming years to remain above the global

average. This will create opportunities that we want to exploit by expanding our local presence.

[For more information on our investment projects, see page 157 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 51 onward](#)

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 with suitable applicants, 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 the individual initiatives and our goals, see page 144 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 often go beyond local legal requirements.

We verify compliance with these standards through internal monitoring systems such as global surveys or audits. In 2020, for example, suppliers were audited for sustainability at a number of sites. Our global Code of Conduct was revised in 2020 to which all employees, managers and Board members are required to adhere. It defines a binding framework for our activities. 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.

Risks to our production and our supply chain resulting from greater weather extremes (e.g. storms), highly fluctuating water levels and increased water temperatures are addressed by our risk management in production and in procurement. For example, we can no longer rule out extreme low-water situations or heat waves caused by climate change at our Verbund site in Ludwigshafen, Germany. In 2019/2020, we therefore implemented a package of climate resilience measures.


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, ecological, 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 2020.

 For more information on sustainability management, see page 42 onward

For more information on energy and climate protection, see page 130 onward

For more information on opportunities and risks from energy policies, see page 161

 For more information on our positions on and contributions to climate protection, see basf.com/climate_protection

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.

Board of Executive Directors

manages company and represents BASF SE in business with third parties

Supervisory Board

appoints, monitors and advises Board of Executive Directors

Shareholders

exercise rights of co-administration and supervision at Annual Shareholders' Meeting

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.

Direction and management by the Board of Executive Directors

- **Board of Executive Directors strictly separate from the Supervisory Board**
- **Responsible for company management**
- **Sets goals and strategic direction**

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 non-financial 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 analyzes 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 158 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 180 onward

Compensation of the Board of Executive Directors is described in detail in the Compensation Report from page 183 onward

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

Two-tier management system of BASF SE

Board of Executive Directors



6 members

appointed by the Supervisory Board

Chair

appointed by the Supervisory Board

appoints the Board of Executive Directors

monitors the Board of Executive Directors

advises the Board of Executive Directors

reports to Supervisory Board

Supervisory Board



12 members

6 shareholder representatives elected by the Annual Shareholders' Meeting and 6 employee representatives

Chair

elected by the Supervisory Board

Directors. 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.

Supervision of company management by the Supervisory Board

- **Supervisory Board appoints, monitors and advises Board of Executive Directors**
- **Four Supervisory Board committees**

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 cannot 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 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. The remaining 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 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 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.

BASF SE's Supervisory Board has established a total of four Supervisory Board Committees: the Personnel Committee, the

Audit Committee, the Nomination Committee and the Strategy Committee.

🔗 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 180 onward

The compensation of the Supervisory Board is presented in the Compensation Report from page 183 onward

📄 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, since June 18, 2020),* Dr. Jürgen Hambrecht (chair, until June 18, 2020),* 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 employment 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

Audit Committee

Members

Dame Alison Carnwath DBE (chair),* Tatjana Diether,* Franz Fehrbach (until February 29, 2020), Anke Schäferkordt (since March 1, 2020),* Michael Vassiliadis

* Classified by the Supervisory Board as an "independent" member of the Supervisory Board (see page 172 for the criteria used to determine independence)

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 Board of Executive Directors; 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, who left the Audit Committee in February 2020, after 12 years of service.

Nomination Committee

Members

Dr. Kurt Bock (chair, since June 18, 2020),* Dr. Jürgen Hambrecht (chair, until June 18, 2020),* Prof. Dr. Thomas Carell,* Dame Alison Carnwath DBE,* Liming Chen (since December 17, 2020),* Dr. Alexander C. Karp (until July 22, 2020),* 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, since June 18, 2020),* Dr. Jürgen Hambrecht (chair, until June 18, 2020),* 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 2020 business year, meetings were held as follows:

- The Supervisory Board met seven times.
- The Personnel Committee met four times.
- The Audit Committee met six times.
- The Nomination Committee met twice.
- The Strategy Committee did not meet.

With the exception of one meeting, at which one member was absent, all respective members attended all meetings of the Supervisory Board. With the exception of two meetings of the Nomination Committee, at each of which one member was absent, and one meeting of the Audit Committee, at which one member was absent, all respective members attended all meetings of the Supervisory Board's committees.

The meetings of the Supervisory Board and its committees since the beginning of the coronavirus pandemic in 2020 have been 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 with the additional option of virtual attendance via electronic communication and as completely virtual meetings solely via electronic communication.

🔗 For more information on the Supervisory Board's activities and resolutions in the 2020 business year, see the Report of the Supervisory Board from page 203 onward

📄 For an individual overview of meeting attendance, see basf.com/supervisoryboard/meetings

The Supervisory Board's Rules of Procedure and its committees can be found at basf.com/supervisoryboard

* Classified by the Supervisory Board as an "independent" member of the Supervisory Board (see page 172 for the criteria used to determine independence)

Competence profile, diversity concept and objectives for the composition of the Supervisory Board

■ Composition criteria: professional and personal qualifications, diversity, and independence

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. Individuals shall be nominated to the Annual Shareholders' Meeting for election to the Supervisory Board 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/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 new version of the German Corporate Governance Code, which was revised in 2019 (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. With the court appointment of the new Supervisory Board member Liming Chen on October 8, 2020, the competence area of digitalization – which is key to the future viability of BASF – will continue to be fully covered, despite the departure of Alexander C. Karp on July 22, 2020.

According to the Supervisory Board's assessment, 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. The same applies to employee representative Denise Schellemans, who has also been a member of the Supervisory Board since January 2008, and to employee representative Michael Vassiliadis, who has been a member of the Supervisory Board since August 2004.

For more information on the statutory minimum quotas for the number of women and men on the Supervisory Board, see the following section

The independent Supervisory Board members are named under Management and Supervisory Boards from page 180 onward

Commitments to promote the participation of women in leadership positions at BASF SE

■ Minimum quota on Supervisory Board, target figures for Board of Executive Directors and top management

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, the Supervisory Board determined that, in accordance with section 111(5) AktG for the second target-attainment period after the law's entry into force, which began on January 1, 2017, the Board of Executive Directors 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), and represents 16.7% as of January 1, 2020 (based on six Board members). With the appointment of Dr. Melanie Maas-Brunner to the Board of Executive Directors, effective as of February 1, 2021, there will be two female Board members. The proportion of women will be 33.3% upon Wayne T. Smith's departure on May 31, 2021.

The Board of Executive Directors also decided on target figures for the proportion of women in the two management levels below the Board of Executive Directors of BASF SE: Women are to make up 12.1% of the leadership level directly below the Board, and the level below that is to comprise 7.3% women. This corresponds to the status at the time these target figures were determined. The deadline for achieving the goals for the second target-attainment period was set for December 31, 2021. The goals for the second

target-attainment period were reached ahead of schedule at the end of 2019.

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 32

For more information on the inclusion of diversity, including promotion of women, see the chapter on Employees in the Management's Report on page 146

The November 2015 Employee Participation Agreement relevant to the composition of the Supervisory Board is available at basf.com/en/corporategovernance

Shareholders' rights

■ Shareholders' rights of co-administration and supervision at the 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 2020 Annual Shareholders' Meeting took place virtually without the physical presence of shareholders in accordance with special regulations prescribed by the COVID-19 Act passed by the lower house of the German parliament (Bundestag) in March 2020. 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. With a few amendments, these special policies are valid for Annual Shareholders' Meetings in 2021 as well.

Implementation of the German Corporate Governance Code

■ BASF SE follows all recommendations of German Corporate Governance Code

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 2020 by the Board of Executive Directors and Supervisory Board of BASF SE is rendered on page 210](#)

 [For more information on the Declaration of Conformity 2020, the implementation of the Code's suggestions and the German Corporate Governance Code, see \[basf.com/en/corporategovernance\]\(https://basf.com/en/corporategovernance\)](#)

Disclosures according to section 315a(1) of the German Commercial Code (HGB)¹ 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, 2020, 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 a new 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,

¹ In the version applicable to the Financial Statements and Management's Report for the 2020 fiscal year pursuant to Article 83 of the Introductory Act on the German Commercial Code (EGHGB)

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(1) 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.

An overview of the BASF shares held by individual members of the Board of Executive Directors can be found at basf.com/shares-held

Share dealings of the Board of Executive Directors and Supervisory Board¹

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 (e.g., shares, bonds, options, forward contracts, swaps) to the Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht) and to the company if transactions within the calendar year exceed the threshold of €20,000. In 2020, 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 17 and 10,000 BASF shares or BASF ADRs (American Depositary Receipts). The price per share was between €38.99 and €66.49. The volume of the individual trades was between €978.29 and €479,087.94. The disclosed share transactions are published on BASF SE's website.

For more information on securities transactions reported in 2020, see basf.com/en/directorsdealings

Information on the auditor

The Annual Shareholders' Meeting of June 18, 2020, 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 2020 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. After completing the tendering process, KPMG can now be

proposed for election at the Annual Shareholders' Meeting as BASF's auditor without further tendering processes up to and including the 2025 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 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 €1.2 million in 2020. This represents around 6.1% of the fees for auditing the financial statements.

For more information, see Note 32 to the Consolidated Financial Statements on page 312

¹ Obligatory reportable and publishable directors' dealings under Article 19(1) of the E.U. Market Abuse Regulation 596/2014 (MAR)

Compliance

Our Group-wide Compliance Program aims to ensure adherence to legal regulations, the company's internal guidelines and ethical business practices. Our employee Code of Conduct firmly embeds these mandatory standards into 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

- Integrated into corporate values
- Regular compliance training for employees
- New Code of Conduct "We are BASF"

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.

BASF's global Code of Conduct from 2013 was thoroughly revised and republished in June 2020. The content of the new Code of Conduct is fundamentally the same as that of the previous global Code of Conduct but has been supplemented with specific additional topics. New sections include "Digital Responsibility" and "How We Make Decisions." A greater emphasis is placed on the importance of raising concerns openly and speaking up when our gut feeling tells us to. A further focus of the new version is its modern design, which offers employees more user-friendly features such as

The structure of BASF's Code of Conduct

We Care <ul style="list-style-type: none"> – Our Code of Conduct – How We Make Decisions – We Always Speak Up – We Lead Integrity 	We Earn Trust <ul style="list-style-type: none"> – Anti-Corruption – Trade Control – Anti-Money Laundering 	We Play Fair <ul style="list-style-type: none"> – Antitrust Laws – Gifts and Entertainment – Conflicts of Interest 	We Respect <ul style="list-style-type: none"> – Human Rights, Labor and Social Standards – Environmental Protection, Health and Safety 	We protect <ul style="list-style-type: none"> – Sensitive Company Information – Personal Data – Digital Responsibility – Company Property – Accurate Books and Records
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case studies, FAQs and additional references. A new internal online platform and the corresponding app are available to employees worldwide, providing them continuously with up-to-date content, interactive educational options as well as direct contact to subject specialists.

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. 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. In addition, the new Code of Conduct contains a section dedicated to leading with integrity. Newly appointed senior executives therefore receive special training on compliance. Course materials and formats are constantly updated, taking into account the specific risks of individual target groups and business areas. In total, more than 42,000 participants worldwide received around 54,000 hours of compliance training in 2020.

For more information on the BASF Code of Conduct, see basf.com/code_of_conduct

Code of Conduct

is the core of our Compliance Program

More than 42,000

Participants in compliance training

61 internal audits

conducted on compliance

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. Thanks to the early introduction of our compliance standards, which were consolidated in our global Code of Conduct in 2013 and republished in June 2020 in our currently applicable global Code of Conduct, these 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.

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 Corporate Compliance unit and more than 100 compliance officers worldwide in the regions and countries as well as in the divisions. 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 managers, specialist departments, such as the Legal department, and company compliance officers. The new internal platform and 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. All hotlines

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 2020, 387 calls and emails were received by our external hotlines (2019: 408). 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 2020, violations of our Code of Conduct led to termination of employment in a total of 31 cases (2019: 52). This relates to all employee groups, including senior 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 2020, 61 Group-wide audits of this kind were performed (2019: 86). 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.

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 approach considers taxes paid by BASF to be a social advantage.

In 2020, we developed and published our BASF tax principles, which are binding for all Group entities.

📖 For more information on the Supplier Code of Conduct and supplier assessments, see page 113 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, 2020.

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. As of February 1, 2021, the Board of Executive Directors therefore temporarily comprises seven members and, following a transition period, will again be reduced to six members with the departure of Wayne T. Smith as of May 31, 2021. Some of the responsibilities within the Board of Executive Directors will be 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:

Dr. Martin Bruder Müller

Chairman of the Board of Executive Directors
Degree: Chemistry, 59 years old, 33 years at BASF

Responsibilities: Corporate Legal, Compliance, Tax & Insurance; Corporate Development; Corporate Communications & Government Relations; Corporate Human Resources; Corporate Investor Relations

First appointed: 2006, **term expires:** 2023

Dr. Hans-Ulrich Engel

Vice Chairman of the Board of Executive Directors
Degree: Law, 61 years old, 33 years at BASF

Responsibilities: Corporate Finance; Corporate Audit; Global Business Services; Global Digital Services; Global Procurement

First appointed: 2008, **term expires:** 2023

Internal memberships within the meaning of section 100(2) of the German Stock Corporation Act:

Wintershall Dea GmbH (Chairman of the Supervisory Board until July 31, 2020, Deputy Chairman of the Supervisory Board since August 1, 2020)

Wintershall AG (Chairman of the Supervisory Board)

Comparable German and non-German supervisory bodies:

Nord Stream AG (member of the Shareholders' Committee)

Saori Dubourg

Degree: Business, 49 years old, 24 years at BASF

Responsibilities: Agricultural Solutions; Care Chemicals; Nutrition & Health; Bioscience Research (until January 31, 2021); Europe

First appointed: 2017, **term expires:** 2025

Internal memberships within the meaning of section 100(2) of the German Stock Corporation Act:

Wintershall Dea GmbH (member of the Supervisory Board)

Michael Heinz

Degree: MBA, 56 years old, 37 years at BASF

Responsibilities until May 31, 2021: Corporate Environmental Protection, Health & Safety; European Site & Verbund Management; Global Engineering Services; South America

Responsibilities from June 1, 2021: Monomers; Performance Materials; Petrochemicals; Intermediates; North America; South America

First appointed: 2011, **term expires:** 2024

Internal memberships within the meaning of section 100(2) of the German Stock Corporation Act:

Wintershall Dea GmbH (member of the Supervisory Board)

Comparable German and non-German supervisory bodies:

BASF Antwerpen N.V. (Chairman of the Administrative Council)

Dr. Markus Kamieth

Degree: Chemistry, 50 years old, 22 years at BASF

Responsibilities: Catalysts; Coatings; Dispersions & Pigments; Performance Chemicals; Advanced Materials & Systems Research (until January 31, 2021); BASF New Business (until January 31, 2021); Greater China; South & East Asia, ASEAN & Australia/New Zealand; Mega Projects Asia

First appointed: 2017, **term expires:** 2025

Comparable German and non-German supervisory bodies:

Solenis UK International Ltd. (member of the Board of Directors)

Dr. Melanie Maas-Brunner (since February 1, 2021)

Degree: Chemistry, 52 years old, 24 years at BASF

Responsibilities until May 31, 2021: Advanced Materials & Systems Research; Bioscience Research; Process Research & Chemical Engineering; BASF New Business

Responsibilities from June 1, 2021: 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

First appointed: 2021, **term expires:** 2024

Wayne T. Smith

Degrees: Chemical Engineering, MBA, 60 years old, 17 years at BASF

Responsibilities until May 31, 2021: Monomers; Performance Materials; Petrochemicals; Intermediates; Process Research & Chemical Engineering (until January 31, 2021); Market & Business Development, Site & Verbund Management North America; Country Platforms North America

First appointed: 2012, **term expires:** 2021

Comparable German and non-German supervisory bodies:

Inter Pipeline Ltd. (member of the Board of Directors since May 7, 2020)

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 Chairman of the Supervisory Board, Dr. Jürgen Hambrecht, resigned his Supervisory Board mandate as of the conclusion of the Annual Shareholders' Meeting on June 18, 2020. The Annual Shareholders' Meeting on June 18, 2020, appointed Dr. Kurt Bock to the Supervisory Board as his successor, who was elected as the new Chairman of the Supervisory Board in the subsequent Supervisory Board meeting. The Supervisory Board member Dr. Alexander C. Karp resigned from the Supervisory Board at the end of the Supervisory Board meeting on July 22, 2020. The Ludwigshafen local court (*Amtsgericht*) appointed Liming Chen as a substitute member effective October 8, 2020. Accordingly, the Supervisory Board comprises the following members:

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)

Member of the Supervisory Board since: June 18, 2020

Memberships of statutory supervisory boards in Germany:

Fuchs Petrolub SE³ (chair)

Bayerische Motoren Werke Aktiengesellschaft³ (member)

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises: none

Franz Fehrenbach, Stuttgart, Germany¹

Vice Chairman of the Supervisory Board of BASF SE

Chairman of the Supervisory Board of Robert Bosch GmbH

Member of the Supervisory Board since: January 14, 2008

Memberships of statutory supervisory boards in Germany:

Robert Bosch GmbH⁴ (chair)

Stihl AG³ (Stihl Holding AG & Co. KG group company) (vice chair)

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises:

Stihl Holding AG & Co. KG⁴ (member of the Advisory Board)

Linde plc³ (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

Member of the Supervisory Board since: May 12, 2017

Memberships of statutory supervisory boards in Germany: none

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises: none

Prof. Dr. Thomas Carell, Munich, Germany*¹

Professor for Organic Chemistry at Ludwig Maximilian University Munich

Member of the Supervisory Board since: May 3, 2019

Memberships of statutory supervisory boards in Germany: none

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises: none

Dame Alison Carnwath DBE, Exeter, England*¹

Senior Advisor Evercore Partners

Member of the Supervisory Board since: May 2, 2014

Memberships of statutory supervisory boards in Germany: none

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises:

Zurich Insurance Group AG³ (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)

BP plc³ (non-executive director until January 15, 2021)

PACCAR Inc.³ (independent member of the Board of Directors)

Coller Capital Ltd.⁴ (non-executive member of the Board of Directors)

Broadwell Capital Limited⁴ (non-executive member of the Board of Directors)

Liming Chen, Beijing, China*¹

Chairman of IBM Greater China Group

Member of the Supervisory Board since: October 8, 2020

Memberships of statutory supervisory boards in Germany: none

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises:

IBM China Investment Company Ltd.⁴ (chair, intragroup membership)

IBM (China) Company Ltd.⁴ (chair, intragroup membership)

IBM Global Services (DaLian) Company Limited⁴ (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)

* Classified by the Supervisory Board as an "independent" member of the Supervisory Board (see page 172 for the criteria used to determine independence)

¹ Shareholder representative

² Employee representative

³ Publicly listed

⁴ Not publicly listed

Tatjana Diether, Limburgerhof, Germany*²

Member of the Works Council of BASF SE, Ludwigshafen Site, and of the BASF Works Council Europe

Member of the Supervisory Board since: May 4, 2018

Memberships of statutory supervisory boards in Germany: none

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises: none

Waldemar Helber, Otterbach, Germany*²

Deputy Chairman of the Works Council of BASF SE, Ludwigshafen Site

Member of the Supervisory Board since: April 29, 2016

Memberships of statutory supervisory boards in Germany: none

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises: none

Anke Schäferkordt, Cologne, Germany*¹

Member of the Supervisory Board

Member of the Supervisory Board since: December 17, 2010

Memberships of statutory supervisory boards in Germany: Serviceplan Group Management SE,⁴ partner with unlimited liability of Serviceplan Group SE & Co. KG (member)
Bayerische Motoren Werke Aktiengesellschaft³ (member since May 14, 2020)

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises:

Wayfair Inc.³ (non-executive director)

Denise Schellemans, Brecht, Belgium²

Full-time trade union delegate

Member of the Supervisory Board since: January 14, 2008

Memberships of statutory supervisory boards in Germany: none

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises: none

Roland Strasser, Riedstadt, Germany*²

Regional Manager of the Rhineland-Palatinate/Saarland branch of IG BCE

Member of the Supervisory Board since: May 4, 2018

Memberships of statutory supervisory boards in Germany: AbbVie Komplementär GmbH⁴ (member)
V & B Fliesen GmbH⁴ (member)

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises: none

Michael Vassiliadis, Hannover, Germany²

Chairman of the Mining, Chemical and Energy Industries Union

Member of the Supervisory Board since: August 1, 2004

Memberships of statutory supervisory boards in Germany: Steag GmbH⁴ (member)
RAG Aktiengesellschaft³ (vice chair)
Henkel AG & Co. KGaA³ (member)
Vivawest GmbH⁴ (member)

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises: none

The following member left the Supervisory Board on June 18, 2020**Dr. Jürgen Hambrecht, Neustadt an der Weinstraße, Germany*¹**

Chairman of the Supervisory Board of BASF SE (until June 18, 2020)

Former Chairman of the Board of Executive Directors of BASF SE (until May 2011)

Member of the Supervisory Board since: May 2, 2014

Memberships of statutory supervisory boards in Germany:

Trumpf GmbH & Co. KG⁴ (chair)

Daimler AG³ (member)

Daimler Truck AG³ (member)

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises: none

The following member left the Supervisory Board on July 22, 2020**Dr. Alexander C. Karp, Palo Alto, California*¹**

CEO Palantir Technologies Inc.

Member of the Supervisory Board since: May 3, 2019

Memberships of statutory supervisory boards in Germany: none

Memberships of comparable domestic and foreign supervisory bodies of commercial enterprises: none

* Classified by the Supervisory Board as an "independent" member of the Supervisory Board (see page 172 for the criteria used to determine independence)

¹ Shareholder representative

² Employee representative

³ Publicly listed

⁴ Not publicly listed

Compensation Report

This report outlines the main principles of the compensation for the Board of Executive Directors and discloses the amount and structure of the compensation of each Board member. Furthermore, it provides information on end-of-service undertakings with respect to members of the Board of Executive Directors, as well as information on the compensation of Supervisory Board members.

- New compensation system for Board of Executive Directors applied for the first time in 2020
- The one-year variable compensation is 70% below the prior-year level (sum of performance bonus part 1 and part 2)
- Members of the Board of Executive Directors voluntarily relinquished 20% of their fixed compensation in the second quarter of 2020

This report meets the disclosure requirements of the German Commercial Code, supplemented by the additional requirements based on the German Act on the Disclosure of Management Board Remuneration (VorstOG) as well as the German Act on the Appropriateness of Management Board Remuneration (VorstAG), and is aligned with the recommendations of the German Corporate Governance Code (GCGC) in the version dated December 16, 2019. The existing system of compensation for the Board of Executive Directors was amended as of January 1, 2020, by resolution of the Supervisory Board in order to meet the changed requirements from the 2020 fiscal year onward arising from the German Act Implementing the Second E.U. Shareholder Rights Directive (ARUG II), which also entered into force on January 1, 2020, and from the German Corporate Governance Code (GCGC) in the version dated December 16, 2019. The amended compensation system for members of the Board of Executive Directors was approved by the Annual Shareholders' Meeting on June 18, 2020. Significant changes apply to the variable compensation and the pension benefits. The amended and

simplified system of compensation for members of the Board of Executive Directors has been applicable since January 1, 2020, for all service contracts for members of the Board of Executive Directors.

Principles

The compensation of the Board of Executive Directors is determined by the company's size, complexity and financial position, as well as the performance of the Board of Executive Directors as a whole (*Gesamtvorstand*). It is designed to contribute to sustainable corporate development and the achievement of strategic corporate goals. The long-term strategic goals communicated as part of BASF's strategy form the key performance indicators for the short-term and long-term variable compensation and thus foster the sustainable development of the company.

- The strategic target “**yield**” refers to an annual return on capital employed (ROCE) above the cost of capital percentage. The ROCE serves as the key performance indicator for determining the performance bonus (**short-term incentive, STI**).
- The strategic targets “**growth**,” “**profitability**” and “**CO₂-neutral growth until 2030**” are represented in the new **long-term incentive (LTI)** program. The final number of performance share units (PSUs) is determined based on the level of target achievement for the three strategic targets over the entire four-year period of the LTI program.

By taking into account the total shareholder return (development of the share price and dividend), the new LTI enables both members of the Board of Executive Directors and shareholders to participate in the sustainable development of the company.

The compensation of the Board of Executive Directors is marked by a pronounced variability in relation to the performance of the Board of Executive Directors as a whole and the BASF Group's success. The external and internal appropriateness of the Board's compensa-

tion is reviewed by an independent external auditor on a regular basis. DAX companies in Germany and globally operating companies in the rest of Europe¹ serve as an external reference.

For internal comparison, the compensation of senior executives and employees of BASF SE is considered in total as well as over time.

Based on a proposal by the Personnel Committee, the Supervisory Board determines the structure and amount of compensation of members of the Board of Executive Directors. In the event of significant amendments, but at least every four years, the compensation system resolved by the Supervisory Board is presented to the Annual Shareholders' Meeting for approval.

In very exceptional cases (such as a severe economic crisis), the Supervisory Board can temporarily deviate from the components of the compensation system (procedures and rules on the compensation structure and amount as well as relating to the individual compensation components) for the Board of Executive Directors, if this is in the interest of the long-term well-being of the company.

 For more information on the Supervisory Board and its committees, see page 181 and from page 205 onward

¹ The European peer group for the 2019 appropriateness review comprised the following companies: ABB, Air Liquide, Akzo Nobel, BAE Systems, Bayer, BHP, BMW, BP, Continental, Daimler, DSM, E.ON, EDF, Henkel, Linde, Rolls Royce, Royal Dutch Shell, Siemens, Solvay, Thyssenkrupp, Total, Volkswagen.

Overview of compensation system

Non-performance-related compensation	1. Fixed salary	Annual amount	€800,000 ^a
		Payment in equal instalments	
	2. Fringe benefits	Annual target	€50,000 ^a
		Cap	€100,000 ^b corresponds to 200% of the annual target amount
	3. Company pension benefits	Annual target	€500,000 ^a
		Fixed annual pension contribution	
Performance-related compensation	4. Short-term incentive (STI) with one-year performance period	Annual target	€1,000,000 ^a
		Cap	€2,000,000 ^a corresponds to 200% of the annual target amount
		Payment after the Annual Shareholders' Meeting for the past fiscal year	
	5. Long-term incentive (LTI) Performance Share Plan with four-year performance period	Annual target	€1,400,000 ^a
		Cap	€2,800,000 ^a corresponds to 200% of the annual target amount
		Payment after the Annual Shareholders' Meeting following the four-year performance period	

^a Two times this value for the chair of the Board of Executive Directors and 1.33 times this value for the vice chair

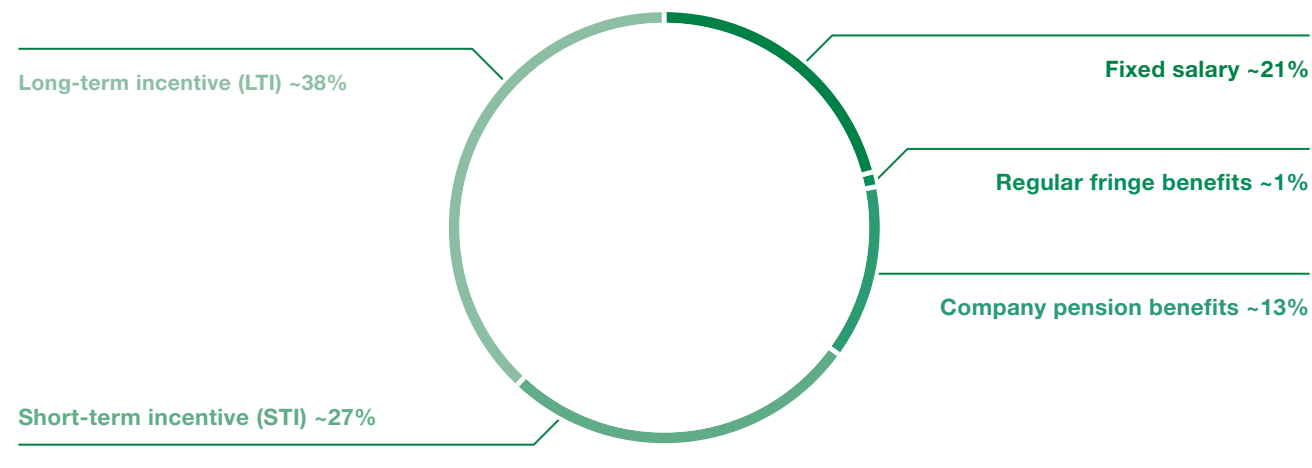
^b The amount represents the target or maximum amount for the 2020 fiscal year for regularly granted fringe benefits. If one-off fringe benefits and/or transfer-related fringe benefits are granted in individual cases, the maximum amounts specified for this also apply.

Since January 1, 2020, the compensation system for the Board of Executive Directors contains the components listed in the overview with the target and maximum amounts valid for the 2020 fiscal year.

Components of the compensation system also include a withholding and clawback clause for variable compensation components as well as a Share Ownership Guideline, which obliges members of the Board of Executive Directors to hold a defined number of shares for the length of their Board mandate and beyond.

The relative proportions of the individual compensation components in the target total remuneration of members of the Board of Executive Directors are:

Relative proportions of the compensation components in annual target total remuneration^a



^a In individual cases, slight deviations are possible due to rounding.

rental costs and school fees at the assignment location, or the granting of a basic allowance and the assumption or reimbursement of additional taxes. The fringe benefits granted by the company are capped.

The members of the Board are covered by a directors' and officers' liability insurance (D&O insurance) concluded by the company, which includes a deductible. This policy provides for the level of deductibles for the Board of Executive Directors as prescribed by section 93(2) sentence 3 of the German Stock Corporation Act.

Individual compensation components

1. Fixed salary

The fixed salary is a set amount of yearly compensation paid out in equal installments. It is regularly reviewed by the Supervisory Board and adjusted, when appropriate.

The annual fixed salary for a member of the Board of Executive Directors has been €800,000 since January 1, 2017. The fixed salary for the chair of the Board of Executive Directors is two times the value for a Board member, and 1.33 times this value for the vice chair.

2. Nonmonetary compensation and other additional compensation (fringe benefits)

Members of the Board of Executive Directors receive various fringe benefits, in some instances event-related fringe benefits. The regularly provided fringe benefits include accident insurance premiums, transportation and benefits from the provision of security measures by the company. The one-time, event-related fringe benefits include, inter alia, security measures at the member's private residence upon initial appointment to the Board of Executive Directors. The delegation-related fringe benefits for members of the Board of Executive Directors who are based abroad include fringe benefits to cover additional costs of transfers, such as assumption of prevailing local

3. Company pension benefits

The previous pension benefits granted to members of the Board of Executive Directors (Board Performance Pension, deferred compensation program and basic coverage under BASF Pensionskasse) were discontinued as of January 1, 2020, and replaced by a new defined contribution pension.

Company pension benefits

- Defined contribution pension commitment in the form of an external capital investment model
- Pension entitlement: retirement, disability and surviving dependents' pensions
- Possibility to opt out in favor of an annual pension allowance

Since January 1, 2020, the company offers members of the Board of Executive Directors a defined contribution pension commitment in the form of a capital investment model. The company grants the members of the Board of Executive Directors a fixed annual pension plan contribution:

- For the purpose of building retirement assets (retirement capital), the company pays pension contributions into an investment model to be chosen by the company. The pension account is managed by an external provider. The performance of the paid-in contributions is determined by the returns generated by the investment model. However, each member of the Board of Executive Directors is guaranteed a benefit of least 80% of the amount of the pension contributions paid by the company.
- The pension benefits include disability and survivor benefits. The disability capital corresponds to the value of the pension account at the time the disability occurs, but at least to 80% of the sum of the pension contributions paid by the company. The surviving dependents capital corresponds to the value of the pension account at the time of death of the member of the Board of Executive Directors, but at least to 80% of the sum of the pension contributions paid by the company.

- Members of the Board of Executive Directors can choose a pension allowance for private retirement savings instead of the defined contribution pension commitment. In this case, the defined annual pension contribution amount is paid in equal monthly installments as a gross amount to the member of the Board of Executive Directors. In this case, there is no further claim to benefits following the conclusion of the Board mandate, since the annual pension contribution is paid as a gross amount to the Board member in equal monthly installments during the term of the mandate.

For future entitlements from the new defined contribution pension commitment in the form of a capital investment model, the following applies:

- The pension benefit is paid as a capital payment, possibly in as many as 10 installments. Moreover, there is the possibility of choosing an annuity (lifetime pension payment).
- For conversion into an annuity, the actuarial parameters relevant at this point in time are used.
- If the member of the Board of Executive Directors dies while receiving the annuity, the surviving spouse receives a survivor benefits pension corresponding to 60% of the annuity. The same applies for civil partners.
- Current pensions are increased annually by 1% as of January 1.

4. Short-term incentive (STI)

Short-term incentive (STI)

- One-year performance period
- The amount of the STI is based on the achievement of set operational and strategic targets as well as the BASF Group's ROCE.
- The payout is limited to 200% of the target amount (cap).
- The payment occurs after the Annual Shareholders' Meeting following the fiscal year.

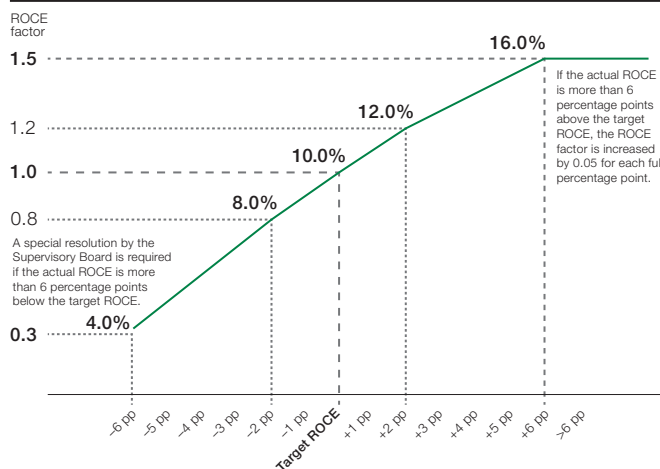
For each fiscal year, an STI with a one-year performance period is granted. The STI is based on the achievement of operational and strategic goals as well as the return on capital employed (ROCE), which is relevant for the compensation of all employees. The actual STI amount is paid out after the Annual Shareholders' Meeting in the following year.

With the ROCE as the key performance indicator for the variable compensation, the short-term variable compensation is directly linked to the company's operating success and aligned with the BASF Group's financial goal of earning a premium on the cost of capital. The ROCE of the particular fiscal year serves as the key performance indicator for the success of the company when determining the STI. ROCE is the ratio of income from operations (EBIT) of the segments in relation to the average operating assets of the segments, plus the customer and supplier financing not included there.

For more information on operating assets, see Value-Based Management on page 33

The target ROCE for the variable compensation is one percentage point above the cost of capital percentage for the fiscal year, which is determined using the weighted average cost of capital (WACC) approach in accordance with the capital asset pricing model. A ROCE factor is assigned to each relevant ROCE value. If the ROCE is two percentage points or more below the target ROCE, the ROCE factor will decline at a faster rate. The ROCE factor will increase at a slower rate if the ROCE is two percentage points or more above the target ROCE.

ROCE factor



The ROCE factor is 1.0 if the ROCE achieved in the fiscal year is one percentage point above the weighted cost of capital percentage (based on the WACC in accordance with the capital asset pricing model) for that year, meaning an appropriate premium on the cost of capital was earned.

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 plus or minus 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.

The Supervisory Board sets a maximum amount for the STI (cap). The current cap is €2,000,000 for a member of the Board of Executive Directors. The maximum amount for the chair of the Board of Executive Directors is two times this value, and 1.33 times this value for the vice chair.

For the fiscal year 2020, the target ROCE was 10% with a cost of capital percentage of 9%. This figure is reviewed and communicated annually. In order to assess the sustainable performance of the Board of Executive Directors, each year the Supervisory Board sets a target agreement with the Board of Executive Directors as a whole. The target agreement contains:

- One-year operational targets, primarily earnings, financial and operational excellence targets. This includes, for example, EBIT before special items.
- One-year strategic targets relating to the further development of BASF, primarily targets for growth, portfolio optimization, investment and R&D strategy, digitalization, sustainability and BASF corporate values.

These targets are in line with the outlook published in the forecast. A performance factor with a value between 0 and 1.5 is determined on the basis of the target achievement ascertained by the Supervisory Board. A target achievement rate of 100% equates to a value of 1.0 for the performance factor.

Target achievement and performance factor

Target achievement	≤50%	75%	100%	≥125%
Performance factor	0	0.5	1.0	1.5

Values between these figures are interpolated

The payout of the STI is determined as follows:

$$\text{Target STI} \times \text{ROCE factor} \times \text{Performance factor} = \text{STI payout (gross)}$$

The payout is limited to 200% of the target amount (cap).

For more information on the determination of the cost of capital percentage, see Value-Based Management on page 33

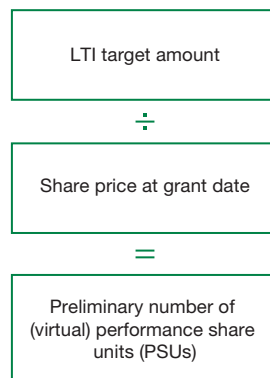
5. Long-term incentive (LTI)

The LTI plan incentivizes the achievement of strategic goals and takes into consideration the development of the BASF share and dividend (Total Shareholder Return) over a period of four years. The LTI is also offered with slight variations to senior executives of the BASF Group.

Long-term incentive (LTI)

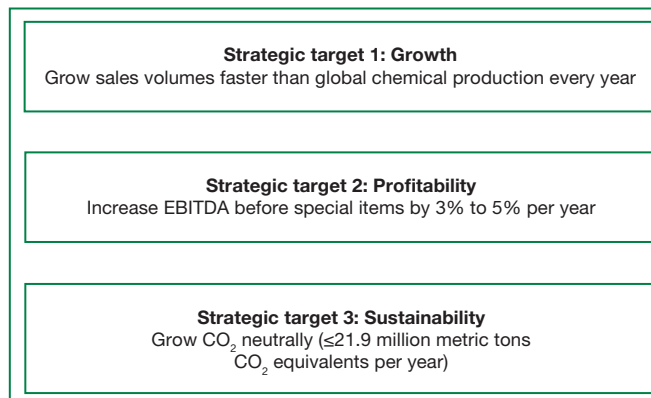
- Four-year performance period
- The payout amount is determined by the achievement of three agreed strategic targets (growth, profitability, sustainability) and the performance of the BASF share plus the dividends paid (total shareholder return).
- The payout is limited to 200% of the target amount (cap).
- The payout occurs in May following the Annual Shareholders' Meeting after the end of the four-year performance period.

Grant (year 1)

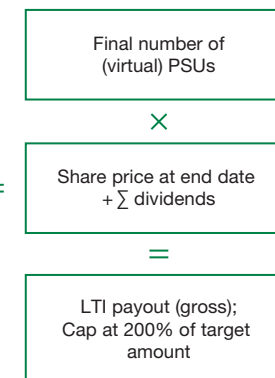


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Achievement of strategic targets over a four-year performance period



Payout (after year 4)



Grant: For each fiscal year, an LTI plan with a four-year performance period will be granted. The target amount will be converted into a preliminary number of virtual performance share units (PSUs). To undertake this conversion, the target amount is divided by the average price of the BASF share in the fourth quarter of the year prior to the beginning of the respective plan.

Targets and target achievement: At the beginning of the four-year performance period, the Supervisory Board defines three strategic targets. Depending on the achievement of these strategic targets over the four-year performance period, the number of PSUs can increase or decline. To determine this, the number of provisional PSUs at the end of the four years is multiplied by the weighted target achievement rate for the three strategic targets.

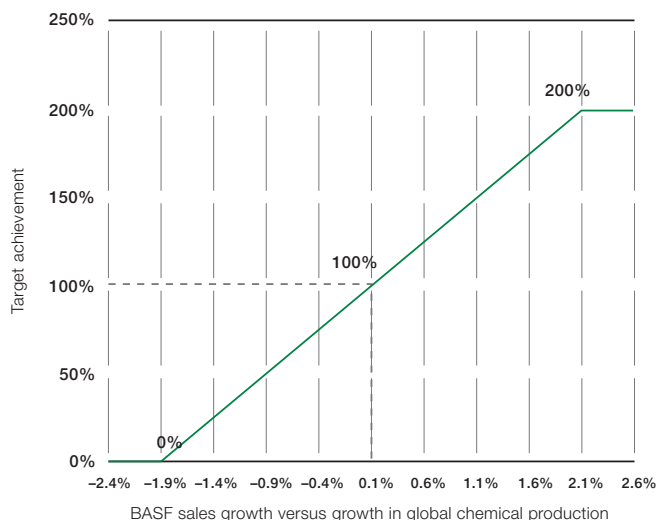
Payout: The final number of PSUs determined in this way is multiplied by the average share price of the BASF share in the fourth quarter of the last year of the four-year performance period plus the cumulative dividend payments in the four fiscal years of the performance period. The payout amount of the LTI therefore reflects not only the achievement of the strategic targets but also the development of BASF's total shareholder return. The actual LTI amount is paid out after the Annual Shareholders' Meeting in the year following the end of the four-year performance period. The payout is limited to 200% of the target amount (cap).

Determination of target achievement: For each of the three strategic targets, at the beginning of the four-year performance period the Supervisory Board defines a target value, which corresponds to a target achievement of 100%, as well as a minimal value, a maximum value and a target achievement curve.

For each strategic target, the target achievement rate is determined on an annual basis. At the end of the four-year performance period, the arithmetic mean of the four annual target achievement rates is calculated. The resulting average target achievement rates for the individual strategic targets are combined according to the defined weighting to reach a weighted target achievement. The preliminary number of PSUs is multiplied by the weighted target achievement in order to determine the final number of PSUs.

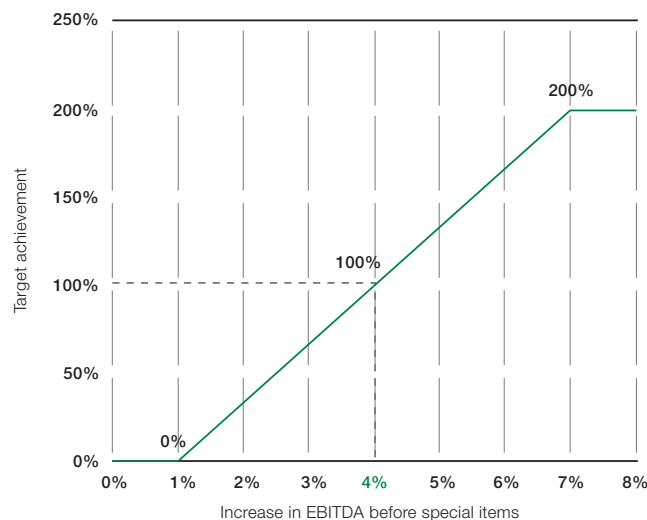
For the LTI plan 2020 (performance period 2020–2023) the following targets as communicated by the BASF corporate strategy (see BASF Report 2019, page 27) apply:

Strategic target 1: Grow sales volumes faster than global chemical production every year



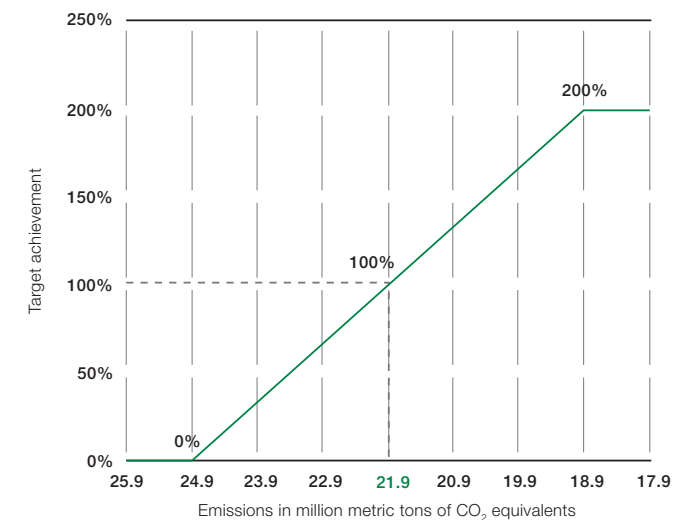
- The target is 100% achieved if BASF grows 0.1 percentage points faster than global chemical production (**target value**).
- If this target value is undercut by two percentage points or more, the target achievement is 0% (**minimum value**).
- If the target value is exceeded by two percentage points or more, the target achievement is 200% (**maximum value**).
- Intermediate values are determined by linear interpolation.
- The target achievement for the entire performance period 2020–2023 is calculated as the arithmetic mean of the degree of target achievements of each of the four years.

Strategic target 2: Increase EBITDA before special items by 3% to 5% per year



- With an EBITDA before special items increase by 4% (i.e., in the middle of the communicated target corridor of 3% to 5%), the target achievement is 100% (**target value**).
- If EBITDA before special items increases by 7% or more, the target achievement is 200% (**maximum value**).
- Intermediate values are determined by linear interpolation.
- The starting point for setting the four-year targets is the EBITDA before special items in the year before the start of the four-year performance period.
- The target achievement for the entire performance period 2020–2023 is calculated as the arithmetic mean of the degree of target achievements of each of the four years.

Strategic target 3: Grow CO₂-neutrally until 2030



- With emissions of 21.9 million metric tons of CO₂ equivalents per year, the target achievement is 100% (**target value**).
- With emissions of 24.9 million metric tons of CO₂ equivalents per year or more, the target achievement is 0 (**minimum value**).
- With emissions of 18.9 million metric tons of CO₂ equivalents per year or less, the target achievement is 200% (**maximum value**).
- Intermediate values are determined by linear interpolation.
- The target achievement for the entire performance period 2020–2023 is calculated as the arithmetic mean of the degree of target achievements of each of the four years.

Share Ownership Guideline

For the duration of their mandate, members of the Board of Executive Directors are obligated to hold a defined number of shares in the company. The number of shares that must be held for a longer term is determined at the beginning of the Board of Executive Directors mandate (for current members of the Board of Executive Directors as of January 1, 2020) and generally corresponds to a value representing 150% of the member's annual gross fixed salary on that date. The conversion into a number of shares to be held is carried out using the average price of the BASF share in the fourth quarter of the year prior to the start of the first-time share ownership guideline.

The number of shares to be held rises accordingly with any increase in the amount of fixed salary. The share ownership obligation ends two years after the end of the mandate of the member of the Board of Executive Directors (post-mandate share ownership obligation). When members are first appointed to the Board of Executive Directors, they have until the end of the fourth calendar year following the initial appointment to fulfill this share ownership obligation (built-up phase). The built-up phase also applies for members of the Board of Executive Directors who were members as of January 1, 2020, regardless of when they were first appointed, with the stipulation that the share ownership obligation be fulfilled by December 31, 2023.

Members of the Board of Executive Directors must acquire the shares with after-tax net income. It was confirmed to the Supervisory Board that, taking into account the build-up phase, all members of the Board of Executive Directors held the required number of BASF shares or ADRs¹ as of December 31, 2020.

Withholding and clawback clause

The withholding and clawback provisions remain unchanged for the STI and LTI. In the event that a Board member commits a serious infringement of the Code of Conduct of BASF Group or of the duty of care as a member of the management of the company, this provision allows for a reduction or cancellation of not yet paid variable compensation as well as the clawback of variable compensation paid out since January 1, 2018. In the years 2019 and 2020, no use was made of the possibility to claw back, reduce or cancel the not yet paid variable compensation.

¹ BASF ADRs (American Depositary Receipts); four BASF ADRs correspond to one BASF share.

Maximum compensation

The total compensation is capped in accordance with the recommendation of the German Corporate Governance Code (GCGC). By establishing a maximum amount (cap) for the STI and the LTI, the

amount of both variable compensation components is limited. The maximum compensation levels based on the current target compensation for members of the Board of Executive Directors are presented in the following overview:

€	Member of the Board of Executive Directors		Vice chair of the Board of Executive Directors		Chair of the Board of Executive Directors	
	Target compensation	Maximum compensation	Target compensation	Maximum compensation	Target compensation	Maximum compensation
Fixed salary	800,000	800,000	1,064,000	1,064,000	1,600,000	1,600,000
Regularly provided fringe benefits	50,000	100,000 ^a	50,000	100,000 ^a	50,000	100,000 ^a
Company pension benefits	500,000	500,000	665,000	665,000	1,000,000	1,000,000
STI amount	1,000,000	2,000,000 ^b	1,330,000	2,660,000 ^b	2,000,000	4,000,000 ^b
LTI amount	1,400,000	2,800,000 ^b	1,862,000	3,724,000 ^b	2,800,000	5,600,000 ^b
Total compensation 2020	3,750,000	6,200,000^c	4,971,000	8,213,000^c	7,450,000	12,300,000^c

^a This amount represents the maximum amount (200% of the target amount) in the fiscal year 2020 for regularly provided fringe benefits. For event-related fringe benefits, an additional maximum amount has been defined: €500,000 for a member of the Board of Executive Directors, €533,000 for the vice chair of the Board of Executive Directors and €600,000 for the chair of the Board of Executive Directors. For delegation-related fringe benefits, a maximum amount for a member of the Board of Executive Directors has been set at €3,000,000.

^b Corresponds to 200% of the annual target amount

^c From options rights granted in 2020 as a component of the 2019 compensation for the Board of Executive Directors, an additional maximum amount of €1,453,500 for a member of the Board of Executive Directors, €1,933,155 for the vice chair of the Board of Executive Directors and €2,907,000 for the chair of the Board of Executive Directors may be allocated.

The compensation for the Board of Executive Directors was last increased effective January 1, 2017. In the event that the Supervisory Board resolves to adjust the compensation amount prior to the next

scheduled say on pay on the compensation system by the Annual Shareholders' Meeting in 2024, the following maximum compensation amounts would not be exceeded:

€	Member of the Board of Executive Directors	Vice chair of the Board of Executive Directors	Chair of the Board of Executive Directors
Maximum compensation until next say on pay on the compensation system by the Annual Shareholders' Meeting	7,500,000 ^a	9,975,000 ^a	15,000,000 ^a

^a This amount contains the maximum amount (200% of the target amount) for regular fringe benefits. For event-related fringe benefits, an additional maximum amount has been defined: €500,000 for a member of the Board of Executive Directors, €533,000 for the vice chair of the Board of Executive Directors and €600,000 for the chair of the Board of Executive Directors. For delegation-related fringe benefits, a maximum amount for a member of the Board of Executive Directors has been set at €3,000,000.

BOP2020

Long-term, share price-based incentive program (LTI program)

LTI program BASF option program (BOP)

- The BASF option program was granted for the last time in 2020 and was replaced by the new LTI.
- Absolute performance threshold: BASF share price gains at least 30% compared with the base price for the LTI program concerned
- Relative performance threshold: BASF shares outperform the MSCI World Chemicals Index and no share price loss compared with the base price on the option grant date
- Share ownership guideline: mandatory individual investment in BASF shares with a holding obligation of 10% of the actual performance bonus (gross), plus up to an additional 20% of the actual performance bonus (gross)
- Term: eight years
- Exercise first possible: four years after the grant date (vesting period)
- Maximum exercise gain (cap): five times the individual investment

By resolution of the Supervisory Board, the BASF option program (BOP) was replaced by the new LTI as of January 1, 2020. The BOP is based on the STI paid out for the previous year and can therefore be considered delayed compensation for the preceding fiscal year. It was therefore offered for the last time in 2020, based on the performance bonus for 2019.

To take part in the program, each participant must prove an individual investment in BASF shares and hold the shares for this purpose for a defined period of time (holding period). The individual investment can amount to a maximum of 30% of the participant's performance bonus (gross) for the previous year.

The members of the Board of Executive Directors are obligated to invest at least 10% of their individual performance bonus (gross) for the previous year in the LTI program each year (share ownership obligation). This mandatory investment is subject to a holding period of four years. For any further additional voluntary investment of up to 20% of the performance bonus (gross) for the previous year, the general holding period of two years applies.

Four options are granted for each BASF share brought into the LTI program as an individual investment. After a four-year vesting period, there is a four-year exercise period during which the members of the Board of Executive Directors can exercise these options if performance thresholds are met. During the exercise period, the exercising of options is prohibited during certain periods (closed periods). Each member of the Board of Executive Directors can individually decide on the timing and extent of the exercising of options. Once the options are exercised, the computed value of the options is paid out in cash (cash settlement).

Each option consists of right A (absolute performance threshold) and right B (relative performance threshold), whose value is determined by different performance targets.

At least one of the two conditions must be met in order for the option to be exercised:

- Performance threshold, right A: BASF share price increases at least 30% compared with the base price on the option grant date for the LTI program concerned. The value of right A is calculated as the difference between the market price of BASF shares on the exercise date and the base price on the option grant date. It is limited to 100% of the base price (cap). The base price for an LTI program is the volume-weighted average share price in Deutsche Börse AG's electronic trading system (Xetra) on the first trading day after the Annual Shareholders' Meeting of BASF SE in the year in which the LTI program is granted. The base price for the LTI program granted in 2020 was €51.26 (2019: €68.21).

- Performance threshold, right B: The cumulative percentage performance of the BASF share exceeds that of the MSCI World Chemicals Index (outperformance) and the price of the BASF share on the exercise date equals at least the base price. The value of right B is calculated as the base price of the option multiplied by twice the outperformance of BASF shares on the exercise date. It is limited to the closing price on the date of exercise minus the computed nominal value of BASF shares.

In total, the maximum exercise gain (cap) is limited to five times the individual investment.

[For more information on the LTI program, see page 149 and page 310](#)

Provisions relating to the previous multi-year variable compensation components and to the previous pension plan

The still-running deferral components from the performance bonus 2018 (2018–2021) and 2019 (2019–2022) will be continued as planned and paid out in accordance with the terms of the previous program. To assess the strategic performance, the Supervisory Board will therefore determine a separate strategic performance factor (SPF) for each of the years 2020, 2021 and 2022. This SPF will serve exclusively to determine the average SPFs necessary for the deferral components of the performance bonus in accordance with the terms of the program.

The option rights granted under the previous BASF option program (BOP) and not yet exercised can continue to be exercised in accordance with the specified terms of the BOP for the Board of Executive Directors. Members of the Board of Executive Directors had the opportunity to participate for the last time in the BASF option program as of July 1, 2020, based on their performance bonus (gross) for the year 2019. The existing applicable minimum investment of 10% and the additional voluntary investment of up to 20% of the performance bonus (gross) for the previous year remain in effect unchanged. The option rights hereby granted are a component of the compensation for the Board of Executive Directors for the fiscal year 2019 and were granted in accordance with the previous program's terms as of July 1, 2020. Owing to the maximum program duration of eight years, exercise gains from the option program may be allocated to members of the Board of Executive Directors up until June 30, 2028, at the latest.

The pension entitlements acquired until December 31, 2019, under the previous pension benefits are maintained as vested rights and upon retirement, disability or death can be accessed by the member of the Board of Executive Directors or by the surviving dependents as a company pension or retirement capital in accordance with the previous rules.

Targets and determination of target achievement for the variable compensation components 2020

Performance bonus (short-term incentive, STI) 2020

The STI is based on an annual target agreement between the Supervisory Board and the Board of Executive Directors as well as on the return on capital employed (ROCE). These targets are in line with the outlook for 2020 published in the forecast. The amount of the STI is calculated by multiplying the target amount by the performance factor derived from the target achievement and by the ROCE factor. If the ROCE is below the threshold of 4%, the compensation system stipulates that the Supervisory Board determines the ROCE factor by special resolution, either as zero or a value larger than zero. If the ROCE factor is zero, the STI would also be zero, regardless of the achievement of the agreed operational and strategic targets.

In the year 2020, BASF Group's ROCE was 1.7% and thus below the target of earning a premium on the cost of capital as well as below the threshold for the ROCE. The main reasons for this were the slowdown in business – particularly in the second quarter – and the negative impact on earnings resulting from impairments to fixed assets.

As required by the compensation system, the Supervisory Board determined an ROCE factor of 0.3 by special resolution. This corresponds to the value that would be achieved with an ROCE of 4% and equates to half the level of 2019. The following factors were relevant in this decision:

The economic conditions in 2020 developed in an unforeseeable and exceptional way due to the coronavirus pandemic. The Board of Executive Directors reacted quickly, energetically and effectively, ensured the protection of employees and steered BASF well through this difficult phase with a focus on costs and liquidity.

At the same time, the Board of Executive Directors demonstratively took on social responsibility by, for example, producing and donating disinfectant for clinics and doctors' offices and by procuring masks. The Supervisory Board wants to expressly recognize these achievements. Moreover, efforts to advance BASF's strategic further development were unabated. Finally, the operational and strategic targets were largely achieved. Despite the decline in earnings, based on the target agreement, the performance factor amounts to 0.95:

- The EBIT target was clearly missed.
- The free cash flow target was not reached.
- The targets from the Excellence Program were exceeded.
- A further improvement in customer and employee satisfaction was achieved.
- Sales of products that make a substantial contribution to sustainability (Accelerators) increased.
- The target for investments in growth focus areas was met.

- Synergies from acquisitions and joint ventures were above the target level.

Based on the defined parameters, the performance bonus for a full-year member of the Board of Executive Directors is calculated as shown below. In light of the exceptional circumstances and the achievements of the Board of Executive Directors in 2020, the Supervisory Board considers this bonus to be appropriate and fair. The Supervisory Board did not make use of the possibility, in very exceptional cases (such as a severe economic crisis), to temporarily deviate from the components of the compensation system for the Board of Executive Directors.

Target amount performance bonus, STI 2020:	×	ROCE factor 2020:	×	Performance factor 2020:	=	STI payout (gross):
€1,000,000		0.3		0.95		€285,000

LTI target achievement for the performance year 2020

The rates of target achievement for the first year of the four-year performance period 2020–2023 of the 2020 LTI program were as follows:

Strategic targets for the LTI 2020 (2020–2023)

		Target/ benchmark 2020	Actual 2020	Target achievement in %
Grow sales volumes faster than global chemical production every year	(in %)	–0.4	–0.5	90 ^a
Increase EBITDA before special items by 3% to 5% per year	(in %)	4.0	–9.5 ^b	0
CO ₂ -neutral growth, i.e., emissions no greater than 21.9 million metric tons CO ₂ equivalents	(in million metric tons of CO ₂ equivalents)	21.9	20.8	137
Weighted target achievement	(in %)			76

^a In 2020, BASF's sales volumes (–0.5%) declined at a faster rate than global chemical production (–0.4% as of February 15, 2021). The target would have been 100% achieved if BASF's sales volumes had declined by 0.1 percentage points less than global chemical production.

^b Based on the original baseline value for EBITDA before special items of €8,217 million for 2019

The degrees of target achievement determined for 2020 are fixed. At the end of the four-year performance period, they are added together to one arithmetic mean with the degrees of target achievement in the following years.

SPF₂₀₂₀ for the deferral components from the performance bonus programs 2018 and 2019

The still-running deferral components from the performance bonus 2018 (2018–2021) and 2019 (2019–2022) will be continued as planned in accordance with the terms of the previous program and will be paid out. To assess the strategic performance, the Supervisory Board will therefore determine a separate strategic performance factor (SPF) for each of the years 2020, 2021 and 2022. For the performance bonus 2018 (2018–2021) as well as the performance bonus 2019 (2019–2022), the Supervisory Board determined an SPF₂₀₂₀ of 1.0.

Comparison of the previous and new compensation systems for the Board of Executive Directors

The new compensation system for the Board of Executive Directors reduces complexity by discontinuing one component of the com-

pensation (performance bonus, part 2). The defined annual target amounts for the pension contribution and for the new LTI also increase transparency. This new system did not result in an increase compared with the average total target compensation for 2017–2019.

	Compensation system for the Board of Executive Directors until the end of 2019	New compensation system for the Board of Executive Directors as of 2020
Annual variable compensation	Performance bonus <ul style="list-style-type: none"> – The key performance indicator for the company's success is the return on capital employed (ROCE). – Relevant performance factors are the operational performance factor (OPF) for the current fiscal year and the strategic performance factors (SPF) for the current and the following three fiscal years. – 50% paid out at the end of the current fiscal year and 50% after the end of the four-year performance period 	Performance bonus, short-term incentive (STI) <ul style="list-style-type: none"> – The key performance indicator for the company's success is the return on capital employed (ROCE). – A performance factor is assigned based on the assessment of the achievement of operational and strategic targets in the past fiscal year. – The actual STI amount is paid out following the Annual Shareholders' Meeting subsequent to the current fiscal year.
Long-term incentive program (LTI)	<ul style="list-style-type: none"> – Long-term, share price-based incentive program – Performance period of up to eight years – Mandatory individual investment of 10% of the performance bonus (gross); up to an additional 20% of the performance bonus (gross) can be invested on a voluntary basis 	<ul style="list-style-type: none"> – Long-term compensation program in the form of a performance share plan – The new LTI plan incentivizes the achievement of strategic goals and takes into consideration the development of the BASF share and dividend (total shareholder return) over a period of four years. – New, longer-term mandatory share ownership guideline as a component of service contracts for members of the Board of Executive Directors stipulating a shareholding worth 150% of the member's fixed compensation
Company pension benefits	<ul style="list-style-type: none"> – The variable component of the pension unit is the result of multiplying the fixed pension component with a performance factor based on the relevant ROCE in the reporting year concerned, as well as the performance factors relevant to the performance bonus. – The pensionable age for Board members (Board Performance Pension) was raised from 60 to 63 years for new members appointed to the Board of Executive Directors after January 1, 2017. – Option to choose between payment of pension entitlements in the form of a lifelong pension or a lump sum 	<ul style="list-style-type: none"> – The previous company pension benefits granted to members of the Board of Executive Directors (Board Performance Pension, deferred compensation program and basic coverage under BASF Pensionskasse) are discontinued as of January 1, 2020. – Effective January 1, 2020, the company offers members of the Board of Executive Directors a defined contribution pension commitment in the form of a capital investment model. – The company grants the members of the Board of Executive Directors a fixed annual pension plan contribution. – A members of the Board of Executive Directors has the option to instead choose a pension allowance for private retirement savings, which is then paid out in equal monthly installments.
Withholding and clawback clause	<ul style="list-style-type: none"> – Withholding and clawback clause for the performance bonus and the LTI program 	<ul style="list-style-type: none"> – No change, withholding and clawback clause applies for the performance bonus (STI) and the LTI program

Amount of total compensation in reporting year 2020

The tables below, which are based on the sample tables in the German Corporate Governance Code in the version dated February 7, 2017 (GCGC 2017), show the granted and allocated compensation as well as service cost of each member of the Board of Executive Directors.

Compensation granted in accordance with the German Corporate Governance Code (GCGC 2017)

The table "Compensation granted in accordance with the German Corporate Governance Code (GCGC) 2017" shows: fixed salary, fringe benefits, performance bonus, LTI programs measured at fair value as of the grant date and/or the target value and pension benefits. The individual compensation components are supplemented by individually attainable minimum and maximum compensation.

Furthermore, a reconciliation statement for total compensation to be reported is provided below the table "Compensation granted in accordance with the German Corporate Governance Code (GCGC) 2017" due to the disclosures required by section 314(1) no. 6a of the German Commercial Code (HGB) in connection with the German Accounting Standard 17 (GAS 17).

Compensation granted in accordance with the German Corporate Governance Code (GCGC 2017)

Thousand €

	Dr. Martin Brudermüller Chairman of the Board of Executive Directors				Dr. Hans-Ulrich Engel Vice Chairman of the Board of Executive Directors				Saori Dubourg			
	2019	2020	2020 (min.)	2020 (max.)	2019	2020	2020 (min.)	2020 (max.)	2019	2020	2020 (min.)	2020 (max.)
Fixed salary	1,600	1,600	1,600	1,600	1,064	1,064	1,064	1,064	800	800	800	800
Fringe benefits	60	56	56	700	69	62	62	633	356	494	494	600
Regularly provided fringe benefits	60	56	56	100	69	62	62	100	59	62	62	100
Event-related fringe benefits	–	–	–	600	–	–	–	533	297	432	432	500
Delegation-related fringe benefits ^a	–	–	–	–	–	–	–	–	–	–	–	–
Total	1,660	1,656	1,656	2,300	1,133	1,126	1,126	1,697	1,156	1,294	1,294	1,400
One-year variable compensation	1,600	2,000	0	4,000	1,064	1,330	0	2,660	800	1,000	0	2,000
50% of the 2019 performance bonus (2019–2022)	1,600	–	–	–	1,064	–	–	–	800	–	–	–
Short-term incentive 2020	–	2,000	0	4,000	–	1,330	0	2,660	–	1,000	0	2,000
Multiple-year variable compensation	2,346	3,348	0	8,507	1,577	2,226	0	5,657	1,001	1,674	0	4,254
50% of the 2019 performance bonus (2019–2022), deferral component	1,600	–	–	–	1,064	–	–	–	800	–	–	–
LTI program 2019 (2019–2027)	746	–	–	–	513	–	–	–	201	–	–	–
LTI program 2020 (2020–2028) ^b	–	548	0	2,907	–	364	0	1,933	–	274	0	1,454
LTI performance share plan 2020 (2020–2023)	–	2,800	0	5,600	–	1,862	0	3,724	–	1,400	0	2,800
Total	5,606	7,004	1,656	14,807	3,774	4,682	1,126	10,014	2,957	3,968	1,294	7,654
Company pension benefits	573	1,000	1,000	1,000	366	665	665	665	704	500	500	500
Service cost	573	–	–	–	366	–	–	–	704	–	–	–
Pension contribution / pension allowance	–	1,000	1,000	1,000	–	665	665	665	–	500	500	500
Total compensation in accordance with GCGC 2017	6,179	8,004	2,656	15,807	4,140	5,347	1,791	10,679	3,661	4,468	1,794	8,154
Reconciliation reporting of total compensation pursuant to section 314(1) no. 6a HGB in connection with GAS 17												
Less granted 2019 performance bonus (2019–2022), (one-year component and deferral components)	–3,200	–			–2,128	–			–1,600	–		
Less granted short-term incentive 2020	–	–2,000			–	–1,330			–	–1,000		
Less difference between target amount and market value at grant date for LTI performance share plan 2020 (2020–2023)	–	–69			–	–46			–	–34		
Less voluntary relinquishment of salary (20% of fixed salary) in second quarter of 2020	–	–80			–	–53			–	–40		
Plus allocated actual annual variable compensation (performance bonus, part 1)	969	–			644	–			485	–		
Plus allocated actual annual variable compensation (short-term incentive 2020)	–	570			–	379			–	285		
Plus allocated multiple-year variable actual compensation LTI 2012 (2012–2020)	–	–			–	–			–	–		
Less service cost	–573	–			–366	–			–704	–		
Less pension contribution / pension allowance	–	–1,000			–	–665			–	–500		
Total compensation	3,375	5,425			2,290	3,632			1,842	3,179		

^a Figures only reported under 2020 (min.) / 2020 (max.) if delegation-related fringe benefits were granted in the year 2020.^b Members of the Board of Executive Directors had the opportunity to participate for the last time in the BASF option program as of July 1, 2020, based on their performance bonus (gross) for the year 2019. The option rights granted are a component of the compensation for the Board of Executive Directors for the fiscal year 2019.^c Payment was made partly in local currency abroad based on a theoretical net salary in Germany.^d Wayne T. Smith opted for the pension allowance for private retirement savings.

Compensation granted in accordance with the German Corporate Governance Code (GCGC 2017)

Thousand €

	Michael Heinz				Dr. Markus Kamieth				Wayne T. Smith			
	2019	2020	2020 (min.)	2020 (max.)	2019	2020	2020 (min.)	2020 (max.)	2019	2020	2020 (min.)	2020 (max.)
Fixed salary	800	800	800	800	800	800 ^c	800 ^c	800 ^c	800 ^c	800 ^c	800 ^c	800 ^c
Fringe benefits	36	40	40	600	46	593	593	3,600	340	323	323	3,600
Regularly provided fringe benefits	36	40	40	100	46	36	36	100	28	19	19	100
Event-related fringe benefits	–	–	–	500	–	–	–	500	–	–	–	500
Delegation-related fringe benefits ^a	–	–	–	–	–	557	557	3,000	312	304	304	3,000
Total	836	840	840	1,400	846	1,393	1,393	4,400	1,140	1,123	1,123	4,400
One-year variable compensation	800	1,000	0	2,000	800	1,000	0	2,000	800	1,000	0	2,000
50% of the 2019 performance bonus (2019–2022)	800	–	–	–	800	–	–	–	800	–	–	–
Short-term incentive 2020	–	1,000	0	2,000	–	1,000	0	2,000	–	1,000	0	2,000
Multiple-year variable compensation	1,221	1,674	0	4,254	1,221	1,674	0	4,254	1,312	1,736	0	4,254
50% of the 2019 performance bonus (2019–2022), deferral component	800	–	–	–	800	–	–	–	800	–	–	–
LTI program 2019 (2019–2027)	421	–	–	–	421	–	–	–	512	–	–	–
LTI program 2020 (2020–2028) ^b	–	274	0	1,454	–	274	0	1,454	–	336	0	1,454
LTI performance share plan 2020 (2020–2023)	–	1,400	0	2,800	–	1,400	0	2,800	–	1,400	0	2,800
Total	2,857	3,514	840	7,654	2,867	4,067	1,393	10,654	3,252	3,859	1,123	10,654
Company pension benefits	387	500	500	500	699	500	500	500	491	500	500	500
Service cost	387	–	–	–	699	–	–	–	491	–	–	–
Pension contribution / pension allowance	–	500	500	500	–	500	500	500	–	500 ^d	500 ^d	500 ^d
Total compensation in accordance with GCGC 2017	3,244	4,014	1,340	8,154	3,566	4,567	1,893	11,154	3,743	4,359	1,623	11,154
Reconciliation reporting of total compensation pursuant to section 314(1) no. 6a HGB in connection with GAS 17												
Less granted 2019 performance bonus (2019–2022), (one-year component and deferral components)	–1,600	–			–1,600	–			–1,600	–		
Less granted short-term incentive 2020	–	–1,000			–	–1,000			–	–1,000		
Less difference between target amount and market value at grant date for LTI performance share plan 2020 (2020–2023)	–	–34			–	–34			–	–34		
Less voluntary relinquishment of salary (20% of fixed salary) in second quarter of 2020	–	–40			–	–40			–	–40		
Plus allocated actual annual variable compensation (performance bonus, part 1)	485	–			485	–			485	–		
Plus allocated actual annual variable compensation (short-term incentive 2020)	–	285			–	285			–	285		
Plus allocated multiple-year variable actual compensation LTI 2012 (2012–2020)	–	–			–	–			–	431		
Less service cost	–387	–			–699	–			–491	–		
Less pension contribution / pension allowance	–	–500			–	–500			–	–500		
Total compensation	1,742	2,725			1,752	3,278			2,137	3,501		

^a Figures only reported under 2020 (min.) / 2020 (max.) if delegation-related fringe benefits were granted in the year 2020.^b Members of the Board of Executive Directors had the opportunity to participate for the last time in the BASF option program as of July 1, 2020, based on their performance bonus (gross) for the year 2019. The option rights granted are a component of the compensation for the Board of Executive Directors for the fiscal year 2019.^c Payment was made partly in local currency abroad based on a theoretical net salary in Germany.^d Wayne T. Smith opted for the pension allowance for private retirement savings.

Compensation allocated in accordance with the German Corporate Governance Code (GCGC 2017)

The "Compensation allocated in accordance with the German Corporate Governance Code (GCGC) 2017" presented comprises the fixed and variable compensation components actually allocated, plus the pension benefits granted to each member of the Board of Executive Directors in the reporting years (2020: pension contribution; 2019: service cost for previous pension plan) even though these do not actually represent payment in the narrower sense.

Allocation in accordance with GCGC 2017

Thousand €

	Dr. Martin Brudermüller Chairman of the Board of Executive Directors		Dr. Hans-Ulrich Engel Vice Chairman of the Board of Executive Directors		Saori Dubourg		Michael Heinz		Dr. Markus Kamieth		Wayne T. Smith	
	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
Fixed salary ^a	1,600	1,520	1,064	1,011	800	760	800	760	800	760 ^d	800 ^d	760 ^d
Fringe benefits	60	56	69	62	356	494	36	40	46	593	340	323
Regularly provided fringe benefits	60	56	69	62	59	62	36	40	46	36	28	19
Event-related fringe benefits	–	–	–	–	297	432	–	–	–	–	–	–
Delegation-related fringe benefits	–	–	–	–	–	–	–	–	–	557	312	304
Total	1,660	1,576	1,133	1,073	1,156	1,254	836	800	846	1,353	1,140	1,083
One-year variable compensation	969	570	644	379	485	285	485	285	485	285	485	285
Performance bonus 2019 (2019–2022), part 1 ^b	969	–	644	–	485	–	485	–	485	–	485	–
Short-term incentive 2020 ^c	–	570	–	379	–	285	–	285	–	285	–	285
Multiple-year variable compensation	–	–	–	–	–	–	–	–	–	–	–	431
LTI 2011 (2011–2019)	–	–	–	–	–	–	–	–	–	–	–	–
LTI 2012 (2012–2020)	–	–	–	–	–	–	–	–	–	–	–	431 ^e
LTI 2013 (2013–2021)	–	–	–	–	–	–	–	–	–	–	–	–
LTI 2014 (2014–2022)	–	–	–	–	–	–	–	–	–	–	–	–
LTI 2015 (2015–2023)	–	–	–	–	–	–	–	–	–	–	–	–
LTI 2016 (2016–2024)	–	–	–	–	–	–	–	–	–	–	–	–
Total	2,629	2,146	1,777	1,452	1,641	1,539	1,321	1,085	1,331	1,638	1,625	1,799
Company pension benefits	573	1,000	366	665	704	500	387	500	699	500	491	500
Service cost	573	–	366	–	704	–	387	–	699	–	491	–
Pension contribution / pension allowance	–	1,000	–	665	–	500	–	500	–	500	–	500 ^f
Total compensation in accordance with GCGC 2017	3,202	3,146	2,143	2,117	2,345	2,039	1,708	1,585	2,030	2,138	2,116	2,299

^a The members of the Board of Executive Directors each voluntarily relinquished 20% of their fixed annual salary for the period from April 1 until June 30, 2020.

^b The basis for the performance bonus, part 1, is the ROCE factor and the average of the operating performance factor (OPF) and the strategic performance factor (SPF) in the year the performance bonus was granted. This includes contributions made to the deferred compensation program. 50% of the actual performance bonus is paid out; the remaining 50% of the actual performance bonus is not paid out for another three years (deferral component).

^c The basis for the short-term incentive (STI) is the ROCE factor and the performance factor in year the STI is granted. 100% of the actual STI is paid out.

^d Payment was made partly in local currency abroad based on a theoretical net salary in Germany.

^e In 2020, at the end of the regular term of the LTI program 2012, exercise gains that were realized in 2017 were allocated to Wayne T. Smith in accordance with the special conditions of the U.S. LTI program.

^f Wayne T. Smith opted for the pension allowance for private retirement savings.

The members of the Board of Executive Directors each voluntarily relinquished 20% of their fixed salary for the period from April 1, 2020, until June 30, 2020.

The table below shows the options granted to the Board of Executive Directors on July 1 of both reporting years. Option rights under the BASF option program were granted for the last time in 2020.

Number of option rights granted

	2020	2019
Dr. Martin Brudermüller	45,368	44,024
Saori Dubourg	22,684	11,880
Dr. Hans-Ulrich Engel	30,168	30,268
Michael Heinz	22,684	24,880
Dr. Markus Kamieth	22,684	24,880
Wayne T. Smith	22,684	24,880
Total	166,272	160,812^a

^a In the 2019 fiscal year, 24,880 option rights were granted to Sanjeev Gandhi, who left the Board of Executive Directors as of December 31, 2019.

In 2020, members of the Board of Executive Directors were for the first time granted Performance Share Units (PSUs) under the new LTI program. The following table shows the number of PSUs granted as of January 1.

Number of performance share units (PSUs) granted

	2020	2019
Dr. Martin Brudermüller	41,268	–
Saori Dubourg	20,634	–
Dr. Hans-Ulrich Engel	27,443	–
Michael Heinz	20,634	–
Dr. Markus Kamieth	20,634	–
Wayne T. Smith	20,634	–
Total	151,247	–

Accounting valuation of multiple-year variable compensation (LTI programs)

In 2020, the option rights granted resulted in an expense. This expense refers to the total of all option rights from the LTI programs 2012 to 2020 and is calculated as the difference in the fair value of the option rights on December 31, 2020, compared with the fair value on December 31, 2019, considering the option rights exercised and granted in 2020. The fair value of the option rights is based primarily on the development of the BASF share price and its relative performance compared with the benchmark index, the MSCI World Chemicals Index.

The expenses reported below are purely accounting figures that do not equate with the actual gains should options be exercised. Each member of the Board of Executive Directors may decide individually on the timing and scope of the exercise of options of the LTI programs, while taking into account the terms and conditions of the program.

The outstanding option rights held by the members of the Board of Executive Directors resulted in the following expenses in 2020: Dr. Martin Brudermüller: expense of €266 thousand (2019: expense of €464 thousand); Dr. Hans-Ulrich Engel: expense of €152 thousand (2019: expense of €339 thousand); Saori Dubourg: expense of €136 thousand (2019: expense of €66 thousand); Michael Heinz: expense of €172 thousand (2019: expense of €334 thousand); Dr. Markus Kamieth: expense of €203 thousand (2019: expense of €124 thousand); and Wayne T. Smith: expense of €914 thousand (2019: expense of €298 thousand).

In 2020, the performance share units granted as part of the new LTI resulted in an expense. This expense refers to the total of all performance share units from the LTI program 2020 and is calculated as the difference in the fair value of the performance share units on December 31, 2020, compared with the fair value on December 31, 2019. The fair value of the performance share units is based primarily on the expected development of the BASF share price and the dividend as well as assumptions relating to the expected weighted level of target achievement for the three strategic targets in the four-year performance period.

The expenses reported below are purely accounting figures that do not equate with the actual inflows from the LTI at the end of the four-year performance.

The performance share units granted to the members of the Board of Executive Directors resulted in the following expenses in 2020 (2019: not applicable): Dr. Martin Brudermüller: expense of €642 thousand; Dr. Hans-Ulrich Engel: expense of €427 thousand; Saori Dubourg: expense of €321 thousand; Michael Heinz: expense of €321 thousand; Dr. Markus Kamieth: expense of €321 thousand; Wayne T. Smith: expense of €909 thousand.

For more information on the LTI program, see page 149 and from page 310 onward

Company pension benefits

The values for the company pension benefits granted to the members of the Board of Executive Directors in 2020 are shown individually in the tables "Compensation granted in accordance with GCGC 2017" and "Compensation allocated in accordance with GCGC 2017." Effective January 1, 2020, the company offers members of the Board of Executive Directors a defined contribution pension commitment in the form of a capital investment model. The company grants the members of the Board of Executive Directors a fixed annual pension plan contribution. The pension entitlements acquired until December 31, 2019, under the previous company pension system are maintained as vested rights and upon retirement, disability or death can be accessed by the member of the Board of Executive Directors or by the surviving dependents as a company pension or retirement capital in accordance with the previous rules.

The present value of pension benefits (defined benefit obligation) is an accounting figure for the entitlements that the Board members have accumulated in their years of service at BASF. The table below shows the defined benefit obligations for the pension entitlements accrued until the end of 2020 (as of December 31 in each case).

Present value of the defined benefit obligation

Thousand €	2020	2019
Dr. Martin Brudermüller	19,490	18,171
Saori Dubourg	6,611	6,983
Dr. Hans-Ulrich Engel	16,219	14,081
Michael Heinz	16,253	15,201
Dr. Markus Kamieth	7,100	5,797
Wayne T. Smith	6,417	6,251
Total	72,090	66,484^a

^a In the 2019 fiscal year, the present value of the defined benefit obligation for the pension entitlements accrued until the end of 2019 by Sanjeev Gandhi, who left the Board of Executive Directors as of December 31, 2019, amounted to €4,824 thousand.

End-of-service benefits

In the event that a member of the Board of Executive Directors appointed before 2017 retires from employment before the age of 60, either because their appointment was not extended or was revoked for an important reason, they are entitled to pension benefits under the system in effect until 2019 if they have served on the Board for at least 10 years or if the period until they reach legal retirement age is less than 10 years. The company is entitled to offset compensation received for any other employment against pension benefits until the legal retirement age is reached.

This rule no longer applies for any member who was appointed to the Board of Executive Directors after January 1, 2017.

There is a general limit on severance pay (severance payment cap) for all Board members. Accordingly, payments made to a Board member upon premature termination of their contract, without serious cause, may not exceed the value of two years' compensation, including fringe benefits, nor compensate more than the remaining term of the contract. The severance payment cap is to be calculated on the basis of the total compensation for the past fiscal year and, if

appropriate, also the expected total compensation for the current fiscal year.

The following applies to end of service due to a change-of-control event: A change-of-control event, in terms of this provision, occurs when a shareholder informs BASF of a shareholding of at least 25%, or the increase of such a holding.

If a Board member's appointment is revoked within one year following a change-of-control event, the Board member will receive the contractually agreed payments for the remaining contractual term of mandate as a one-off payment; however, this amount also may not exceed the value of two years' compensation. The outstanding pension contributions until the end of the regular contractual term of office shall be paid as a one-time gross payment.

Former members of the Board of Executive Directors

Total compensation for previous Board members and their surviving dependents amounted to €12.5 million in 2020 (2019: €11.5 million). This figure also contains payments that previous Board members have themselves financed through the deferred compensation program, as well as the income for 2020 relating to option rights that previous members of the Board still hold from the time of their active service period. Moreover, this figure contains non-compete compensation paid to a former member of the Board of Executive Directors. The increase in total compensation resulted from two opposing effects: On the one hand, the fair value measurement of option rights resulted in income of €0.7 million overall in 2020, mainly due to the higher accounting valuation of the option rights due to the increased share price (2019: expense of €0.6 million). On the other hand, the inclusion of the non-compete compensation led to an expense of €2.0 million in 2020.

Option rights that have not yet been exercised on retirement are to be continued under the conditions of the program including the

associated holding period to emphasize that the compensation for the Board of Executive Directors is geared to sustainability.

Total compensation of former members of the Board of Executive Directors and their surviving dependents

Million €

	2020	2019
Retirement and surviving dependents' pensions	11.2	10.9
Income/expense from the fair value measurement of option rights	-0.7	0.6
Non-compete compensation ^a	2.0	–
Total	12.5	11.5

^a Sanjeev Gandhi stepped down from the Board of Executive Directors effective the end of December 31, 2019. Based on the termination agreement, non-compete compensation was agreed for a two-year, post-contractual non-compete obligation.

Pension provisions for previous Board members and their surviving dependents amounted to €209.0 million (2019: €198.2 million).

Compensation of Supervisory Board members

Compensation of Supervisory Board members

- Fixed salary: €200,000^a
- Share purchase and share holding component: 25% of the fixed compensation must be used to purchase shares in BASF; these shares must be held for the duration of membership on the Supervisory Board.
- Compensation for committee memberships: €12,500^b; Audit Committee: €50,000^b
- No additional compensation is paid for the Nomination Committee.
- Voluntary relinquishment of 20% of fixed compensation as of the second quarter of 2020.

^a The amount for the chair of the Supervisory Board is 2.5 times this value, and 1.5 times this value for the vice chair compared with the compensation of a member of the Supervisory Board.

^b The amount for the chair of a committee is two times this value, and 1.5 times this value for the vice chair.

The disclosure of compensation of the Supervisory Board is based on the German Commercial Code and is aligned with the recommendations of the German Corporate Governance Code in the version dated February 7, 2017.

The compensation of the Supervisory Board is regulated by the Statutes of BASF SE passed by the Annual Shareholders' Meeting.

Since 2017, the compensation of the Supervisory Board has been purely fixed compensation, supplemented by share acquisition and shareholding components. The obligation to purchase and hold shares is a variable compensation component with a long-term orientation which emphasizes the Supervisory Board's strategic support role.

Amount of Supervisory Board compensation

Each member of the Supervisory Board shall receive annually a fixed compensation of €200,000. In recognition of the increased demands on the chair, the compensation of the Supervisory Board of BASF follows the GCGC recommendation of function-related differentiation of the compensation of the chair, vice chair and members. The amount for the chair of the Supervisory Board is 2.5 times this value, and 1.5 times this value for the vice chair compared with the compensation of a member of the Supervisory Board. The members of the Supervisory Board each voluntarily relinquished 20% of their fixed compensation for the period from April 1, 2020, until December 31, 2020.

Amount of compensation for serving on a committee

Members of the Supervisory Board who are members of a committee, except for the Nomination Committee, receive an additional annual fixed compensation of €12,500. This also follows the GCGC recommendation that the increased workload of Supervisory Board members serving on committees should be appropriately taken into

account. For members of the Audit Committee, the further compensation shall be €50,000. The chair of a committee shall receive twice and a vice chair 1.5 times the further fixed compensation.

Compensation of the Supervisory Board of BASF SE

Thousand €

	Fixed salary		Compensation for committee memberships		Total compensation	
	2020	2019	2020	2019	2020	2019
Dr. Jürgen Hambrecht, chair until June 18, 2020 ^{a, b}	225.0	500.0	25.0	50.0	250.0	550.0
Dr. Kurt Bock, chair since June 18, 2020 ^{c, d}	233.3	–	29.2	–	262.5	–
Michael Diekmann, vice chair until May 3, 2019 ^e	–	125.0	–	13.0	–	138.0
Franz Fehrenbach, vice chair since May 3, 2019 ^{f, g}	255.0	266.7	33.3	66.6	288.3	333.3
Sinischa Horvat, vice chair ^h	255.0	300.0	25.0	25.0	280.0	325.0
Prof. Dr. Thomas Carell, Supervisory Board member since May 3, 2019	170.0	133.3	–	–	170.0	133.3
Dame Alison Carnwath DBE ⁱ	170.0	200.0	112.5	112.5	282.5	312.5
Prof. Dr. François Diederich, Supervisory Board member until May 3, 2019	–	83.3	–	–	–	83.3
Tatjana Diether ^j	170.0	200.0	50.0	50.0	220.0	250.0
Waldemar Helber ^k	170.0	200.0	12.5	12.5	182.5	212.5
Dr. Alexander C. Karp, Supervisory Board member from May 3, 2019, until July 22, 2020	103.3	133.3	–	–	103.3	133.3
Anke Schäferkordt ^l	170.0	200.0	41.7	–	211.7	200.0
Denise Schellemans	170.0	200.0	–	–	170.0	200.0
Liming Chen, Supervisory Board member since October 8, 2020	40.0	–	–	–	40.0	–
Roland Strasser	170.0	200.0	–	–	170.0	200.0
Michael Vassiliadis ^{h, j}	170.0	200.0	75.0	75.0	245.0	275.0
Total	2,471.6	2,941.6	404.2	404.6	2,875.8	3,346.2

^a Chair of the Personnel Committee until June 18, 2020^b Chair of the Strategy Committee until June 18, 2020^c Chair of the Personnel Committee since June 18, 2020^d Chair of the Strategy Committee since June 18, 2020^e Member of the Personnel Committee and vice chair of the Strategy Committee until May 3, 2019^f Member of the Personnel and Strategy Committees since May 3, 2019^g Member of the Audit Committee until February 29, 2020^h Member of the Personnel and Strategy Committeesⁱ Chair of the Audit Committee and member of the Strategy Committee^j Member of the Audit Committee^k Member of the Strategy Committee^l Member of the Audit Committee since March 1, 2020

Share purchase and shareholding obligation for members of the Supervisory Board

Each member of the Supervisory Board is required to use 25% of their fixed compensation to acquire shares in BASF SE, and to hold these shares for the duration of membership on the Supervisory Board. This does not apply to the amount of compensation that the member of the Supervisory Board transfers to a third party on a pro rata basis as a result of an obligation entered into before their appointment to the Supervisory Board. In this case, the utilization and holding obligation applies to 25% of the remaining compensation after deducting the amount transferred.

The company reimburses members of the Supervisory Board for out-of-pocket expenses and value-added tax to be paid with regard to their activities as members of the Supervisory Board or of a committee. The directors' and officers' liability insurance (D&O insurance) concluded by the company covers the duties performed by the members of the Supervisory Board. This policy provides for the level of deductibles for the Supervisory Board as recommended in section 3.8(3) of the German Corporate Governance Code (GCGC). Total compensation of the Supervisory Board in 2020 was around €2.9 million (2019: around €3.3 million). The compensation of the individual Supervisory Board members is listed in the table on the left.

Compensation for membership on the Supervisory Board and its committees, provided it is not withheld for the purpose of acquiring shares, is due after the conclusion of the fiscal year for which the compensation is paid. Beyond the compensation in accordance with the Statutes presented in the table "Compensation of the Supervisory Board of BASF SE," no Supervisory Board members received any compensation in 2020 for services rendered personally, in particular, the rendering of advisory and agency services.

For more information on share ownership by members of the Supervisory Board, see page 175

Report of the Supervisory Board



Dear Shareholders,

The 2020 business year was dominated by a turn of events that few had foreseen at the beginning of the year: the coronavirus pandemic. The pandemic had a significant impact on BASF's business and its activities. In particular, the dramatic downturn in the second quarter left a clear mark on the BASF Group's earnings. The operating result declined significantly. The bottom line – income after taxes – was negative for the first time in many years due to special items. In this situation, the Supervisory Board intensified its communication with the Board of Executive Directors. It was informed in detail and at an early stage about changed business forecasts and the measures to be taken. The Board of Executive Directors ensured that employees were protected and kept costs and liquidity under control with effective crisis management. At the same time, cooperation with customers was further strengthened. Key initiatives to promote the long-term development of BASF continued unabated. In this way, the

Board of Executive Directors led BASF through this difficult phase with strength, prudence and foresightedness.

The Supervisory Board expressly supports this approach and would like to thank the Board of Executive Directors and all employees worldwide for their extraordinary dedication and hard work in the 2020 business year.

This year, we as the Supervisory Board will again not have any opportunity to meet directly with you – our shareholders. We deeply regret this, because a physical Annual Shareholders' Meeting is the ideal place to discuss the development of your BASF with you. This report should give you the opportunity to appraise the Supervisory Board's work. We hope to be able to again meet and talk with you directly as soon as possible.

Monitoring and consultation in an ongoing dialog with the Board of Executive Directors

In 2020, 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. It regularly discussed occupational and process safety, with a particular focus on the measures resulting from the coronavirus pandemic. 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 seven meetings in the 2020 business year. With the exception of the meeting immediately following the Annual Shareholders' Meeting on June 18, 2020, in which Dr. Kurt Bock was elected as Chairman of the Supervisory Board following his appointment to the Supervisory Board, which one member of the Supervisory Board was unable to attend, all members attended all Supervisory Board meetings in 2020. Despite the restrictions due to the coronavirus pandemic, four of the meetings were able to be held in person with most Supervisory Board members physically present. The three meetings in April and June were held solely by means of electronic communication as video conferences. 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.

With the exception of the meeting following the Annual Shareholders' Meeting, 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 current and planned investment projects, operational excellence and sustainability, developments on the capital markets, significant managerial measures taken by the Board of Executive Directors and innovation projects.

In all meetings in 2020, the Supervisory Board addressed the development of the coronavirus pandemic and its impact on the macroeconomic environment and business developments and prospects of the BASF Group. It fully supported the Board of Executive Directors' measures and initiatives to respond to the crisis, avoid operational disruptions and ensure the health and safety of employees, including extensive remote and mobile working offerings.

In all meetings, it also discussed the progress of major investments and ongoing portfolio projects. Discussions focused on:

- The execution of the sale of the global construction chemicals business
- The development of the joint venture Wintershall Dea created by the merger of the oil and gas businesses of BASF and LetterOne
- The execution of the sale of the global pigments business
- The progress of the investment project to establish a new Verbund site in southern China

At its meeting on February 26, 2020, the Supervisory Board reviewed and approved the Consolidated Financial Statements, Management's Report and the proposal for the appropriation of profit for the 2019 business year as presented by the Board of Executive Directors. It also discussed the agenda for the Annual Shareholders' Meeting, which was originally planned for April 30, 2020, and adopted its proposals for resolutions. Other topics discussed at the meeting were business conditions and BASF's development and prospects in China, the world's largest chemical market, as well as the project to construct a new Verbund site in southern China, the report on the strategy and focus areas of research and development, and the integration and use of renewable energies in the BASF Group.

The main focus of the meeting on April 29, 2020, was the effects of the coronavirus pandemic, which had been spreading since the middle of the first quarter, on BASF's business and prospects, as well as crisis management and measures in connection with the coronavirus pandemic. The Supervisory Board also addressed the execution of the Annual Shareholders' Meeting, which had been postponed to June 18, 2020,

due to the coronavirus pandemic, and agreed to it being held as a virtual event without the physical presence of shareholders.

The Supervisory Board met virtually prior to the virtual Annual Shareholders' Meeting on June 18, 2020, primarily to prepare for the Annual Shareholders' Meeting. In a further meeting following the Annual Shareholders' Meeting, the Supervisory Board elected Dr. Kurt Bock as the new Chairman of the Supervisory Board. He succeeds Dr. Jürgen Hambrecht, who retired from the Supervisory Board.

The main agenda items at the meeting on July 22, 2020, were BASF's leadership development and personnel concept, as well as the current status of and the strategies and main plans for the further development of the Nutrition & Health and Agricultural Solutions divisions.

At the strategy meeting on October 22/23, 2020, 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 further development of BASF's portfolio after the coronavirus pandemic
- Growth projects (the Verbund site in China and battery materials)
- The development of the regulatory environment, including the European Green Deal
- The transformation to a circular economy
- The energy transformation to reduce CO₂ emissions

At its meeting on December 17, 2020, the Supervisory Board discussed and approved the Board of Executive Directors' operational and financial planning, including the investment budget for 2021, and, as in previous years, authorized the Board of Executive Directors to procure the necessary financing in 2021 within a set limit.

Compensation and composition

In several meetings over the 2020 business year, the Supervisory Board discussed and passed resolutions on the compensation of the Board of Executive Directors and its composition.

At its meeting on February 26, 2020, the Supervisory Board discussed and agreed on the 2020 targets for the Board of Executive Directors based on the preparations of the Personnel Committee. At the meeting on April 29, 2020, in light of the dramatic deterioration in business performance since the outbreak of the coronavirus pandemic, it discussed the voluntary relinquishment by the members of the Supervisory Board of part of their fixed Supervisory Board compensation, and the corresponding offer made by the members to the Board of Executive Directors to voluntarily relinquish part of their fixed compensation on a temporary basis. Corresponding waiver declarations were subsequently submitted by all members of the Supervisory Board and the Board of Executive Directors.

At its meeting on December 17, 2020, the Supervisory Board evaluated, based on the discussions and the corresponding recommendation of the Personnel Committee, the Board of Executive Directors' performance in 2020 and resolved to grant short-term variable compensation to the members of the Board of Executive Directors. The resolution was necessary as the minimum return on capital employed (ROCE) required for the short-term bonus of 4% was not achieved. The decision to grant a bonus was justified by the Board of Executive Directors' sound crisis management during the coronavirus pandemic and the achievement of key operational and strategic targets in 2020. In addition, the Supervisory Board defined 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 on pages 183 to 202

At its meeting on December 17, 2020, the Supervisory Board also addressed the composition of the Board of Executive Directors and longer-term succession planning. Based on the recommendation of the Personnel Committee, it appointed Dr. Melanie Maas-Brunner as an additional member of the Board of Executive Directors as of February 1, 2021. As a further element of this long-term succession planning, Wayne T. Smith will leave the Board of Executive Directors at midnight on May 31, 2021, one year before the end of his current appointment to the Board of Executive Directors, which ends on conclusion of the Annual Shareholders' Meeting 2022.

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 on pages 170 to 171

The **Personnel Committee** met four times during the reporting period. All committee members attended all meetings. At its meeting on February 26, 2020, the Personnel Committee discussed the targets for the Board of Executive Directors for the 2020 business year and the 2019 Compensation Report. A key topic of discussion at the meeting on April 29, 2020, was the temporary, voluntary relinquishment by the Board of Executive Directors and the Supervisory Board of part of their compensation. At its meeting on July 22, 2020, 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, 2020, the Personnel Committee discussed the future composition of the Board of Executive Directors with the suggestion to appoint Dr. Melanie Maas-Brunner to the Board of Executive Directors and consequently terminate Wayne T. Smith's mandate one year ahead of the end of his regular term of office. Other topics were the appropriateness of the compensation of the Board of Executive Directors, the assessment of its performance in 2020 and a proposal for the performance-related variable compensation of the Board of Executive Directors.

The **Audit Committee** met six times during the reporting period. With the exception of one meeting, which one member did not attend, 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. In 2020, the Supervisory Board additionally tasked the Audit Committee with monitoring the internal process of identifying related party transactions and adopting resolutions to approve related party transactions.

At the meeting on February 23, 2021, the auditor reported in detail on its audits of BASF SE's Separate and Consolidated Financial Statements for the 2020 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. In preparation for this audit, the Audit Committee had, following a corresponding resolution by the Supervisory Board, additionally engaged KPMG to perform a substantive audit with limited assurance of the Nonfinancial Statements and to 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, 2020, the Audit Committee engaged KPMG AG Wirtschaftsprüfungsgesellschaft – the auditor elected by the Annual Shareholders' Meeting on June 18, 2020 – with the audit for the 2020 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 16, 2020, 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.

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 29, 2020, the Audit Committee addressed risk management in the BASF Group and the organization of internal environmental, health and safety audits. It focused on the internal auditing system and, in particular, payment fraud prevention at the meeting on July 21, 2020, and compliance in the BASF Group on December 16, 2020. In these meetings, the head of the Corporate Audit department and the Chief Compliance Officer 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.

In 2020, the Audit Committee's work focused on the effects of the coronavirus pandemic on BASF's results of operations and business prospects, as well as the

impairment of various material assets. To this end, the Audit Committee received regular reports from the Chief Financial Officer and discussed the ramifications. At an extraordinary committee meeting on October 8, 2020, it discussed at length the possible impairment of property, plant and equipment and intangible assets identified by the Board of Executive Directors, in particular the assumptions underlying measurement.

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 2020. One member was absent at each of the two meetings; otherwise, the meetings were attended by all committee members. Items discussed at the meetings were the existing competence profile and diversity concept for the Supervisory Board, the selection of candidates for appointment to the Supervisory Board by the court following Dr. Alexander C. Karp's departure from the Supervisory Board, and the proposal to nominate Liming Chen as his successor.

The Strategy Committee, which was established to discuss strategic options for the further development of the BASF Group, did not meet in 2020.

Corporate governance and Declaration of Conformity

The Supervisory Board places great value on ensuring good corporate governance: In 2020, 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. Other important consultation topics were the translation of the second E.U. Shareholder Rights Directive into German law and, in particular, the new regulations governing related party transactions.

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 2020.

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 17, 2020, 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 the recommendations of the German Corporate Governance Code in the version dated December 16, 2019, without exception. The Corporate Governance Report provides extensive information on the BASF Group's corporate governance.

 The full Declaration of Conformity is rendered on page 210 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 172. 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. 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. Beyond this limitation, 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 relatively marginal and furthermore takes place under conditions similar to those of a third party.

As a consequence of the change in assessed independence of Franz Fehrenbach, the Supervisory Board resolved to appoint Anke Schäferkordt to the Audit Committee in his place as of March 1, 2020, to ensure that the shareholder representatives on the Audit Committee continue to solely be independent Supervisory Board members in the future.

The Supervisory Board reviews the efficiency of its activities every year in the form of a self-assessment. To this end, the new Chairman of the Supervisory Board Dr. Kurt Bock met with all Supervisory Board members individually in June and July in preparation, and again in December 2020. Topics centered in particular on Supervisory Board meeting preparation and agendas, cooperation with the Board of Executive Directors, the quality of the information supplied to the Supervisory Board, cooperation between shareholder and employee representatives, the tasks, composition and work of the committees, and the need for information and training for Supervisory Board members. 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 17, 2020, and thoroughly discussed by the members of the Supervisory Board. Overall, its members 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 2020 based on individual discussions between the chair of the Audit Committee and all members of the Audit Committee. Material subjects were the topics addressed by the committee, the number, organization and content of meetings, the depth and quality of discussions, and the supply of information as the basis of the committee's work. The Audit Committee discussed the results of the questionnaire and detailed suggestions at its meeting on December 16, 2020. On this basis, the members judged the Audit Committee's work to be efficient and appropriate.

Separate and Consolidated Financial Statements

KPMG AG Wirtschaftsprüfungsgesellschaft, the auditor elected by the Annual Shareholders' Meeting for the 2020 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 information and monitoring 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 214 onward

For more information on the auditor, see the Corporate Governance Report on page 176

Beyond the statutory audit of the Financial Statements, KPMG also conducted, on behalf of the Supervisory Board, a substantive audit with 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 the nonfinancial reporting and the satisfaction of the relevant statutory requirements.

 The assurance report issued by KPMG on the substantive audit of the NFS can be found at basf.com/nfs-audit-2020

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 23, 2021, as well as the accounts meeting of the Supervisory Board on February 24, 2021, 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 detailed explanations of the reports on the day before the accounts meeting of the Supervisory Board.

The Audit Committee reviewed the Financial Statements and Management's Report at its meeting on February 23, 2021, 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 gave a detailed account of the preliminary review at the

Supervisory Board meeting on February 24, 2021. On this basis, the Supervisory Board has examined the Financial Statements and Management's Report of BASF SE for 2020, the proposal by the Board of Executive Directors for the appropriation of profit, and the Consolidated Financial Statements and Management's Report for 2020. 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 24, 2021, 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 2020 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 €3.30 per share.

Composition of the Supervisory Board

Dr. Jürgen Hambrecht, Chairman of the Supervisory Board, retired from the Supervisory Board on conclusion of the Annual Shareholders' Meeting on June 18, 2020. He had already announced his intention to resign from this position on his reelection by the Annual Shareholders' Meeting 2019. The Annual Shareholders' Meeting elected Dr. Kurt Bock to the Supervisory Board as his successor. The Supervisory Board appointed Dr. Kurt Bock as Chairman of the Supervisory Board immediately following the Annual Shareholders' Meeting. The Supervisory Board member Dr. Alexander C. Karp left the Supervisory Board at the end of July 2020 after announcing his resignation for professional reasons. At the request of the Chairman of the Supervisory Board, supported by the members of the Nomination Committee, the Ludwigshafen am Rhein local court (*Amtsgericht*) appointed Mr. Liming Chen to the Supervisory Board as a shareholder representative effective October 8, 2020. Liming Chen has many years of management experience at chemical and petrochemical companies. As Chairman of IBM Greater China Group, he also brings with him expertise in digitalization and is very familiar with the growth market of China. Liming Chen is considered independent based on the criteria used by the company to assess the independence of Supervisory Board members. The Supervisory Board satisfied itself that he can devote the necessary time to the BASF mandate.

According to the Supervisory Board's assessment, the current members meet in full the objectives for the composition of the Supervisory Board with respect to the competence profile and the diversity concept.

[For more information on changes within the Supervisory Board, see the Corporate Governance Report on page 173](#)

We would like to thank the now retired members of the Supervisory Board, Dr. Jürgen Hambrecht and Dr. Alexander C. Karp, for their constructive and trust-based cooperation, and their contributions to the success and further development of the company. Dr. Jürgen Hambrecht held leadership roles at BASF for 44 years. As the long-serving Chairman of the Board of Executive Directors and Chairman of the Supervisory Board, he played a pivotal role in shaping BASF and the company's development with far-sightedness and vigor.

Ludwigshafen, February 24, 2021

The Supervisory Board



Dr. Kurt Bock
Chairman of the Supervisory Board

Declaration of Conformity Pursuant to Section 161 AktG

Declaration of Conformity 2020 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
of the German Stock Corporation Act (AktG)**

1. The recommendations of the Government Commission on the German Corporate Governance Code as amended on February 7, 2017, published by the Federal Ministry of Justice on April 24, 2017, in the official section of the Federal Gazette have been complied with since the submission of the last Declaration of Conformity in December 2019.
2. 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.

Ludwigshafen, December 2020

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 HGB¹

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(1) 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.

¹ In the version applicable to the Financial Statements and Management's Report for the 2020 fiscal year pursuant to Article 83 of the Introductory Act on the German Commercial Code (EGHGB)

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Consolidated Financial Statements

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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 2020 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, 2021

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

Chief Technology Officer

Wayne T. Smith

Independent Auditor's Report¹

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, 2020, 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, 2020 to December 31, 2020 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, 2020 to December 31, 2020.

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, 2020, and of its financial performance for the financial year from January 1, 2020 to December 31, 2020, 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, 2020 to December 31, 2020. 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 232. 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 264 onward.

Financial statement risk

Intangible assets in the Consolidated Financial Statements of BASF SE include goodwill in the amount of €6,959 million. Goodwill accounts for 8.7% 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. Due to the demand declines and the expected slow recovery in the automotive and aviation industries, the goodwill impairment testing resulted in impairments of €786 million in the reporting year in the cash-generating unit Surface Treatment in the Surface Technologies segment.

Goodwill impairment testing 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 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 overall. The disclosures in the Notes on the key assumptions are appropriate and complete.

The acquisition of Solvay's polyamide business

For information on the accounting principles applied, please refer to Note 1.4 to the Consolidated Financial Statements on page 232. Information on the acquisition can be found in Note 3 to the Consolidated Financial Statements from page 235 onward.

Financial statement risk

On January 31, 2020, BASF acquired Solvay's global polyamide business. The total acquisition costs amounted to €1,319 million. Taking into account the acquired net assets of €1,299 million, goodwill amounted to €20 million.

As a rule, the acquired identifiable assets and assumed liabilities are recognized at fair value on the date of acquisition in accordance with IFRS 3. To identify and assess the acquired identifiable assets and assumed liabilities, BASF consulted an external expert.

Identifying and assessing the acquired intangible assets are complex and based on the discretionary assumptions of the Board of Executive Directors. The key assumptions are the projected development of sales and margins in the acquired business, the license rates used in assessments based on the license price analogy method, the underlying useful lives of the identified assets and the cost of capital.

There is the risk for the financial statements that the acquired intangible assets are inaccurately identified and/or valued incorrectly. In addition, there is also a risk that the disclosures in the Notes are not complete and appropriate.

Our audit approach

First, we gained an understanding of the acquisition transaction by surveying employees in the accounting and controlling units as well as by evaluating the relevant contracts.

We assessed the competence, skills and objectivity of the independent expert contracted by BASF. Moreover, against the backdrop of our knowledge of BASF's business model, we evaluated the identification process for the acquired assets and assumed liabilities for compliance with the requirements under IFRS 3. We examined the valuation methods used for compliance with the relevant accounting principles.

We consulted our valuation specialists in order to assess, among other things, the appropriateness of the identification and valuation methods as well as the assumptions used therein.

We discussed the expected development of sales and margins with the persons responsible for planning. Moreover, we evaluated the consistency of the assumptions with external market estimates. We compared the license rates used in the valuation of intangible assets with reference values from relevant external databases. We evaluated the applied useful lives based on conversations with the client's experts and on the underlying product life cycles.

Moreover, we 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, we reproduced selected calculations taking into account risk-based considerations. Finally, we assessed whether the disclosures in the Notes on the acquisition of the polyamide business are complete and appropriate.

Our observations

The underlying approach for the identification and valuation of the acquired assets and assumed liabilities is appropriate and consistent with the applicable accounting principles.

The key assumptions and data are appropriate and the presentation in the Notes to the Consolidated Financial Statements is complete and appropriate.

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 255.

Financial statement risk

In the Consolidated Financial Statements of BASF SE, shares in Wintershall Dea in the amount of €10,199 million are reported under non-integral shareholdings accounted for using the equity method. The shareholding in Wintershall Dea accounts for 12.7% of total assets and thus has a material influence on the company's net assets.

The carrying amount of Wintershall Dea is calculated using the equity method. Impairments of €843 million on assets belonging to Wintershall Dea were taken into account. If, in addition to this, there are indicators for an impairment of an equity-accounted shareholding as a whole, 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 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 calculation of the recoverable amount of the shareholding in the Wintershall Dea is complex and based on discretionary assumptions. These include, in particular, BASF's forecasts on production volumes of Wintershall Dea's oil and gas fields based on expected license terms and production profiles, the development of oil and gas prices, and the cost of capital.

After carrying out impairment testing, the company did not identify a need for an impairment of its shareholding in Wintershall Dea as a whole.

There is the risk for the financial statements that a decline in the value of the shareholding as a whole 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 as well as of the determination of 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 industry associations, analysts, international institutions and other market participants.

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 as a whole are appropriate and complete.

Our observations

The underlying calculation method for the impairment test of the shareholding in Wintershall Dea as a whole 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.

Impairments of property, plant and equipment

For information on the accounting principles applied, please refer to Note 1.4 to the Consolidated Financial Statements on page 232. The development of property, plant and equipment, including a list of the impairments, can be found in Note 15 from page 268 onward in the Notes to the Consolidated Financial Statements.

Financial statement risk

As of December 31, 2020, property, plant and equipment in the amount of €19,647 million were recognized in the Consolidated Financial Statements of BASF SE. Depreciation and amortization of

property plant and equipment in the 2020 business year included impairments of €2,059 million. These impairments had a material impact on the group's net assets and results of operations in the business year ended December 31, 2020.

If there are indications for an impairment of assets, the company determines the recoverable amount as of the balance sheet date and compares this with the respective carrying amount. If the carrying amount is higher than the recoverable amount, an impairment must be recognized. The recoverable amount is the higher of fair value less costs to sell and the value in use of the shareholding. The recoverable amount is determined using the discounted cash flow method. In general, the determination of the recoverable amount takes place at the level of cash-generating units.

Impairment testing of assets using the discounted cash flow method is complex and based on a range of discretionary assumptions. These include, in particular, the projected cash flows as well as the cost of capital rates used.

There is the risk for the financial statements 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

In a first step, we evaluated the design and establishment of controls put in place by BASF for the valuation of property, plant and equipment. In discussions with representatives of the group from corporate management, accounting and controlling, we gained an understanding of the specific valuation risks identified by the company and we learned about the approaches used by the company to determine impairments.

With regard to the valuation model, we assessed whether the valuation methodology is consistent with the relevant valuation principles and we confirmed the mathematical accuracy via modeling. In con-

sultation with our valuation specialists, we satisfied ourselves of the methodological appropriateness of the calculation and the appropriateness of the weighted cost of capital rates used. 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.

In addition, we evaluated whether the assumptions and forecasts of future cash flows underlying the valuations were based on appropriate and acceptable assumptions. To this end, we sought explanations of these assumptions from the persons responsible for planning and we evaluated the effects of the assumptions on the planning of future cash flows. Through comparisons to other forecasts internally available within the company, we ascertained their consistency. If the identified impairments resulted from changes in the market environment, we assessed the appropriateness of the underlying assumptions about expected cash flows and compared these with external market estimates. We then discussed the calculated valuation results with BASF and carried out the resulting accounting treatment of the valuation results.

Finally, we assessed whether the disclosures in the Notes on the key assumptions are appropriate and complete.

Our observations

The underlying approach for impairment testing for the above-mentioned property, plant and equipment, including the valuation method, is consistent with accounting principles. The assumptions and data used by the group are appropriate. The disclosures in the Notes on the key assumptions 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 2020.

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 (3b) 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 (3b) 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 that can be downloaded by the issuer from the electronic client portal with access protection, "basf-gruppe-2020-12-31.zip" (SHA256-hash value: 82cc4e309e39828deed8d847fadf9e0d1adf-87caca62c0fa75f305e2421f883) 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 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, 2020 to December 31, 2020 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 in accordance with Section 317 (3b) HGB and the Exposure Draft of the IDW Assurance Standard: Assurance in accordance with Section 317 (3b) HGB on the Electronic Reproduction of Financial Statements and Management Reports Prepared for Publication Purposes (ED IDW AsS 410). 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 company's Board of Executive Directors is also responsible for the submission of the ESEF documents together with the auditor's report and the attached audited consolidated financial statements and audited group management report as well as other documents to be published to the operator of the German Federal Gazette (Bundesanzeiger).

The supervisory board is responsible for overseeing the preparation of 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 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) 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 June 18, 2020. We were engaged by the Chairwomen of the audit committee on September 7, 2020. 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).

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Dr. Stephanie Dietz.

Frankfurt am Main, February 23, 2021

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	2020	2019
Sales revenue	[7]	59,149	59,316
Cost of sales	[7]	-44,040	-43,061
Gross profit on sales		15,109	16,255
Selling expenses	[8]	-7,497	-7,912
General administrative expenses	[8]	-1,228	-1,310
Research and development expenses	[8]	-2,086	-2,158
Other operating income	[9]	1,399	2,095
Other operating expenses	[9]	-6,108	-3,034
Income from integral companies accounted for using the equity method	[10]	220	265
Income from operations	[5]	-191	4,201
Income from non-integral companies accounted for using the equity method	[10]	-925	-149
Income from other shareholdings		157	33
Expenses from other shareholdings		-141	-78
Net income from shareholdings		-909	-194
Interest income		164	183
Interest expenses		-537	-648
Interest result		-373	-465
Other financial income		118	81
Other financial expenses		-207	-321
Other financial result		-89	-240
Financial result	[11]	-462	-705
Income before income taxes		-1,562	3,302
Income taxes	[12]	91	-756
Income after taxes from continuing operations		-1,471	2,546
Income after taxes from discontinued operations	[3]	396	5,945
Income after taxes		-1,075	8,491
Noncontrolling interests	[13]	15	-70
Net income		-1,060	8,421
Earnings per share from continuing operations (€)	[6]	-1.58	2.72
Earnings per share from discontinued operations (€)	[6]	0.43	6.45
Earnings per share (€)	[6]	-1.15	9.17
Dilution effect (€)	[6]	0.00	-0.02
Diluted earnings per share (€)	[6]	-1.15	9.15

Statement of Income and Expense Recognized in Equity

BASF Group

Statement of comprehensive income^a

Million €

	BASF Group	
	2020	2019
Income after taxes	-1,075	8,491
Remeasurement of defined benefit plans ^b	-1,376	-706
Deferred taxes on the remeasurement of defined benefit plans	422	359
Remeasurement of defined benefit plans from investments accounted for using the equity method (after taxes)	-19	-46
Nonreclassifiable gains/losses	-973	-393
Unrealized gains/losses in connection with cash flow hedges	14	25
Reclassification of realized gains/losses recognized in the statement of income in connection with cash flow hedges	65	54
Unrealized gains/losses from currency translation	-1,612	481
Reclassification of realized gains/losses from currency translation recognized in the statement of income	71	834
Deferred taxes on reclassifiable gains/losses	-5	-28
Reclassifiable gains/losses after taxes from investments accounted for using the equity method (after taxes)	-1,286	-9
Reclassifiable gains/losses	-2,753	1,357
Other comprehensive income after taxes	-3,726	964
of which attributable to shareholders of BASF SE	-3,677	949
attributable to noncontrolling interests	-49	15
Comprehensive income	-4,801	9,455
of which attributable to shareholders of BASF SE	-4,737	9,370
attributable to noncontrolling interests	-64	85

^a For more information on other comprehensive income, see Note 20 on page 278 of the Notes

^b For more information on the remeasurement of defined benefit plans, see Note 22 from page 282 onward

Balance Sheet

BASF Group

Assets

Million €	Explanations in Note	December 31, 2020	December 31, 2019
Intangible assets	[14]	13,145	14,525
Property, plant and equipment	[15]	19,647	21,792
Integral investments accounted for using the equity method ^a	[10]	1,878	1,885
Non-integral investments accounted for using the equity method ^a	[10]	10,874	13,123
Other financial assets	[10]	582	636
Deferred tax assets	[12]	3,386	2,887
Other receivables and miscellaneous assets	[18]	912	1,112
Noncurrent assets		50,424	55,960
Inventories	[17]	10,010	11,223
Accounts receivable, trade	[18]	9,466	9,093
Other receivables and miscellaneous assets	[18]	4,673	3,790
Marketable securities		207	444
Cash and cash equivalents ^b	[1]	4,330	2,427
Assets of disposal groups	[3]	1,182	4,013
Current assets		29,868	30,990
Total assets		80,292	86,950

^a In order to increase transparency on the reporting of BASF, companies accounted for using the equity method that are not an integral part of the BASF Group are classified as pure financial investments and are shown separately on the balance sheet as of January 1, 2020. For more information, see the Notes to the Consolidated Financial Statements from page 228 onward

^b For a reconciliation of the amounts in the statement of cash flows with the balance sheet item cash and cash equivalents, see page 226.

Equity and liabilities

Million €			December 31, 2020	December 31, 2019
	Explanations in Note			
Subscribed capital	[19]		1,176	1,176
Capital reserves	[19]		3,115	3,115
Retained earnings	[19]		37,911	42,056
Other comprehensive income	[20]		–8,474	–4,850
Equity attributable to shareholders of BASF SE			33,728	41,497
Noncontrolling interests	[13]		670	853
Equity			34,398	42,350
Provisions for pensions and similar obligations	[22]		8,566	7,683
Deferred tax liabilities	[12]		1,447	1,764
Tax provisions			587	516
Other provisions	[23]		1,484	1,340
Financial indebtedness	[21]		15,819	15,015
Other liabilities	[21]		1,711	1,678
Noncurrent liabilities			29,614	27,996
Accounts payable, trade	[21]		5,291	5,087
Provisions	[23]		2,825	2,938
Tax liabilities	[12]		988	756
Financial indebtedness	[21]		3,395	3,362
Other liabilities	[21]		3,440	3,427
Liabilities of disposal groups	[3]		341	1,034
Current liabilities			16,280	16,604
Total equity and liabilities			80,292	86,950

Statement of Cash Flows

BASF Group

Statement of cash flows^a

Million €

	2020	2019
Net income	-1,060	8,421
Depreciation and amortization of property, plant and equipment and intangible assets	6,751	4,218
Changes in inventories	849	479
Changes in receivables	-2,176	25
Changes in operating liabilities and other provisions	927	906
Changes in pension provisions, defined benefit assets and other items	137	-5,941
Gains (-) / losses (+) from the disposal of noncurrent assets and securities	-15	-634
Cash flows from operating activities	5,413	7,474
Payments made for property, plant and equipment and intangible assets	-3,129	-3,824
Payments made for financial assets and securities	-877	-1,126
Payments made for acquisitions	-1,240	-239
Payments received for divestitures	2,520	2,600
Payments received from the disposal of noncurrent assets and securities	822	1,399
Cash flows from investing activities	-1,904	-1,190
Capital increases/repayments and other equity transactions	3	1
Additions to financial and similar liabilities	15,135	10,357
Repayment of financial and similar liabilities	-13,555	-13,699
Dividends paid		
To shareholders of BASF SE	-3,031	-2,939
noncontrolling interests	-108	-125
Cash flows from financing activities	-1,556	-6,405
Cash-effective changes in cash and cash equivalents	1,953	-121
Changes in cash and cash equivalents		
From foreign exchange rates	-81	37
changes in the scope of consolidation	8	20
Cash and cash equivalents at the beginning of the year^b	2,455	2,519
Cash and cash equivalents at the end of the year^b	4,335	2,455

^a The statement of cash flows is explained in the Management's Report (Financial Position) on page 63.

^b In 2020 and 2019, 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 304 onward.

Statement of Changes in Equity

BASF Group

Statement of changes in equity 2020^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

Statement of changes in equity 2019^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, 2019	1,176	3,118	36,699	-5,365	-466	5	-113	-5,939	35,054	1,055	36,109
Dividends paid	-	-	-2,939	-	-	-	-	-	-2,939	-125 ^c	-3,064
Income after taxes	-	-	8,421	-	-	-	-	-	8,421	70	8,491
Other comprehensive income after taxes	-	-	-	-393	1,264	-	78	949	949	15	964
Changes in scope of consolidation and other changes	-	-3 ^d	-125	140	-	-	-	140	12	-162	-150
As of December 31, 2019	1,176	3,115	42,056	-5,618	798	5	-35	-4,850	41,497	853	42,350

^a For more information on the items relating to equity, see Notes 19 and 20 from page 277 onward^b Details are provided in the Statement of Income and Expense Recognized in Equity on page 223^c Including profit and loss transfers^d Granting of BASF shares under BASF's "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, 2020, 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 2020 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, 2020 to December 31, 2020 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.

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 regardless of the economic impact of the coronavirus pandemic. The accounting policies applied are largely the same as those used in 2019.

One change arose with respect to the presentation of some of the investments accounted for using the equity method that are not an integral part of the BASF Group. Income from non-integral companies accounted for using the equity method is no longer presented in the BASF Group's EBIT, but under net income from shareholdings. Due to its increased significance, this will be presented as a separate subtotal within income before income taxes and is no longer part of the financial result. Integral and non-integral investments accounted for using the equity method will also be shown separately in the balance sheet. The statement of income for 2019 has been restated accordingly.

[For more information, see Note 1.3 from page 230 onward and Note 10 from page 253 onward](#)

On February 23, 2021, 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 2020

Amendments to References to the Conceptual Framework in IFRS Standards

The amendments update references to and quotes from the Conceptual Framework and were endorsed by the E.U. on November 29, 2019. The revised Conceptual Framework issued on March 29, 2018 replaces the previous Conceptual Framework from 2010. The main changes primarily relate to the definition, recognition and measurement of assets and liabilities, as well as the differentiation between income and expense and other comprehensive income. They had no material effect on BASF's Consolidated Financial Statements.

Amendments to IAS 1 – Presentation of Financial Statements and IAS 8 – Accounting Policies, Changes in Accounting Estimates and Errors

The amendments issued by the IASB on October 31, 2018 provide a uniform and more precise definition of the materiality of information provided in the financial statements, together with accompanying examples. In this connection, the definitions in the Conceptual Framework, IAS 1, IAS 8 and the IFRS Practice Statement 2 (Making Materiality Judgements) were harmonized. The amendments were endorsed by the E.U. on November 29, 2019. They had no material effect on the reporting of BASF.

Amendments to IFRS 9 – Financial Instruments, IAS 39 – Financial Instruments: Recognition and Measurement, and IFRS 7 – Financial Instruments: Disclosures – Interest Rate Benchmark Reform

The IASB issued amendments to IFRS 9, IAS 39 and IFRS 7 on September 26, 2019, completing Phase 1 of the Interest Rate Benchmark Reform project. The amendments relate to existing uncertainties surrounding the interest rate benchmark reform. According to the original hedge accounting policies, pending adjustments to interest rate benchmarks would, in many cases, have resulted in an end to hedging relationships. The amendments to IFRS 9 and IAS 39 ensure the continuity of hedging relationships despite existing uncertainties regarding interest rate benchmarks, for example by defining that the highly probable requirement is always considered to be met. In connection with the amendments to IFRS 9 and IAS 39, disclosure requirements were added to IFRS 7. The amendments were endorsed by the E.U. on January 15, 2020. This change did not have a material impact on BASF as no hedging relationships affected by interest rate benchmarks were subject to hedge accounting.

Amendments to IFRS 3 – Business Combinations

The amendments issued on October 22, 2018 specify that a business is a set of activities and assets with at least one input and one substantive process that together significantly contribute to the ability to create outputs. Outputs are defined as the provision of goods and services to customers. The existing reference to cost reduction as a characteristic of business combinations was removed. In addition, the new provisions also contain an optional concentration test designed to simplify identification of a business. The modified definition was endorsed by the E.U. on April 21, 2020. These amendments had no material effect on the reporting of BASF.

Amendments to IFRS 16 – Leases Relating to Coronavirus-Related Rent Concessions

On May 28, 2020, the IASB issued an amendment to IFRS 16 aimed at simplifying lessees' accounting of concessions, such as deferments of rent payment or deductions in rent prices, which are granted as a direct result of the coronavirus pandemic. If certain requirements are met, lessees may forego the determination of whether a coronavirus-related rent concession presents a modification of the lease agreement. These amendments were endorsed by the E.U. on October 9, 2020. They had no material effect on BASF.

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 2020 but already endorsed by the European Union were reviewed and are explained below. BASF currently assumes that they will have no material effect on the Consolidated Financial Statements. It does not plan on early adoption of these amendments.

Amendments to IFRS 4 – Insurance Contracts – Extension of Temporary Exemption from Application of IFRS 9

The amendments to IFRS 4 issued on June 25, 2020 are aligned with the two-year postponement of the date on which IFRS 17 will come into force to reporting periods beginning on or after January 1, 2023. They include an analog extension of the temporary exemption period for certain insurance companies from application of IFRS 9 – Financial Instruments, requiring these insurance companies to apply IFRS 9 for the first time in fiscal years beginning on or after January 1, 2023. The amendments were endorsed by the E.U. on December 15, 2020 and are to be applied for the first time on or after January 1, 2021.

Amendments to IFRS 9 – Financial Instruments, IAS 39 – Financial Instruments: Recognition and Measurement, IFRS 7 – Financial Instruments: Disclosures, IFRS 4 – Insurance Contracts, and IFRS 16 – Leases – Interest Rate Benchmark Reform – Phase 2

The amendments from phase 2 of the Interest Rate Benchmark Reform, which were issued on August 27, 2020, are intended to simplify accounting during the IBOR reform. They supplement the requirements from the first phase and generally deal with the replacement of one benchmark interest rate with another. With respect to the presentation of financial instruments, it was clarified that in the case of changes to contractual cash flows, the carrying amount of financial instruments is not to be adjusted or derecognized. Under certain conditions, the effective interest rate can be changed to reflect the change in the alternative interest rate benchmark. Similarly, with respect to the accounting treatment of hedging transactions, under certain conditions, it is not necessary to end a hedge accounting relationship designated for hedge accounting purposes due to changes arising from the IBOR reform. In addition, minor changes to IFRS 16 and IFRS 4 as well as additional IFRS 7 disclosure requirements were adopted. The amendments were endorsed by the E.U. on January 13, 2021 and will come into force for fiscal years beginning on or after January 1, 2021.

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. These amendments are unlikely to have a material impact on the reporting of BASF. BASF does not plan on early adoption of these amendments.

Amendments to IAS 1 – Presentation of Financial Statements – Classification of Liabilities

The IASB issued amendments to IAS 1 on January 23, 2020. The amendments pertain to a limited modification of the relevant criteria used to classify liabilities as current or noncurrent. They specify that the classification of liabilities as current depends on the company's rights as of the balance sheet date to postpone settlement of the liability by a minimum of 12 months after the end of the reporting period. If such rights exist, the liability is classified as noncurrent. Otherwise, it is classified as current. Classification is irrespective of management's expectations and of possible events after the balance sheet date. It also specifies that settlement of a liability is defined as the repayment of a liability using cash, other economic resources or a company's own equity instruments. The IASB issued a further amendment on July 15, 2020 whereby the date of initial application of the amendment on classification of liabilities will be postponed by one year to January 1, 2023 – subject to endorsement by the E.U.

Amendments to IFRS 3 – Business Combinations, IAS 16 – Property, Plant and Equipment, IAS 37 – Provisions, Contingent Liabilities and Contingent Assets as well as Annual Improvements to IFRS 2018–2020

These amendments were issued on May 14, 2020 and – subject to E.U. endorsement – will come into force on January 1, 2022.

The amendments to IFRS 3 include an update of the reference to the Conceptual Framework in IFRS standards. Furthermore, an additional provision will be added to IFRS 3 stating that an acquirer must apply the provisions from IAS 37 and IFRIC 21 rather than the Conceptual Framework when identifying assumed liabilities within the scope of these standards. The content of the accounting rules for business combinations will not change.

The amendments to IAS 16 specify that income received by a company through the sale of items produced while the asset is being brought to its location and into working order must be recognized with the associated costs in profit or loss. Including these items in the cost of the asset is not permissible.

The amendments to IAS 37 pertain to the definition of the costs a company includes when determining if a contract will cause losses. Accordingly, settlement costs are all costs that would not be incurred without the contract (incremental cost) as well as other costs directly attributable to the contract.

The annual improvements to IFRS 2018–2020 pertain to amendments to IFRS 9 – Financial Instruments, whereby only such costs and fees which are paid to the lender by the company and vice versa are to be included in the “10% test” for the purpose of derecognition of financial liabilities. Costs or fees paid to other third parties may not to be included. Moreover, they pertain to minor amendments to IFRS 1 – First-Time Adoption of International Financial Reporting Standards, IAS 41 – Agriculture, and to the explanatory examples of IFRS 16 – Leases.

IFRS 17 – Insurance Contracts, including amendments to IFRS 17

On March 18, 2020, the IASB decided to postpone the date on which IFRS 17 will enter into force to fiscal years beginning on or after January 1, 2023. The amendment was issued on June 25, 2020. It has not yet been endorsed by the E.U. IFRS 17 was issued on May 18, 2017 and provides requirements on recognition, measurement and presentation of insurance contracts within the scope of the standard. IFRS 17 will replace IFRS 4.

Amendments to IAS 1 – Presentation of Financial Statements and IFRS Practice Statement 2 – Making Materiality Judgements

The amendments were issued on February 12, 2021. The amendments to IAS 1 – Disclosure of Accounting Policies – requires that only material accounting policies shall be disclosed in the notes in the future. Accounting policy information is material if it relates to material transactions or events and there is a reason to consider materiality (for example a change in accounting policy). The guidelines in IFRS Practice Statement 2 were accordingly adjusted. The amendments are to be applied in the fiscal year beginning on or after January 1, 2023 – subject to endorsement by the E.U. The effect on the reporting of BASF will be examined.

Amendments to IAS 8 – Accounting Policies, Changes in Accounting Estimates and Errors

The amendments issued on February 12, 2021, clarify how entities can better distinguish between changes resulting from changes in accounting policies from changes in accounting estimates. For this purpose, accounting estimates are defined as “monetary amounts in financial statements that are subject to measurement uncertainty”. The amendments are to be applied in the fiscal year beginning on or after January 1, 2023 – subject to endorsement by the E.U. The effect on the reporting of BASF will be examined.

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 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 253 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 for.

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 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. 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.

The incidental acquisition costs of a business combination are recognized in the income statement under other operating expenses.

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, 2020	Dec. 31, 2019	2020	2019
Brazil (BRL)	6.37	4.52	5.89	4.41
China (CNY)	8.02	7.82	7.87	7.74
United Kingdom (GBP)	0.90	0.85	0.89	0.88
Japan (JPY)	126.49	121.94	121.85	122.01
Malaysia (MYR)	4.93	4.60	4.80	4.64
Mexico (MXN)	24.42	21.22	24.52	21.56
Norway (NOK)	10.47	9.86	10.72	9.85
Russia (RUB)	91.47	69.96	82.72	72.46
Switzerland (CHF)	1.08	1.09	1.07	1.11
South Korea (KRW)	1,336.00	1,296.28	1,345.58	1,305.32
United States (USD)	1.23	1.12	1.14	1.12

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 determined on the basis of assumptions. Measurement is 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 restated. The activities of discontinued operations are not allocated to any reportable segment in financial reporting.

For more information, see Note 3 from page 235 onward and Note 5 from page 241 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 235 onward and Note 14 from page 264 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.

For planning purposes, BASF assumes an oil price of \$50/bbl (Brent) and for gas of approximately €14/MWh (roughly \$5/mmBtu) in 2021.

2 Scope of consolidation

2.1 Changes in scope of consolidation

As of December 31, 2020, a total of 282 companies were included, either proportionally or fully, in the scope of consolidation of the Consolidated Financial Statements (December 31, 2019: 302). Of these, 43 companies were first-time consolidations (2019: seven). Since the beginning of 2020, a total of 63 companies (2019: 36) were deconsolidated due to divestiture, merger, liquidation or immateriality.

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

First-time consolidations in 2019 comprised:

- One acquired company with headquarters in Europe
- One newly established company with headquarters in Asia Pacific
- Five companies that had not been consolidated at the time of initial inclusion in the Consolidated Financial Statements with headquarters in Europe (three, two of those in Germany) and in Asia Pacific (two)

Twelve companies were added to the scope of consolidation in 2020 as part of the acquisition of Solvay's polyamide business.

Fifty-four companies were deconsolidated as a result of the divestiture of construction chemicals activities in 2020.

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 241

For more information, see basf.com/en/corporategovernance

Scope of consolidation

	Europe	Of which Germany	North America	Asia Pacific	South America, Africa, Middle East	2020	2019
As of January 1	152	50	46	74	30	302	331
of which proportionally consolidated	5	–	–	2	–	7	8
First-time consolidations	16	1	7	16	4	43	7
of which proportionally consolidated	2	–	–	–	–	2	–
Deconsolidations	25	6	14	14	10	63	36
of which proportionally consolidated	–	–	–	–	–	–	1
As of December 31	143	45	39	76	24	282	302
of which proportionally consolidated	7	–	–	2	–	9	7

Overview of impact of changes to the scope of consolidation (excluding acquisitions and divestitures)

	2020		2019	
	Million €	%	Million €	%
Sales	-3	0.0	11	0.0
Noncurrent assets	12	0.0	44	0.1
of which property, plant and equipment	39	0.2	13	0.1
Current assets	-23	0.1	-1	0.0
of which cash and cash equivalents	7	0.2	21	0.9
Assets	-11	0.0	43	0.0
Equity	-5	0.0	20	0.0
Noncurrent liabilities	1	0.0	-1	0.0
of which financial indebtedness	-	-	-	-
Current liabilities	-7	0.0	24	0.1
of which financial indebtedness	1	0.0	-	-
Total equity and liabilities	-11	0.0	43	0.0
Other financial obligations	-	-	-	-

2.2 Joint operations

The 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 B.V.B.A., 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

BASF controls these companies jointly with the respective partner. The companies sell their products directly to the partners. The partners ensure ongoing financing of the companies by purchasing the production. The companies were therefore classified as joint operations in accordance with IFRS 11.

AO Achimgaz, Novy Urengoy, Russia, which was jointly operated with Gazprom for the production of natural gas and condensate, was derecognized in connection with the deconsolidation of the oil and gas business as of April 30, 2019.

2.3 Joint ventures and associated companies

Companies over which BASF exercises a significant influence or which are jointly controlled with a partner and not classified as a joint operation are accounted for using the equity method in accordance with IAS 28 (associated companies) and IFRS 11 (joint ventures).

Since 2020, a distinction between shareholdings accounted for using the equity method in integral and those in non-integral companies has been made.

The material equity-accounted shareholding that has been 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.

The material non-integral shareholding is Wintershall Dea GmbH, Kassel/Hamburg, Germany. The company, which has been in existence since May 1, 2019 and in which BASF holds 72.7%, is considered a joint venture because BASF and its partner LetterOne defined the decision-making processes in the governing bodies as such that neither party alone can control the relevant activities.

Stahl Lux 2 S.A., Luxembourg (BASF interest: 16.32%) is classified as an associated company as BASF can exercise significant influence over the company in a number of relevant board decisions.

For more information, see BASF Group list of shares held under basf.com/en/corporategovernance

3 Acquisitions and divestitures

Acquisitions

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 broadens BASF's polyamide capabilities with innovative products. It also enhances the company's access to growth markets in Asia as well as in North and South America. Through the backward integration into the key raw material adiponitrile (ADN), BASF is now integrated along the entire polyamide 6.6 value chain and can 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. 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. 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. Goodwill of €20 million resulted in particular from sales synergies. The businesses acquired from Solvay accounted for €678 million of sales revenue and –€114 mil-

lion in income from operations in the 2020 fiscal year. Including Solvay's businesses and assets in BASF's Consolidated Financial Statements as of January 1, 2020 would have resulted in a sales revenue contribution of €792 million and in income from operations of –€104 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, 2020 and are not suitable for forecasting future developments or events. The majority of total goodwill is not tax deductible.

In 2019, BASF acquired the following activity:

- BASF acquired 100% of shares in Isobionics B.V., Geleen, Netherlands, on September 26, 2019. The company develops and produces a wide range of natural flavors and fragrances with a focus on citrus oil components. This transaction strengthened the Nutrition & Health division. The preliminary purchase price allocation was immaterially revised in 2020, which led to an increase in goodwill of €1 million.

Purchase price allocation for the acquisition of assets and liabilities from Solvay

Million €	Fair value as of date of acquisition
Goodwill	20
Other intangible assets	670
Property, plant and equipment	559
Integral investments accounted for using the equity method	–
Non-integral investments accounted for using the equity method	–
Other financial assets	–
Deferred taxes	105
Other receivables and miscellaneous assets	3
Noncurrent assets	1,357
Inventories	156
Accounts receivable, trade	165
Other receivables and miscellaneous assets	160
Marketable securities	–
Cash and cash equivalents	68
Current assets	549
Total assets	1,906
Provisions for pensions and similar obligations	25
Deferred tax liabilities	172
Tax provisions	–
Other provisions	11
Financial indebtedness	–
Other liabilities	45
Noncurrent liabilities	253
Accounts payable, trade	273
Provisions	2
Tax liabilities	28
Financial indebtedness	8
Other liabilities	23
Current liabilities	334
Total liabilities	587
Total purchase price	1,319

The following overview shows the effects of acquisitions in 2020 and 2019 on the Consolidated Financial Statements. When acquisitions resulted in the transfer of assets or the assumption of additional liabilities, these are shown as a net impact.

Effects of acquisitions and changes in the preliminary purchase price allocations

	2020		2019	
	Million €	% ^a	Million €	% ^a
Goodwill	21	0.3	-47	-0.6
Other intangible assets	670	10.8	10	0.2
Property, plant and equipment	559	2.8	3	0.0
Financial assets	-	-	-	-
Other noncurrent assets	108	2.5	2	0.1
Noncurrent assets	1,358	2.7	-32	-0.1
Current assets	548	1.8	94	0.3
of which cash and cash equivalents	68	1.6	0	0.0
Assets	1,906	2.4	62	0.1
Equity	-	-	-	-
Noncurrent liabilities	264	0.9	-23	-0.1
of which financial indebtedness	-	-	-	-
Current liabilities	334	2.1	-154	-0.9
of which financial indebtedness	8	0.0	-	-
Total equity and liabilities	598	0.7	-177	-0.2
Payments made for acquisitions	1,308		239	
Additions of cash and cash equivalents	-68	-	0	-
Payments made for acquisitions according to statement of cash flows	1,240		239	

^a Proportional share in relation to the BASF Group

Divestitures

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.

□ The effects of the disposal are disclosed in the Notes under "Discontinued operations" on page 239

In 2019, BASF sold the following activities:

- On January 31, 2019, following the approval of all relevant authorities, BASF and Solenis had concluded the transfer of BASF's paper and water chemicals business to Solenis. Since February 1, 2019, the combined company has operated under the name Solenis UK International Ltd., London, United Kingdom, and offers bundled sales, service and production capabilities across the globe. BASF holds a 49% share in the combined entity; 51% of the shares are held by funds managed by Clayton, Dubilier & Rice, and by Solenis management. The transaction included production sites and plants of BASF's paper and water chemicals business in Bradford and Grimsby, England; Suffolk, Virginia; Altamira, Mexico; Ankleshwar, India; and Kwinana, Australia. The divestiture affected the Performance Chemicals division.
- BASF and LetterOne completed the merger of Wintershall and DEA on April 30, 2019. On September 27, 2018, BASF and LetterOne had signed a transaction agreement to merge their respective oil and gas businesses in a joint venture, creating a leading independent European exploration and production company with international operations in core regions. LetterOne contributed all shares in DEA Deutsche Erdöl AG to Wintershall

Holding GmbH and received new shares in the latter. The company was renamed Wintershall Dea GmbH, Kassel/Hamburg. Including preference shares, BASF has a shareholding of 72.7% in Wintershall Dea GmbH. No later than 36 months after closing but in all cases before an IPO, these preference shares will be converted into ordinary shares in Wintershall Dea GmbH. From the signing of the agreement in September 2018 until the closing of the merger, BASF's oil and gas business was reported as a discontinued operation. Since the merger, BASF's interest in Wintershall Dea GmbH has been accounted for as a non-integral shareholding using the equity method. The gain from the transition from full consolidation to the equity method was reported in income after taxes from discontinued operations.

- On December 6, 2019, BASF India Limited sold its stilbene-based optical brightening agents (OBA) business for paper and powder detergent applications to Archroma India Private Limited, Mumbai, India. The transaction included the stilbene-based OBA product portfolio and the production plant in Ankleshwar, India. The production plant was part of the Performance Chemicals division and the stilbene-based OBA product portfolio was allocated to the Performance Chemicals and Care Chemicals divisions.
- BASF sold its ultrafiltration membrane business to DuPont Safety & Construction on December 31, 2019. The divestiture included the shares of inge GmbH, the business' headquarters and production site in Greifenberg, Germany, including all employees, its international sales force, and certain intellectual property rights which were previously owned by BASF SE. The ultrafiltration membrane business had been part of the Performance Chemicals division.

The following overview shows the effects of the divestitures conducted in 2020 and 2019 on the Consolidated Financial Statements. The sales line item showed the year-on-year decline resulting from divestitures. Noncurrent assets in 2019 primarily included the addition of the investments accounted for using the equity method, Wintershall Dea GmbH and Solenis UK International Ltd., while current assets and current liabilities showed the assets and liabilities of the disposal groups. The impact on equity related mainly to gains and losses from divestitures.

Agreed transactions

- On August 29, 2019, BASF and the fine chemicals company DIC, Tokyo, Japan, reached an agreement to transfer the global pigments business. The purchase price on a cash and debt-free basis is €1.15 billion. The transaction is expected to close in the first half of 2021. The sale is subject to approval by the relevant antitrust authorities. The transaction affects approximately 2,600 employees in the Dispersions & Pigments division.

Effects of divestitures

	2020		2019	
	Million €	% ^a	Million €	% ^a
Sales	-91	-0.2	-414	-0.7
Noncurrent assets	-	-	14,686	26.2
of which property, plant and equipment	-	-	-19	-0.1
Current assets	-3,035	-10.2	-13,877	-44.8
of which cash and cash equivalents ^b	-89	-	-802	-
Assets	-3,035	-3.8	809	0.9
Equity	607	1.8	6,562	15.5
Noncurrent liabilities	-	-	235	0.8
of which financial indebtedness	-	-	-	-
Current liabilities	-883	-5.4	-5,779	-34.8
of which financial indebtedness	-	-	-	-
Total equity and liabilities	-276	-0.3	1,018	1.2
Payments received from divestitures	2,759		209	
Further effects in connection with divestitures ^c	-239	-	2,391	-
Payments received from divestitures according to statement of cash flows	2,520		2,600	

^a Proportional share in relation to the BASF Group

^b Includes €89 million from the discontinued construction chemicals business in 2020 and €800 million primarily from the discontinued oil and gas business in 2019

^c Includes project-related tax payments and derecognition of cash and cash equivalents in 2020; and payments received from capital repayments, settlement of receivables and derecognition of cash and cash equivalents in 2019

Discontinued operations / disposal groups

- With the binding agreement on the sale of BASF's construction chemicals business to a subsidiary of Lone Star, this business was presented as a discontinued operation. The disposal group was derecognized upon closing of the transaction in the fourth quarter of 2020. The transfer of the construction chemicals business occurred in two steps, on September 30, 2020 and on November 30, 2020. Of total comprehensive income after taxes attributable to BASF SE shareholders totaling –€4,737 million (2019: €9,370 million), €331 million (2019: €11 million) related to the discontinued construction chemicals business and –€5,068 million (2019: €2,422 million) to continuing operations. In 2019, the discontinued oil and gas business contributed €6,937 million to comprehensive income after taxes that is attributable to BASF SE shareholders.

Earnings from the discontinued construction chemicals business until November 30, 2020 were as follows:

Statement of income from the discontinued construction chemicals business

Million €	January 1– November 30, 2020	January 1– December 31, 2019
Sales revenue	1,814	2,553
Cost of sales	–938	–1,412
Gross profit on sales	876	1,141
Selling expenses	–503	–866
General administrative expenses	–103	–66
Research and development expenses	–26	–36
Other operating income and expenses	–171	–121
Gain on the disposal before income taxes	566	–
EBIT	639	52
Net income from shareholdings and financial result	–8	–4
Income before income taxes	631	48
Income taxes	–235	–24
Income after income taxes	396	24
of which attributable to noncontrolling interests	2	5
Income after noncontrolling interests	394	19
Earnings per share from discontinued operations €	0.43	0.02
Depreciation and amortization of property, plant and equipment and intangible assets	–	–162
of which impairments and reversals of impairments	–	–1

The calculation of the disposal gain on the discontinued construction chemicals business is presented in the following table:

Calculation of disposal gain on the discontinued construction chemicals business

Million €	November 30, 2020
Purchase price on a cash and debt-free basis	3,170
Purchase price adjustments ^a	–407
Disposal income	2,763
Disposed net assets	–2,117
Assets of the disposal group	–3,066
Reinstated net assets	5
Liabilities of the disposal group	944
Noncontrolling interests	8
Other	–88
Disposal gain before taxes	566
Income taxes	–208
Disposal gain after taxes	358

^a Purchase price adjustments take into account, among other things, cash, financial indebtedness and pension obligations.

The discontinued construction chemicals business accounted for the following amounts in BASF's statement of cash flows:

Cash flows from the discontinued construction chemicals business (excluding effects from the divestiture)

Million €	January 1– November 30, 2020	January 1– December 31, 2019
Cash flows from operating activities	46	219
Cash flows from investing activities	–118	–107
Cash flows from financing activities	9	–18
Total	–63	94

Groups of assets and liabilities held for sale (disposal groups)

– With the agreement on the acquisition of the global pigments business by the fine chemical company DIC, the affected assets and liabilities were reclassified to a disposal group. The business is allocated to the Dispersions & Pigments division. Impairment tests were conducted for the disposal group for the pigments business as of December 31, 2019 and June 30, 2020. In accordance with IFRS 5, the fair value less costs to sell must be used as the recoverable amount and compared with the carrying amount. The recoverable amount was determined as of December 31, 2019 and June 30, 2020 by discounting the respective expected cash flows the planned transaction closing, including income from the sale, at a discount rate after taxes of 7.98%. This resulted in the need for impairment in the amount of €73 million as of December 31, 2019 and, additionally, of €66 million as of June 30, 2020, which was allocated to the goodwill of the disposal group for the pigments business. The impairment test as of December 31, 2020 revealed no need for a valuation adjustment.

The values for the disposal group are presented in the following table.

Other comprehensive income included –€116 million (2019: –€79 million) as of December 31, 2020 attributable to the business to be sold.

Pigments business disposal group

Million €

	December 31, 2020	December 31, 2019
Balance Sheet		
Goodwill	–243	–336
Other intangible assets	–21	–22
Property, plant and equipment	–290	–266
Integral investments accounted for using the equity method	–	–
Non-integral investments accounted for using the equity method	–64	–65
Other financial assets	–8	–8
Deferred tax assets	–51	–58
Other receivables and miscellaneous assets	–4	–2
Noncurrent assets	–681	–757
Inventories	–351	–383
Accounts receivable, trade	–112	–109
Other receivables and miscellaneous assets	–33	–22
Marketable securities	–	–
Cash and cash equivalents	–5	–7
Current assets	–501	–521
Assets of the disposal group	1,182	1,278
Provisions for pensions and similar obligations	–202	–213
Deferred tax liabilities	–9	–17
Tax provisions	–	–
Other provisions	–9	–9
Financial indebtedness	–	–
Other liabilities	–8	–15
Noncurrent liabilities	–228	–254
Accounts payable, trade	–53	–51
Provisions	–15	–20
Tax liabilities	–5	–6
Financial indebtedness	–	–
Other liabilities	–40	–27
Current liabilities	–113	–104
Liabilities of the disposal group	341	358
Net assets	841	920

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 and 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 & Pigments, 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 our key value chains. Alongside internal transfers, customers include the chemical and plastics industries. The segment's competitiveness is strengthened by technological leadership and operational excellence.

The **Materials** segment is composed of the Performance Materials division and the Monomers division. 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.

The **Industrial Solutions** segment consists of the Dispersions & Pigments and the Performance Chemicals divisions. The segment develops and markets ingredients and additives for industrial applications, such as polymer dispersions, pigments, resins, electronic materials, antioxidants and additives. Its customers come from key industries such as automotive, plastics and electronics.

The **Surface Technologies** segment bundles chemical solutions for surfaces with the Catalysts and Coatings divisions. Its product spectrum includes catalysts and battery materials for the automotive and chemical industries, surface treatments, colors and coatings.

The **Nutrition & Care** segment comprises the Care Chemicals division and the Nutrition & Health division. The 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 **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 solutions, including those based on digital technologies, combined with practical advice.

Activities that are not allocated to any of the segments are recorded under **Other**. These include other businesses, which comprise commodity trading, engineering and other services, 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 €	2020	2019 ^a
Costs for cross-divisional corporate research	–364	–397
Costs of corporate headquarters	–214	–231
Other businesses	169	164
Foreign currency results, hedging and other measurement effects	–59	–89
Miscellaneous income and expenses	–735	35
Income from operations of Other	–1,203	–518

^a The 2019 figures have been restated to reflect the reclassification of income from non-integral companies accounted for using the equity method to net income from shareholdings.

Income from operations of Other declined by €685 million year on year, from –€518 million to –€1,203 million. The **costs for cross-divisional corporate research** decreased by €33 million to –€364 million, and the **costs of corporate headquarters** were €17 million lower at –€214 million. Income from **other businesses** rose by €5 million to €169 million. The line item **foreign currency results, hedging and other measurement effects** improved by €30 million to –€59 million. In addition to currency effects, the improvement was due mainly to earnings from hedging transactions. The line item **miscellaneous income and expenses** decreased by –€770 million from €35 million to –€735 million. This was due especially to expenses related to the realignment of the Global Business Services unit and to positive effects in 2019 primarily from adjustments to pension benefits in the United States and gains from the sale of BASF's share of the Klybeck site in Basel, Switzerland.

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, 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, certain impairments, gains or losses resulting from divestitures and sales of integral investments accounted for using the equity method, and 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, 2020	December 31, 2019
Segment assets	56,161	59,365
Assets of businesses included in Other ^a	2,251	2,780
Other financial assets and non-integral investments accounted for using the equity method	11,456	13,760
Deferred tax assets	3,386	2,887
Cash and cash equivalents / marketable securities	4,537	2,871
Defined benefit assets	126	123
Other receivables / prepaid expenses	2,375	2,429
Assets of the construction chemicals business disposal group (2019) ^b	–	2,661
Other assets of the construction chemicals business disposal group (2019) ^b	–	74
Assets of Other	24,131	27,585
Assets of the BASF Group	80,292	86,950

^a The carrying amounts of non-integral investments accounted for using the equity method previously presented under "Assets of businesses included in Other" have been reclassified to "Other financial assets and non-integral investments accounted for using the equity method."

^b For more information, see page 215 onward of the BASF Report 2019, Note 2.5.

Reconciliation of segment income to income before income taxes

Million €

	2020	2019 ^a
EBIT before special items of the segments	4,329	5,224
EBIT before special items of Other	–769	–581
EBIT before special items	3,560	4,643
Special items of the segments	–3,317	–505
Special items of Other	–434	63
Special items	–3,751	–442
EBIT of the segments	1,012	4,719
EBIT of Other	–1,203	–518
EBIT	–191	4,201
Net income from shareholdings	–909	–194
Financial result	–462	–705
Income before income taxes	–1,562	3,302

^a The 2019 figures have been restated to reflect the reclassification of income from non-integral companies accounted for using the equity method to net income from shareholdings.

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	–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 intangible assets and property, plant and equipment (including acquisitions)	871	1,957	331	585	510	459	156	4,869
Depreciation and amortization of intangible assets and property, plant and equipment	1,429	1,665	469	1,487	464	1,000	171	6,685
of which impairments	592	800	106	1,013	53	296	20	2,880

Segments 2019^a

Million €

	Chemicals	Materials	Industrial Solutions	Surface Technologies	Nutrition & Care	Agricultural Solutions	Other ^b	BASF Group
Sales	9,532	11,466	8,389	13,142	6,075	7,814	2,898	59,316
Intersegment transfers	3,428	849	524	212	490	197	77	5,777
Sales including transfers	12,960	12,315	8,913	13,354	6,565	8,011	2,975	65,093
Income from integral companies accounted for using the equity method	99	22	–	26	5	–	113	265
Income from operations	622	973	889	663	644	928	–518	4,201
Assets	8,978	8,782	6,903	11,773	6,399	16,530	27,585	86,950
of which goodwill	201	172	649	2,912	884	3,219	68	8,105
other intangible assets	65	102	256	1,158	558	4,224	57	6,420
property, plant and equipment	5,117	4,999	2,226	3,078	2,347	2,938	1,087	21,792
integral investments accounted for using the equity method	763	235	37	388	43	–	419	1,885
Liabilities	3,507	3,603	2,886	3,152	2,897	3,251	25,304	44,600
Research and development expenses	108	193	192	214	161	879	411	2,158
Additions to intangible assets and property, plant and equipment (including acquisitions)	1,108	784	426	565	595	320	299	4,097
Depreciation and amortization of intangible assets and property, plant and equipment	923	718	438	457	545	719	346	4,146
of which impairments and reversals of impairments ^c	146	8	19	9	124	12	6	324

^a The relevant 2019 figures have been restated to reflect the reclassification of income from non-integral companies accounted for using the equity method to net income from shareholdings.

^b Other includes assets and liabilities as well as amortization of intangible assets and depreciation of property, plant and equipment of the discontinued construction chemicals business. For more information, see Note 2.5 on page 215 onward of the 2019 BASF Report. Until reclassification to the disposal group, additions to intangible assets and property, plant and equipment (including acquisitions) of the discontinued construction chemicals business, also included in Other, amounted to €176 million.

^c Impairments and reversals of impairments included reversals of impairments in the amount of €4 million in Other and €2 million in Industrial Solutions in 2019.

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
Income from integral companies accounted for using the equity method	57	32	-2	165	-	220
Income from operations	-1,005	-1,712	-201	768	247	-191
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 intangible assets and property, plant and equipment (including acquisitions)	3,019	932	1,044	690	116	4,869
Amortization of intangible assets and depreciation of property, plant and equipment including impairments and reversals of impairments	3,306	2,305	2,124	1,133	122	6,685

In the United States, sales to third parties in 2020 amounted to €14,352 million (2019: €14,211 million) according to location of companies and €13,414 million (2019: €13,506 million) according to location of customers. In the United States, intangible assets, property, plant and equipment, and investments accounted for using the equity method amounted to €9,967 million on December 31, 2020, compared with €12,115 million in the previous year.

In China, sales to third parties in 2020 amounted to €7,839 million (2019: €7,216 million) according to location of companies and €7,877 million (2019: €6,734 million) according to location of customers. In China, intangible assets, property, plant and equipment, and investments accounted for using the equity method amounted to €3,799 million on December 31, 2020, compared with €4,299 million in the previous year.

Regions 2019^a

Million €

	Europe	Of which Germany	North America	Asia Pacific	South America, Africa, Middle East	BASF Group
Location of customer						
Sales	23,827	6,123	15,948	14,203	5,338	59,316
Share %	40.2	10.3	26.9	23.9	9.0	100.0
Location of company						
Sales	25,706	14,049	16,420	13,384	3,806	59,316
Income from integral companies accounted for using the equity method	104	67	2	159	–	265
Income from operations	2,125	504	692	1,082	302	4,201
Assets	47,347	34,412	21,345	13,912	4,346	86,950
of which intangible assets	6,652	3,588	6,152	1,353	368	14,525
property, plant and equipment	9,857	6,928	6,467	4,644	824	21,792
integral investments accounted for using the equity method	393	360	125	1,367	–	1,885
Additions to intangible assets and property, plant and equipment (including acquisitions)	2,135	1,459	1,310	581	71	4,097
Amortization of intangible assets and depreciation of property, plant and equipment including impairments and reversals of impairments	1,896	1,235	1,501	599	150	4,146

^a The relevant 2019 figures have been restated to reflect the reclassification of income from non-integral companies accounted for using the equity method to net income from shareholdings.

6 Earnings per share

Earnings per share

		2020	2019
Income after taxes from continuing operations	million €	-1,471	2,546
of which noncontrolling interests	million €	-17	46
Net income and noncontrolling interests from continuing operations	million €	-1,454	2,500
Income after taxes from discontinued operations	million €	396	5,945
of which noncontrolling interests	million €	2	24
Net income and noncontrolling interests from discontinued operations	million €	394	5,921
Income after taxes	million €	-1,075	8,491
of which noncontrolling interests	million €	-15	70
Net income and noncontrolling interests	million €	-1,060	8,421
Weighted average number of outstanding shares	1,000	918,479	918,479
Dilution effect from BASF's "plus" incentive share program	1,000	1,759	1,565
Weighted average number of shares for diluted earnings per share	1,000	920,238	920,044
Earnings per share			
From continuing operations	€	-1.58	2.72
Diluted	€	-1.58	2.70
From discontinued operations	€	0.43	6.45
Diluted	€	0.43	6.45
From continuing and discontinued operations	€	-1.15	9.17
Diluted	€	-1.15	9.15

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. There was no dilutive effect from the issue of "plus" shares in 2020 (2019: €0.02).

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 the point in time at which the customer obtains control of the goods 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. Rights to use intellectual property are characterized by the fact that the licensed technology remains largely unchanged during the term of the license and, after initial provision of the licensed technology, BASF has no further performance obligations. Rights to access intellectual property, by contrast, imply that BASF will perform ongoing development and enhancement of the technology, and the licensee will take a material interest in this ongoing development and enhancement. Accordingly, sales revenue from license agreements granting rights to access BASF's intellectual property is recognized over the term of the license. 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 €

	2020	2019
Petrochemicals	5,426	6,670
Intermediates	2,645	2,862
Chemicals	8,071	9,532
Performance Materials	5,635	6,064
Monomers	5,101	5,402
Materials	10,736	11,466
Dispersions & Pigments	4,869	5,178
Performance Chemicals	2,775	3,211
Industrial Solutions	7,644	8,389
Catalysts	13,570	9,396
Coatings	3,089	3,746
Surface Technologies	16,659	13,142
Care Chemicals	3,989	4,118
Nutrition & Health	2,030	1,957
Nutrition & Care	6,019	6,075
Fungicides	2,267	2,305
Herbicides	2,464	2,616
Insecticides	825	800
Seed Treatment	609	639
Seeds & Traits	1,495	1,454
Agricultural Solutions	7,660	7,814
Other	2,360	2,898
BASF Group	59,149	59,316

Sales revenue of €53 million, that was included in contract liabilities as of January 1, 2020, was recognized in 2020. That included €9 million related to changes in the time frame for underlying performance obligations to be satisfied.

Sales revenue for the 2020 fiscal year includes €218 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 251 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 and 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 241 onward

9 Other operating income and expenses

Other operating income

Million €	2020	2019
Income from the adjustment and release of provisions recognized in other operating expenses	54	111
Revenue from miscellaneous other activities	244	189
Income from foreign currency and hedging transactions as well as from the measurement of LTI options	45	55
Income from the translation of financial statements in foreign currencies	13	11
Gains on divestitures and the disposal of noncurrent assets	62	822
Reversals of impairment losses on noncurrent assets	–	6
Income from the reversal of valuation allowances for business-related receivables	22	19
Other	959	882
Other operating income	1,399	2,095

Income from the adjustment and release of provisions recognized in other operating expenses was largely related to 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 included.

Income from foreign currency and hedging transactions as well as from the measurement of LTI options pertained to the foreign currency translation of receivables and payables as well as of currency derivatives and other hedging transactions. No income from the release of provisions for the long-term incentive (LTI) program was recognized in 2020. Only a minor amount was released in 2019.

Income from the translation of financial statements in foreign currencies included gains from the translation of companies' financial statements whose local currency is different from the functional currency.

At €62 million, **gains on divestitures and the disposal of noncurrent assets** were significantly below the figure in the previous year. They included primarily gains from the sale of fixed assets in the amount of €44 million. Income of €390 million was recognized in 2019 from the transfer of BASF's paper and water chemicals business to the Solenis group and the sale of assets in the Agricultural Solutions segment in accordance with the conditions imposed by antitrust authorities in connection with the acquisition of the Bayer businesses. Furthermore, income of €421 million resulted in 2019 from real estate divestitures in several countries, mainly relating to the sale of a building complex in Switzerland in the amount of €400 million.

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 €151 million in 2020 and €232 million in 2019. This was due in both years to research project funding, government grants in multiple countries, regional business development subsidies in China and insurance refunds. Further income in 2020 resulted from gains in connection with the premature termination of a long-term supply agreement in North America in the amount of €103 million. Additional income resulted in 2019 from plan adjustments for pension benefits and similar obligations in the amount of €137 million as well as from a contractually agreed compensation payment in the amount of €46 million. Moreover, income in both years was related to gains from precious metal trading (2020: €304 million, 2019: €103 million), refunds of consumption taxes and a number of additional items.

Other operating expenses

Million €	2020	2019
Restructuring and integration measures	809	697
Environmental protection and safety measures, costs of demolition and removal, and project costs not subject to mandatory capitalization	356	320
Depreciation, amortization and impairments of noncurrent assets and of the disposal group	2,968	426
Costs from other miscellaneous revenue-generating activities	213	173
Expenses from foreign currency and hedging transactions as well as from the measurement of LTI options	180	249
Losses from the translation of financial statements in foreign currencies	33	18
Losses from divestitures and the disposal of noncurrent assets	51	16
Expenses from the addition of valuation allowances on business-related receivables	69	67
Expenses for derecognition of obsolete inventory	343	286
Other	1,086	782
Other operating expenses	6,108	3,034

In 2020, expenses from **restructuring and integration measures** in the amount of €651 million were attributable to restructuring activities to improve competitiveness in various operating divisions and in the Global Business Services unit and to site closures in Europe, North America and Asia Pacific. In 2019, these expenses in the amount of €481 million were mainly attributable to the implementation of the new BASF strategy and, to a lesser extent, to site closures in North America and Asia Pacific.

Expenses from integration measures amounted to €90 million in 2020 and related to the integration of Solvay's global polyamide business. In 2019, these expenses amounted to € 43 million and related to the integration of significant parts of Bayer's seed and non-selective herbicide business as well as its vegetable seeds business, which were acquired in 2018.

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 €218 million in 2020 and €243 million in 2019. In both years, these mainly related to the Ludwigshafen site in Germany. Further expenses of €138 million in 2020 and €77 million in 2019 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 group rose to €2,968 million in 2020. The increase was mainly due to impairments amounting to €2,368 million resulting from the economic effects of the coronavirus pandemic and affected all segments. In addition, impairments in the amount of €377 million arose due to restructuring in North America, Europe and Asia Pacific. Depreciation, amortization and impairments of noncurrent assets amounting to €426 million in 2019 related primarily to the impairment of project costs for a planned methane-based propylene production plant on the U.S. Gulf Coast, as well as to the optimization of production sites within the Nutrition & Health division in Europe.

For more information, see Note 14 from page 264 onward and Note 15 from page 268 onward

Costs from other miscellaneous revenue-generating activities relate to the items presented in other operating income.

Expenses from foreign currency and hedging transactions as well as from the measurement of LTI options related to foreign currency translation of receivables and payables as well as changes in the fair value of currency derivatives and other hedging transactions. Expenses resulting from the measurement of LTI programs amounted to €35 million in 2020 and €39 million in 2019.

In both years, **losses from divestitures and the disposal of noncurrent assets** were mainly in connection with the planned divestiture of the global pigments business.

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. Additional other expenses resulted in 2020 from the coronavirus pandemic, especially due to BASF's "Helping Hands" aid campaign.

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 GmbH, 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 the BASF Group's EBIT, and income from non-integral companies accounted for using the equity method is presented together with income from other financial assets in the BASF Group's net income from shareholdings. Similarly, integral and non-integral shareholdings accounted for using the equity method are also shown separately in the balance sheet.

10.1 Integral companies accounted for using the equity method

Income from integral companies accounted for using the equity method

Million €	2020	2019
Proportional income after taxes	234	284
of which joint ventures	193	205
associated companies	41	79
Other adjustments to income and expenses	-14	-19
of which joint ventures	-5	-21
associated companies	-9	2
Income from integral companies accounted for using the equity method	220	265

Income from integral companies accounted for using the equity method decreased by €45 million in 2020. Of the decrease, €40 million related to the shareholding in BASF-YPC Company Ltd., Nanjing, China, primarily due to the scheduled turnarounds of the production plants.

Reconciliation of the carrying amount of integral shareholdings accounted for using the equity method

Million €

	Joint ventures		Associated companies	
	2020	2019	2020	2019
Carrying amount according to the equity method as of the beginning of the year	1,309	1,408	576	514
Proportional income after taxes and other adjustments to income and expenses	188	184	32	81
Proportional changes of other comprehensive income	-35	16	-12	-
Total comprehensive income	153	200	20	81
Changes in the scope of consolidation	-	-	-	-
Additions	-	5	-	-
Disposals	-6	-27	-8	-
Transfers	-159	-277	-7	-19
Carrying amount according to the equity method as of the end of the year	1,297	1,309	581	576

Proportional changes of other comprehensive income included income and expense recognized directly in equity and related primarily to currency effects. Of that, -€17 million related to BASF-YPC Company Ltd. in 2020, and €9 million in 2019.

Disposals in 2020 included primarily a capital decrease in the amount of €8 million at Yara Freeport LLC, Wilmington, Delaware.

Transfers in 2020 included dividend payments from BASF-YPC Company Ltd. in the amount of €110 million (2019: €200 million).

Financial information on the material integral investment accounted for using the equity method

The following table contains financial information on the material integral company accounted for using the equity method, BASF-YPC Company Ltd.

Financial information on BASF-YPC Company Ltd., Nanjing, China (100%)

Million €

	December 31, 2020	December 31, 2019
Balance Sheet		
Noncurrent assets	931	1,032
Current assets	820	768
of which marketable securities, cash and cash equivalents	229	148
Assets	1,751	1,800
Equity	1,419	1,542
Noncurrent liabilities	3	3
of which financial indebtedness	–	–
Current liabilities	329	255
of which financial indebtedness	54	28
Total equity and liabilities	1,751	1,800
Statement of income	January 1–December 31, 2020	January 1–December 31, 2019
Sales revenue	1,995	2,536
Amortization/impairment and reversals of impairments	202	209
Interest income	3	3
Interest expenses	2	4
Income taxes	44	71
Total comprehensive income	98	230

The carrying amount accounted for using the equity method of the shareholding in BASF-YPC Company Ltd. amounted to €710 million as of December 31, 2020, and €772 million as of December 31, 2019.

10.2 Non-integral companies accounted for using the equity method

Income from non-integral companies accounted for using the equity method

Million €	2020	2019
Proportional income after taxes	–643	149
of which joint ventures	–610	207
associated companies	–33	–58
Other adjustments to income and expenses	–282	–298
of which joint ventures	–280	–293
associated companies	–2	–5
Income from non-integral companies accounted for using the equity method	–925	–149

Income from non-integral companies accounted for using the equity method decreased by €776 million in 2020. This was primarily due to impairments of assets of Wintershall Dea Group amounting to €791 million as a result of lower oil and gas price forecasts and changed reserve estimates. As part of the impairment tests, the expected cash flows in euros from the exploration and production assets held by Wintershall Dea were updated and discounted. This assumed an oil price of \$43 per bbl of Brent crude in 2021 that expected rises to a nominal \$62 per bbl by 2023 and then develops in line with cost increases. The development of gas prices assumed a price of \$3.8 per mmBtu (TTF) for 2021 that rises to a nominal \$7.7 per mmBtu in 2025 and then follows the expected cost trend. 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 14.4%. A decrease of 10% in price assumptions for the entire planning period would result in the need for an impairment of

about €320 million of the shareholding as a whole. The increase in capital cost rates of one percentage point would not lead to an impairment of the shareholding as a whole but would, however, result in an impairment of around €250 million for value components in individual countries that were recognized in connection with BASF's purchase price allocation.

Reconciliation of the carrying amount of non-integral investments accounted for using the equity method

Million €

	Joint ventures		Associated companies	
	2020	2019	2020	2019
Carrying amount according to the equity method as of the beginning of the year	12,401	–	722	284
Proportional income after taxes and other adjustments to income and expenses	–890	–86	–35	–63
Proportional changes of other comprehensive income	–1,255	–50	–2	–24
Total comprehensive income	–2,145	–136	–37	–87
Changes in the scope of consolidation	–	–	–	–
Additions	–	14,078	–	590
Disposals	–	–1,541	–10	–
Transfers	–57	–	–	–65
Carrying amount according to the equity method as of the end of the year	10,199	12,401	675	722

Only the shareholding in Wintershall Dea GmbH is included in **joint ventures**.

Proportional income after taxes and other adjustments to income and expenses also contain effects from the carryforward of fair value adjustments made at initial recognition of Wintershall Dea.

The **proportional changes of other comprehensive income** primarily included currency effects on the assets of the Wintershall Dea Group.

Disposals included to a capital decrease in Solenis UK International Ltd., London, United Kingdom, in the amount of €10 million in 2020.

Transfers contained dividend payments of €57 million by Wintershall Dea GmbH in 2020. Transfers in 2019 included the reclassification of the proportional carrying amount attributable to the share of BASF Colors & Effects Switzerland AG in CIMO Compagnie industrielle de Monthey S.A., Monthey, Switzerland, to the assets of the disposal group for the pigments business.

Financial information on the material non-integral investment accounted for using the equity method

The following table contains financial information on the material non-integral shareholding accounted for using the equity method, the Wintershall Dea Group, including adjustments for fair value made at initial recognition and the resulting effects on earnings.

Financial information on the Wintershall Dea Group, Kassel/Hamburg, Germany (100%)

Million €

	December 31, 2020	December 31, 2019
Balance Sheet		
Noncurrent assets	27,881	31,920
of which goodwill from fair value adjustments	2,740	2,688
Current assets	2,459	2,589
of which marketable securities, cash and cash equivalents	821	814
Assets	30,340	34,509
Equity	14,029	17,058
Noncurrent liabilities	14,343	15,273
of which financial indebtedness	5,886	6,028
Current liabilities	1,968	2,178
of which financial indebtedness	471	576
Total equity and liabilities	30,340	34,509
Statement of income	January 1–December 31, 2020	May 1–December 31, 2019
Sales revenue	3,891	3,272
Amortization/impairment and reversals of impairments	–3,080	–1,544
Interest income	122	75
Interest expenses	–39	–68
Income taxes	–424	–286
Total comprehensive income	–2,981	–187

10.3 Other shareholdings and financial assets

Net income from other shareholdings

Million €	2020	2019
Dividends and similar income	18	15
Income from the disposal of / write-up of shareholdings	136	17
Income from profit transfer agreements / tax allocation to shareholdings	3	1
Income from other shareholdings	157	33
Expenses from loss transfer agreements	–63	–55
Write-downs on / losses from the sale of shareholdings	–78	–23
Expenses from other shareholdings	–141	–78
Net income from other shareholdings	16	–45

Net income from other shareholdings increased by €61 million in 2020. This resulted primarily from the measurement of shareholdings at fair value.

Carrying amount of other financial assets

Million €	December 31, 2020	December 31, 2019
Other shareholdings	533	501
Long-term securities	49	135
Other financial assets	582	636

11 Financial result

Financial result

Million €

	2020	2019
Interest income from cash and cash equivalents	146	168
Interest and dividend income from securities and loans	18	15
Interest income	164	183
Interest expenses	-537	-648
Interest result	-373	-465
Reversals of write-downs on / income from securities and loans ^a	22	26
Income from the capitalization of borrowing costs	30	35
Interest income on income taxes ^a	35	4
Miscellaneous financial income	31	16
Other financial income	118	81
Write-downs on / losses from securities and loans	-56	-8
Net interest expense from underfunded pension plans and similar obligations	-108	-155
Net interest expense from other long-term personnel obligations	-2	-5
Unwinding the discount on other noncurrent liabilities	-11	-11
Interest expenses on income taxes ^a	-20	-25
Miscellaneous financial expenses	-10	-117
Other financial expenses	-207	-321
Other financial result	-89	-240
Financial result	-462	-705

^a Reversals of write-downs on / income from securities and loans, interest income on income taxes and interest expenses on income taxes were reported as miscellaneous financial expenses in the previous year.

The **interest result** improved by €92 million year on year, to -€373 million, as a result of lower interest expenses. The decrease in interest expenses was mainly due to lower interest rates on financial debt, particularly commercial paper.

The rise in **write-downs on / losses from securities and loans** was primarily due to higher 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 decline in **other financial expenses** was primarily due to lower net expenses associated with the translation of loans, bonds and commercial paper 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. As in the previous year, the weighted average tax rate was 14.5% in 2020. The 30% rate used to calculate deferred taxes for German Group companies remained unchanged in 2020. The income of foreign Group companies is assessed using the tax rates applicable in their respective countries. These are also generally used to calculate deferred taxes to the extent that tax rate adjustments for the future have not yet been enacted.

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 not to be 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 decline in current tax expense was due mainly to tax income for previous years, especially from incentives offered by the CARES Act in the United States, and lower earnings, mainly in Germany and North America.

Changes in valuation allowances on deferred tax assets for tax loss carryforwards resulted in income of €5 million in 2020 (2019: expense of €1 million).

The BASF Group tax rate amounted to 5.8% in 2020 (2019: 22.9%). The relatively low tax income in relation to pre-tax result in 2020 resulted primarily from a rise in nondeductible operating expenses due to the non-tax-effective impairment of goodwill and the overall negative earnings contribution from companies accounted for using the equity method, mainly due to impairments of assets of the Wintershall Dea Group, Kassel/Hamburg, Germany. This was partially offset by a rise in tax income for previous periods, due mainly to incentives offered by the CARES Act in the United States.

Other taxes included real estate taxes and other comparable taxes totaling €106 million in 2020 and €101 million in 2019.

Tax expense

Million €		
	2020	2019
Current tax expense	398	1,053
Corporate income tax, solidarity surcharge and trade taxes (Germany)	73	114
Foreign income tax	739	929
Taxes for prior years	-414	10
Deferred tax expense (+) / income (-)	-489	-297
From changes in temporary differences	-129	-298
From changes in tax loss carryforwards/unused tax credits	-372	23
From changes in the tax rate	32	-26
From valuation allowances on deferred tax assets	-20	4
Income taxes	-91	756
Other taxes as well as sales and consumption taxes	228	224
Tax expense	137	980

Reconciliation of income taxes and the effective tax rate

	2020		2019	
	Million €	%	Million €	%
Income before income taxes	-1,562		3,302	
Expected tax based on German corporate income tax rate (15%)	-234	15.0	495	15.0
Solidarity surcharge	2	-0.1	2	0.1
Trade taxes	-255	16.3	12	0.4
Foreign tax rate differential	55	-3.5	257	7.8
Tax-exempt income	-64	4.1	-41	-1.2
Nondeductible expenses	339	-21.7	61	1.8
Income of companies accounted for using the equity method (Income after taxes)	106	-6.8	-17	-0.5
Taxes for prior years (current and deferred taxes)	-103	6.6	10	0.3
Deferred tax liabilities for the future reversal of temporary differences associated with shares in participating interests	-66	4.2	-6	-0.2
Changes in the tax rate	32	-2.1	-26	-0.8
Other	97	-6.2	9	0.2
Income taxes/effective tax rate	-91	5.8	756	22.9

The item Other in the reconciliation for 2020 included tax effects from deferred tax assets not recognized on additions to loss carryforwards in the amount of €14 million and on deductible temporary differences in the amount of €17 million.

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 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 and liabilities 2019

Million €

	January 1, 2019, net	Effects recognized in income	Effects recognized in equity (OCI)	Business combinations	Other	December 31, 2019, net	Deferred tax assets	Deferred tax liabilities
Intangible assets	-1,265	149	-4	59	125	-934	148	-1,082
Property, plant and equipment	-976	-113	-16	-2	26	-1,081	122	-1,203
Financial assets	12	35	-1	-	-182	-136	54	-190
Inventories and accounts receivable	-203	48	-47	-14	17	-199	261	-460
Provisions for pensions and similar obligations	2,149	-48	354	-	-31	2,424	3,153	-729
Other provisions and liabilities	633	222	-23	-	9	841	942	-101
Tax loss carryforwards	205	13	1	5	-31	193	193	-
Other	0	-9	-5	-4	33	15	83	-68
Deferred tax assets (liabilities) before netting	555	297	259	44	-34	1,123	4,956	-3,833
Netting	-	-	-	-	-	-	-2,069	2,069
Deferred tax assets (liabilities) after netting	555	297	259	44	-34	1,123	2,887	-1,764

Deferred tax assets on deductible temporary differences in the amount of €182 million were not recognized in 2020 (2019: €124 million), as their utilization at reversal was not reasonably certain.

Undistributed earnings of subsidiaries resulted in temporary differences of €10,398 million in 2020 (2019: €13,335 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.

Valuation allowances on deferred tax assets amounted to €63 million in 2020 (2019: €88 million). Of this figure, €13 million pertained to tax loss carryforwards in 2020 (2019: €19 million).

Tax loss carryforwards

The distribution of tax loss carryforwards and the associated recognized deferred tax assets is as follows:

Tax loss carryforwards

Million €

	Tax loss carryforwards		Deferred tax assets	
	2020	2019	2020	2019
Germany	1,229	-	381	-
Foreign	688	950	124	195
Total	1,917	950	505	195

Tax loss carryforwards exist in all regions. Tax losses in Germany may be carried forward indefinitely. In some foreign countries, tax loss carryforwards are only possible for a limited period of time. No deferred tax assets were recognized for tax loss carryforwards of

€257 million in 2020 (2019: €205 million). Of these, €52 million will expire in 2021, €9 million in 2022, €35 million in 2023, €22 million in 2024, €52 million in 2025 and €14 million in 2026 and thereafter. The remaining €73 million will not expire.

Surpluses of deferred tax assets for companies that reported tax losses in 2020 or 2019 totaled €2.645 million as of December 31, 2020 (December 31, 2019: €97 million). Deferred taxes were recognized because, due to the planned earnings, 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. As of 2020, BASF reports tax provisions separately from deferred tax liabilities and no longer as a totals item. The prior-year figures have been restated accordingly.

13 Noncontrolling interests

Noncontrolling interests in profits and losses

Million €	2020	2019
Noncontrolling interests in profits	90	98
Noncontrolling interests in losses	-105	-28
Total	-15	70

Noncontrolling interests in losses rose year on year in 2020, due chiefly to impairments of assets in BASF PETRONAS Chemicals Sdn. Bhd., Shah Alam, Malaysia.

Income and expenses recognized in equity that were attributable to noncontrolling interests totaled -€49 million in 2020 and €15 million in 2019. These effects resulted from currency translation in both years.

Noncontrolling interests

Group company	Partner	December 31, 2020		December 31, 2019	
		Equity interest		Equity interest	
		%	Million €	%	Million €
BASF India Limited, Mumbai, India	Free float	26.67	52	26.67	42
BASF PETRONAS Chemicals Sdn. Bhd., Shah Alam, Malaysia	PETRONAS Chemicals Group Berhad, Kuala Lumpur, Malaysia	40.00	81	40.00	172
BASF TOTAL Petrochemicals LLC, Port Arthur, Texas	Total Petrochemicals & Refining USA, Inc., Houston, Texas	40.00	256	40.00	335
Shanghai BASF Polyurethane Company Ltd., Shanghai, China	Shanghai Hua Yi (Group) Company, Shanghai, China, and SINOPEC Assets Management Corporation, Beijing, China	30.00	98	30.00	99
BASF TODA Battery Materials, LLC, Tokyo, Japan	TODA KOGYO CORP., Hiroshima, Japan	34.00	29	34.00	37
BASF Shanghai Coatings Co. Ltd., Shanghai, China	Shanghai Huayi Fine Chemical Co., Ltd, Shanghai, China	40.00	78	40.00	65
Other			76		103
Total			670		853

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 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

	2020	2019
Distribution and similar rights	14	15
Product rights, licenses and trademarks	30	19
Know-how, patents and production technologies	16	15
Internally generated intangible assets	4	4
Other rights and values	5	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. Certificates purchased on the market are capitalized at cost as intangible assets. Emissions generated create an obligation to surrender the emission certificates. Emission certificates 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 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 (2019: 22), which are defined either on the basis of business units or at a higher level. The reduction was due to the reclassification of goodwill for two of these cash-generating units, Pigments and Construction

Chemicals, to the disposal groups in 2019. Impairment tests were performed on goodwill for both cash-generating units prior to their respective reclassifications in the previous year.

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 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. It comprises a risk-free interest rate, a market risk premium, and a spread for credit risk based on the respective industry-specific peer group.

Triggering events for potential impairment first became evident over the course of the summer due to the significant economic impact of the coronavirus pandemic. All cash-generating units were evaluated for potential impairment risks based on analyses. Except for the cash-generating unit and business unit, Surface Treatment, in the Surface Technologies segment, the analyses resulted in solid findings indicating no impairment risk.

The impairment test for the cash-generating Surface Treatment unit was accelerated; and future cash flows were adjusted downward given the market environment in the automotive and aviation industries due to the significant drop in demand from effects of the coronavirus pandemic and expectations for slow recovery. The impairment test also took into consideration measures approved and being taken due to the pandemic, such as efficiency improvements across the unit's entire value chain. Assuming a weighted average cost of capital rate after taxes of 6.53% (2019: 5.17%), the changed assumptions resulted in a goodwill impairment of €786 million of the Surface Treatment unit, recognized in other expenses. The recoverable amount corresponds to the unit's value in use and was €1,946 million as of September 30, 2020. A growth rate reduction of 0.5 percentage points would lead to a further need for impairment in the amount of €138 million. If all basic assumptions remained constant, a reduction of 10 percentage points in income from operations within the period of detailed planning would lead to a further need for impairment in the amount of €161 million. Irrespective of that, an additional impairment in the amount of €185 million would result from an increase of 0.5 percentage points to the cost of capital rate.

Goodwill of cash-generating units

Million €

Cash-generating unit	2020		2019 ^{a, b}	
	Goodwill	Growth rate ^c	Goodwill	Growth rate ^c
Agricultural Solutions division	3,039	2.0%	3,219	2.0%
Catalysts division (excluding battery materials)	1,244	2.0%	1,315	2.0%
Personal Care Ingredients in the Care Chemicals division	493	2.0%	515	2.0%
Surface Treatment in the Coatings division	696	2.0%	1,512	2.0%
Other cash-generating units	1,487	0.0%–2.0%	1,544	0.0%–2.0%
Goodwill as of December 31	6,959		8,105	

^a Reclassification of goodwill from the construction chemicals business to the disposal group in the amount of €772 million as of December 21, 2019

^b Reclassification of goodwill from the pigments business to the disposal group in the amount of €414 million as of August 29, 2019

^c Growth rates used in impairment tests to determine terminal values in accordance with IAS 36

The annual impairment tests of the other 19 cash-generating units were performed in the fourth quarter of 2020. 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 4.86% and 6.92% (2019: between 5.16% and 7.73%). This corresponds to a weighted average cost of capital rate before taxes of between 6.50% and 8.85% (2019: between 6.38% and 10.00%).

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 amounts of 18 units exceeding their respective recoverable amounts.

This does not apply to the goodwill of the cash-generating unit and business unit, Resins, in the Industrial Solutions segment.

Future cash flows for the Resins unit were adjusted downward due to the effects of the coronavirus pandemic on the market environment in the automotive industry. Besides the effects of the coronavirus pandemic, profitability and efficiency-boosting measures, currently being implemented, were factored into the impairment test. The result of these assumptions was that the recoverable amount exceeded the carrying amount by €68 million, given a weighted average cost of capital rate after taxes of 6.63% (2019: 7.03%) and a growth rate of 2.0% (2019: 2.0%). The recoverable amount would be equal to the unit's carrying amount if the weighted average cost of capital rate rose by 0.69 percentage points or the growth rate were 1.03 percentage points lower. Goodwill in the amount of €34 million was allocated to the Resins unit as of December 31, 2020.

Development of intangible assets

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 depreciation and 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

Additions in 2020 related primarily to the acquisition of production technologies amounting to €21 million from AgriMetis LLC, Lutherville, Maryland, in the Agricultural Solutions segment. Additions also included internally created intangible assets totaling €37 million, comprising primarily the development of software not allocated to an operational segment.

Additions from acquisitions resulted mainly from the acquisition of Solvay's global polyamide business in the Materials segment, to which the additional goodwill is also allocated.

Disposals of intangible assets amounting to €249 million primarily concerned the derecognition of fully amortized assets for distribution and similar rights and of production technologies in the Industrial Solutions and Nutrition & Care segments.

Transfers to disposal groups related to the adjustment of reclassified amounts to the discontinued construction chemicals business.

In 2020, additions to **accumulated amortization** contained impairments of €35 million (excluding goodwill). They related mainly to customer relationships and to a production technology in the Nutrition & Care segment. Its use was discontinued prematurely due to the optimization of the production structure. Moreover, customer rights and production technologies were impaired in the Agricultural Solutions segment after the registration of an active ingredient expired.

Further impairments totaling €11 million were attributable to the Chemicals, Industrial Solutions, Nutrition & Care, Agricultural Solutions, Materials and Surface Technologies segments and related primarily to know-how, patents and production technologies.

Development of intangible assets 2019

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, 2019	4,038	1,839	4,575	152	553	9,211	20,368
Changes in the scope of consolidation	–	–	0	–	–	0	0
Additions	–2	0	86	45	163	–	292
Additions from acquisitions	3	1	52	–	–46	–47	–37
Disposals	–157	–8	–25	–2	–86	–3	–281
Transfers	–	–	–6	–	26	–	20
Transfers to disposal groups	–1,038	–410	–409	–	–5	–1,186	–3,048
Currency effects	47	11	46	1	6	130	241
As of December 31, 2019	2,891	1,433	4,319	196	611	8,105	17,555
Accumulated depreciation and amortization							
As of January 1, 2019	2,043	376	1,046	94	255	–	3,814
Changes in the scope of consolidation	–	–	–	–	–	–	–
Additions	259	59	287	20	113	–	738
Disposals	–157	–8	–22	–2	–82	–	–271
Transfers	–	–	15	–	–	–	15
Transfers to disposal groups	–845	–190	–265	–	–3	–	–1,303
Currency effects	23	1	11	–	2	–	37
As of December 31, 2019	1,323	238	1,072	112	285	–	3,030
Net carrying amount as of December 31, 2019	1,568	1,195	3,247	84	326	8,105	14,525

^a Including licenses to such rights and values

Additions in 2019 related primarily to the acquisition of technologies and patents amounting to €49 million from Grillo-Werke AG, Duisburg, Germany, in the Nutrition & Care segment. Additions also included newly acquired software licenses and rights of use.

Additions from acquisitions resulted from the acquisition of Isobionics B.V., Geleen, Netherlands, a startup company that develops and produces natural flavors and fragrances. This increased goodwill by €16 million and capitalized know-how by €31 million. By contrast, there was a decrease of **goodwill** in the amount of €65 million due to a retroactive purchase price allocation and purchase price adjustment to assets from the acquisition of significant parts of Bayer's seed and non-selective herbicide businesses and its vegetable seeds business in the previous year.

Disposals of intangible assets amounting to €281 million primarily concerned the derecognition of fully amortized assets for distribution and supply rights in the Agricultural Solutions segment and of software licenses.

Transfers to disposal groups were attributable to intangible assets in connection with the construction chemicals business in December 2019 and the pigments business in August 2019.

In 2019, additions to **accumulated amortization** contained impairments of €15 million. These impairments pertained primarily to patents that were not allocated to an operational segment and were revalued due to a planned sale.

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 for all leases right-of-use assets and lease liabilities in the balance sheet at the present value of financial commitments entered.

For more information, see Note 16 from page 272 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

	2020	2019
Buildings and structural installations	16	17
Machinery and technical equipment	10	11
Miscellaneous equipment and fixtures	6	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. The value in use is determined on the basis of future cash inflows and outflows and weighted average cost of capital after taxes (determined using the capital asset pricing model), depending on relevant tax rates and country-related risks. 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 14 from page 264 onward

Borrowing costs: If directly incurred as part of the acquisition, construction or production of a qualifying asset 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 1.5% (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 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	Right-of-use advance payments and construction in progress	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

Additions to property, plant and equipment arising from investment projects (excluding leases) amounted to €3,007 million in 2020. Investments were made at the following sites in particular: Ludwigshafen, Germany; Antwerp, Belgium; Geismar, Louisiana; and Shanghai, China. Material investments included the expansion of the vitamin A plant in Ludwigshafen, Germany, and construction of an ethylene oxide and polyethylene oxide production plant in Antwerp, Belgium. Investments also included the upgrade and capacity expansion of the MDI synthesis unit in Geismar, Louisiana. Government grants for funding investment measures reduced asset additions by €11 million. The additions to right-of-use machinery and technical equipment related mainly to a syngas separation unit facility in Geismar, Louisiana.

Additions from acquisitions resulted from the acquisition of Solvay's global polyamide business.

 For more information on acquisitions, see Note 3 from page 235 onward

In 2020, impairments of €2,059 million were included in **accumulated depreciation**. The impairments related to all segments and were mainly attributable to the economic effects of the coronavirus pandemic and to restructuring measures.

Of all impairments in the Chemicals segment, the majority (€550 million) was attributable to impairments resulting from ongoing excess supply and the associated decrease in prices and margins. The impairments concerned nearly all asset classes, especially machinery and technical equipment (€414 million), construction in progress (€53 million) and buildings (€42 million). They primarily comprised the depreciation of individual production plants in Europe, North America and Asia. The values in use were calculated using cost of capital rates after taxes between 6.76% and 7.85% and led to full depreciation in the amount of €456 million.

The majority of impairments (€748 million) in the Materials segment was also attributable to ongoing excess supply – amplified by the coronavirus pandemic – as well as to the associated decrease in prices and margins. They related to nearly all classes of fixed assets, especially machinery and technical equipment (€627 million), construction in progress (€77 million) and buildings (€40 million). They primarily comprised the depreciation of individual production plants in Europe, North America and Asia. The values in use were calculated using cost of capital rates after taxes between 6.92% and 8.46% and led to full depreciation in the amount of €676 million.

Of all impairments in the Industrial Solutions segment, €37 million were related to production plants in Asia and resulted from decreased production and the expectation of a slow recovery in the automotive and aviation industries due to the effects of the coronavirus pandemic. Furthermore, plants in North America were impaired in the amount of €43 million in connection with restructuring. The values in use were calculated using cost of capital rates after taxes between 6.66% and 7.77%. Impairments related chiefly to machinery and technical equipment (€54 million) and buildings (€17 million).

Of all impairments in the Surface Technologies segment, the majority (€197 million) related to the partial impairment of the production network for catalysts in Europe with sites in Germany, Poland and South Africa, due mainly to the economic impact of the coronavirus pandemic and current market developments in the automotive industry. The value in use was calculated using a cost of capital rate after taxes of 7.13 %. The impairments concerned nearly all asset classes, with €123 million attributable to machinery and technical equipment, €54 million to buildings and €9 million to construction in progress. Furthermore, full depreciation of production plants and construction in progress in Europe, North America and Asia was recognized in the total amount of €41 million.

Of all impairments in the Nutrition & Care segment, €20 million were attributable to discontinued investment projects in Europe and Asia. The impairments related in particular to miscellaneous equipment and fixtures as well as to construction in progress

Impairments in the Agricultural Solutions segment arose in the amount of €280 million almost completely from measures to streamline the glufosinate-ammonium production network in North America and Europe. These impairments concerned nearly all asset classes, with €132 million attributable to machinery and technical equipment, €60 million to buildings and €42 million to right-of-use building assets.

Disposals of property, plant and equipment included the sale of a production site in Denmark.

Transfers related mainly to the reclassification of operation-ready assets from construction in progress to other asset categories.

Transfers to disposal groups related to amounts reclassified to the discontinued construction chemicals business and to the discontinued pigments business.

 For more information on divestitures, see Note 3 from page 235 onward

Currency effects lowered property, plant and equipment by €934 million and resulted mainly from the depreciation of the U.S. dollar and the Brazilian real against the euro.

Development of property, plant and equipment in 2019

Millionen €

	Land	Right-of-use land ^a	Buildings	Right-of-use buildings ^a	Machinery and technical equipment	Right-of-use machinery and technical equipment ^a	Miscellaneous equipment and fixtures	Right-of-use miscellaneous equipment and fixtures ^a	Advance payments and construction in progress	Right-of-use advance payments and construction in progress ^a	Total
Cost											
As of January 1, 2019	1,349	154	10,807	700	42,331	190	4,616	274	3,905	–	64,326
Changes in the scope of consolidation	–	1	–	–	5	–	4	–	5	–	15
Additions	13	24	214	100	1,206	109	190	210	1,767	6	3,839
Additions from acquisitions	–	–	2	–	1	–	–	–	–	–	3
Disposals	–76	–4	–114	–33	–605	–8	–182	–28	–15	–	–1,065
Transfers	–266	275	207	92	1,841	107	321	129	–2,702	–	4
Transfers to disposal groups	–87	–7	–429	–55	–1,281	0	–172	–35	13	–	–2,053
Currency effects	17	–3	70	4	285	1	31	1	33	–	439
As of December 31, 2019	950	440	10,757	808	43,783	399	4,808	551	3,006	6	65,508
Accumulated depreciation											
As of January 1, 2019	104	–	6,238	–	32,480	–	3,400	–	6	–	42,228
Changes in the scope of consolidation	–	–	–2	–	1	–	3	–	–	–	2
Additions	–3	18	433	142	2,022	80	384	162	170	–	3,408
Disposals	–	–	–81	–2	–576	–5	–166	–25	–17	–	–872
Transfers	–48	49	–20	12	–87	69	–45	70	–2	–	–2
Transfers to disposal groups	–1	–1	–225	–8	–928	0	–123	–11	–	–	–1,297
Currency effects	1	–1	31	–	198	–	19	–	1	–	249
As of December 31, 2019	53	65	6,374	144	33,110	144	3,472	196	158	–	43,716
Net carrying amount as of December 31, 2019	897	375	4,383	664	10,673	255	1,336	355	2,848	6	21,792

^a Right-of-use assets of €1,318 million were capitalized as of January 1, 2019, following the initial application of IFRS 16; the values were restated accordingly.

Additions to property, plant and equipment arising from investment projects (excluding leases) amounted to €3,390 million in 2019. Investments were made at the following sites in particular: Ludwigshafen, Germany; Antwerp, Belgium; Shanghai, China; Geismar, Louisiana; and Freeport, Texas. Material investments included the acetylene plant as well as the expansion of the vitamin A plant in Ludwigshafen, Germany. Furthermore, additions included renovations and major repairs to the steam cracker and the construction of a new propane tank in Antwerp, Belgium. Investments also included the upgrade and capacity expansion of the MDI synthesis unit in Geismar, Louisiana. Government grants for funding investment measures reduced asset additions by €9 million.

In 2019, impairments of €315 million and reversals of impairments of €6 million were included in **accumulated depreciation**. The impairments were primarily attributable to construction in progress resulting from discontinued investment projects in North America within the Petrochemicals division. Furthermore, impairments on buildings and technical equipment at one production site in Europe were also included in accumulated depreciation.

Disposals of property, plant and equipment included the sale of a building complex in Switzerland.

Transfers related mainly to the reclassification of operation-ready assets from construction in progress to other asset categories. Transfers also included reclassification of existing finance leases as of December 31, 2018 to right-of-use assets due to the initial application of IFRS 16.

Transfers to disposal groups included property, plant and equipment, which had been reclassified to the disposal groups for the pigments business and the construction chemicals business.

🔗 For more information on divestitures, see Note 3 from page 235 onward

Currency effects raised property, plant and equipment by €190 million and resulted mainly from appreciation of the U.S. dollar against the euro.

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, 2020			December 31, 2019		
	Lease liabilities	Interest portion	Future lease payments	Lease liabilities	Interest portion	Future lease payments
Following year 1	334	29	363	381	30	411
Following year 2	233	28	261	269	27	296
Following year 3	156	23	179	180	21	201
Following year 4	109	24	133	118	18	136
Following year 5	74	18	92	84	14	98
More than 5 years	455	151	606	390	122	512
Total	1,361	273	1,634	1,422	232	1,654

Expenses and income in the statement of income from leases for BASF as lessee

Million €

	2020	2019
Interest expenses for lease liabilities	–36	–39
Expenses for variable lease payments not included in the measurement of lease liabilities	–13	–13
Income from sublease agreements	1	2
Expenses for short-term leases	–131	–189
Expenses for leases for low-value assets	–43	–7
Gains and losses from sale and leaseback transactions	–	30
Total	–222	–216

In 2020 and 2019, no material sale and leaseback transactions occurred.

BASF as lessor

BASF acts as a lessor for finance leases to a minor extent only. Receivables on finance leases were €44 million in 2020 (2019: €23 million). The leased assets pertained primarily to buildings and production facilities.

Claims arising from operating leases amounted to €132 million in 2020 (2019: €174 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, 2020	December 31, 2019
Less than 1 year	25	22
1–5 years	66	120
More than 5 years	41	32
Total	132	174

Income from leases for BASF as lessor

Million €	2020	2019
Income from finance leases	25	1
of which gains and losses from sales	24	1
financial income from net investment in the lease	1	–
income from variable lease payments not included in measurement of net investment	–	–
Income from operating leases	24	19
of which income from variable lease payments not dependent upon an index or interest rate	–	–
Total	49	20

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 written down 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, 2020: €1,604 million; as of December 31, 2019: €977 million) under miscellaneous current assets. All changes in value are immediately recognized in the statement of income.

Inventories

Million €	Dec. 31, 2020	Dec. 31, 2019
Raw materials and factory supplies	3,105	3,379
Work in progress, finished goods and merchandise	6,784	7,742
Advance payments and services in progress	121	102
Inventories	10,010	11,223

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 €30,379 million in 2020, and €29,643 million in 2019.

Write-downs on inventory were recognized in the amount of €65 million in 2020, and in the amount of €111 million in 2019.

18 Receivables and miscellaneous assets

Other receivables and miscellaneous assets

Million €

	December 31, 2020		December 31, 2019	
	Noncurrent	Current	Noncurrent	Current
Loans and interest receivables	127	123	165	275
Derivatives with positive fair values	105	414	204	395
Receivables from finance leases	41	3	20	3
Receivables from capital equipment of nonconsolidated subsidiaries	–	122	–	123
Receivables from bank acceptance drafts	–	288	–	188
Other	287	261	306	217
Other receivables and assets that qualify as financial instruments	560	1,211	695	1,201
Prepaid expenses	79	257	103	310
Defined benefit assets	126	–	123	–
Tax refund claims	104	1,158	132	967
Employee receivables	0	21	0	15
Precious metal trading items	–	1,604	–	977
Other	43	422	59	320
Other receivables and assets that do not qualify as financial instruments	352	3,462	417	2,589
Other receivables and miscellaneous assets	912	4,673	1,112	3,790

The changes in **loans and interest receivables** were predominantly due to reimbursements of and valuation allowances on loans to nonconsolidated subsidiaries.

The decrease 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 in China.

Prepaid expenses in 2020 mainly included prepayments of €28 million related to operating activities compared with €30 million in 2019, as well as €79 million in prepayments for insurance in both 2020 and 2019. Prepayments for license costs decreased from €74 million in 2019 to €70 million in 2020. Prepaid expenses in 2020 included lower advance payments for received precious metal catalysts to be refurbished.

The change in current **tax refund claims** was largely attributable to the rise in open income tax receivables at various 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. The rise in 2020 was due to a significant increase in the price of palladium and rhodium.

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, 2020.

Accounts receivable, trade

Million €

Creditworthiness as of December 31, 2020	Equivalence to external rating ^a	Gross carrying amounts
High/medium credit rating	from AAA to BBB-	5,834
Low credit rating	from BB- to D	3,888

^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) 2020

Million €

	As of January 1, 2020	Additions	Releases	Reclassification between stages	Translation effect	Reclassification to assets of disposal groups	As of December 31, 2020
Accounts receivable, trade	324	142	124	0	-42	-1	299
of which stage 2	43	53	51	0	-3	0	42
stage 3	281	89	73	0	-39	-1	257
Other receivables	40	98	13	-	3	-	122
of which stage 1	4	2	4	-	-	-	2
stage 2	0	-	-	-	-	-	-
stage 3	36	96	9	-	3	-	120
Total	364	240	137	0	-39	-1	421

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 2020 or 2019.

Payment terms are generally agreed upon individually with customers and, as a rule, are within 90 days. In 2020, valuation allowances of €142 million were added for trade accounts receivable, and valuation allowances of €124 million were reversed. In the previous year, valuation allowances of €168 million were added for trade accounts receivable, and valuation allowances of €146 million were reversed.

In 2020, valuation allowances of €98 million were recognized for **other receivables** representing financial instruments, and valuation allowances of €13 million were reversed. In the previous year, valuation allowances of €15 million were recognized and valuation allowances of €3 million were reversed.

Additions included valuation allowances of €7 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 has not been exercised to date.

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 to date.

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 2020, as in the previous year.

Retained earnings

Million €	December 31, 2020	December 31, 2019
Legal reserves	901	830
Other retained earnings	37,010	41,226
Retained earnings	37,911	42,056

Legal reserves rose by €70 million in 2020 and by €66 million in 2019 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 construction chemicals business on September 30, 2020, the amount of €53 million from the remeasurement of defined benefit plans was reclassified from income and expenses to retained earnings, in equity. In the previous year, this type of reclassification resulted in the amount of €140 million from the merger concluded on April 30, 2019 between Wintershall and DEA.

Payment of dividends

In accordance with the resolution of the Annual Shareholders' Meeting on June 18, 2020, BASF SE paid a dividend of €3.30 per qualifying share from the retained profit of the 2019 fiscal year. With 918,478,694 qualifying shares, this represented total dividends of €3,030,979,690.20. The remaining €868,110,024.68 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 reduced equity by €973 million in 2020, and by €393 million in the previous year (after taxes in both years). Of that amount, –€19 million was attributable to investments accounted for using the equity method in 2020 (2019: –€46 million). Deferred taxes amounted to €422 million in 2020, and €359 million in 2019.

Because of the disposal of the construction chemicals business on September 30, 2020, the amount of €53 million from the remeasurement of defined benefit plans was reclassified from income and expenses to retained earnings, in equity. In the previous year, this type of reclassification resulted in the amount of €140 million from the merger concluded on April 30, 2019 between Wintershall and DEA.

 For more information on the remeasurement of defined benefit plans, see Note 22 from page 282 onward

Currency translation

Differences resulting from currency translation reduced equity by a total of €2,598 million. This included deferred taxes in the amount of €19 million. At-equity investments accounted for €1,125 million. In 2020, the differences resulted primarily from the depreciation of the U.S. dollar and the Brazilian real relative to the euro in 2020.

Furthermore, as a result of divestitures, €71 million after taxes was reclassified to the income statement in 2020 and €834 million after taxes in 2019.

Cash flow hedges

Changes in the fair value of derivatives designated to hedging relationships (cash flow hedge) adjusted for deferred taxes in the amount of €24 million reduced equity by a total of €108 million. Of that amount, –€163 million related to the hedging of cash flows at shareholdings accounted for using the equity method.

 For more information on cash flow hedge accounting, see Note 26.5 from page 301 onward

Financial indebtedness

Carrying amounts based on effective interest method

		Currency	Nominal value (million, currency of issue)	Effective interest rate	December 31, 2020	December 31, 2019
BASF SE						
Commercial paper		USD	220 ^a		178	861
Commercial paper		GBP	1,000		1,112	
variable	Bond 2013/2020	EUR	300	variable	–	300
1.875%	Bond 2013/2021	EUR	1,000	1.47%	1,000	1,004
2.5%	Bond 2017/2022	USD	500	2.65%	407	444
1.375%	Bond 2018/2022	GBP	250	1.52%	277	293
2%	Bond 2012/2022	EUR	1,250	1.93%	1,252	1,253
0.925%	Bond 2017/2023	USD	850	0.83%	673	726
0.101%	Bond 2020/2023	EUR	1,000	0.14%	999	–
0.875%	Bond 2016/2023	GBP	250	1.06%	277	292
2.5%	Bond 2014/2024	EUR	500	2.60%	499	498
1.750%	Bond 2017/2025	GBP	300	1.87%	332	350
0.875%	Bond 2018/2025	EUR	750	0.97%	747	746
3.675%	Bond 2013/2025	NOK	1,450	3.70%	138	147
0.250%	Bond 2020/2027	EUR	1,000	0.32%	996	–
0.875%	Bond 2017/2027	EUR	1,000	1.04%	989	987
2.670%	Bond 2017/2029	NOK	1,600	2.69%	153	162
0.875%	Bond 2019/2029	EUR	250	1.01%	247	247
1.5%	Bond 2018/2030	EUR	500	1.63%	495	494
1.5%	Bond 2016/2031	EUR	200	1.58%	199	198
0.875%	Bond 2016/2031	EUR	500	1.01%	493	493
2.37%	Bond 2016/2031	HKD	1,300	2.37%	137	149
1.450%	Bond 2017/2032	EUR	300	1.57%	296	296

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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, 2020	December 31, 2019
3%	Bond 2013/2033	EUR	500	3.15%	493	492
2.875%	Bond 2013/2033	EUR	200	2.96%	198	198
4%	Bond 2018/2033	AUD	160	4.24%	98	98
1.625%	Bond 2017/2037	EUR	750	1.73%	738	738
3.25%	Bond 2013/2043	EUR	200	3.27%	199	199
1.025%	Bond 2018/2048	JPY	10,000	1.03%	79	82
3.89%	U.S. private placement series A 2013/2025	USD	250	3.92%	203	222
4.09%	U.S. private placement series B 2013/2028	USD	700	4.11%	570	622
4.43%	U.S. private placement series C 2013/2034	USD	300	4.45%	244	266
BASF Finance Europe N.V.						
0.0%	Bond 2016/2020	EUR	1,000	0.14%	–	999
3.625%	Bond 2018/2025	USD	200	3.69%	163	177
0.75%	Bond 2016/2026	EUR	500	0.88%	496	496
Other bonds					102	608
Bonds and other liabilities to the capital market					15,479	15,137
Liabilities to credit institutions					3,735	3,240
Financial indebtedness					19,214	18,377

Breakdown of financial indebtedness by currency

Million €	December 31, 2020	December 31, 2019
Euro	12,684	11,283
U.S. dollar	3,166	4,558
Pound sterling	1,998	935
Norwegian krone	291	309
Chinese renminbi	250	253
Hong Kong dollar	137	149
Japanese yen	136	138
Australian dollar	98	98
South African rand	95	65
Indian rupee	86	69
Argentinian peso	66	75
Brazilian real	62	88
Ukrainian hryvnia	38	83
Turkish lira	34	123
Indonesian rupiah	18	46
Kazakhstani tenge	16	53
Other currencies	39	52
Total	19,214	18,377

Maturities of financial indebtedness

Million €	December 31, 2020	December 31, 2019
Following year 1	3,395	3,362
Following year 2	2,310	1,078
Following year 3	2,121	2,157
Following year 4	1,351	1,223
Following year 5	1,787	1,310
Following year 6 and maturities beyond this year	8,250	9,247
Total	19,214	18,377

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 2020. Its remaining term to maturity is 90 months. All other BASF Corporation bonds reported in other bonds in 2019 were paid off ahead of schedule in 2020.

Liabilities to credit institutions

Liabilities to credit institutions rose from €3,240 million as of December 31, 2019 to €3,735 million as of December 31, 2020. The weighted average interest rate on loans amounted to 2.1% in 2020, compared with 3.8% in 2019.

Unused credit lines

BASF SE had committed and unused credit lines with variable interest rates amounting to €9,000 million as of December 31, 2020, and €6,000 million as of December 31, 2019. BASF SE's existing credit line of €380 million for the financing of specific research and development activities as of December 31, 2019 was drawn on in 2020.

Other liabilities

Million €

	December 31, 2020		December 31, 2019	
	Noncurrent	Current	Noncurrent	Current
Derivatives with negative fair values	284	674	188	493
Liabilities from leases	1,026	334	1,039	381
Loan and interest liabilities	37	583	50	534
Advances received on orders	–	679	–	537
Miscellaneous liabilities	41	464	39	398
Other liabilities that qualify as financial instruments	1,388	2,734	1,316	2,343
Liabilities related to social security	55	76	63	84
Employee liabilities	22	238	25	244
Liabilities from precious metal trading positions	–	200	–	462
Contract liabilities	210	52	259	53
Deferred income	7	26	13	33
Miscellaneous liabilities	29	114	2	208
Other liabilities that do not qualify as financial instruments	323	706	362	1,084
Other liabilities	1,711	3,440	1,678	3,427

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, 2020, €52 million are expected to be recognized as revenue in 2021.

For more information on financial risks and derivative instruments, see Note 26 from page 291 onward

For more information on liabilities arising from leases, see Note 16 from page 272 onward

Secured liabilities

Million €

	December 31, 2020	December 31, 2019
Liabilities to credit institutions	13	15
Accounts payable, trade	2	5
Other liabilities	264	116
Secured liabilities	279	136

Liabilities to credit institutions were secured primarily with registered land charges. **Other liabilities** included collateral for derivative instruments with negative fair values. As in the previous year, there were no secured contingent liabilities in 2020.

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 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 using assumptions relating to the following valuation parameters, among others: 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.

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.

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. 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 subsidiaries 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	
	2020	2019	2020	2019	2020	2019	2020	2019
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

Assumptions used to determine expenses for pension benefits in the respective business year

	Germany		United States		Switzerland		United Kingdom	
	2020	2019	2020	2019	2020	2019	2020	2019
Discount rate	1.10	1.70	3.10	4.10	0.20	0.90	2.20	2.90
Projected pension increase	1.50	1.50	–	–	–	–	3.00	3.10

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.

Actuarial mortality tables (significant countries) as of December 31, 2020

Germany	Heubeck Richttafeln 2018G (modified)
United States	RP-2018 (modified) with MP-2018 generational projection
Switzerland	BVG 2015 generational
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	
	2020	2019	2020	2019
Discount rate	-2,221	-2,214	2,553	2,544
Projected pension increase	1,666	1,584	-1,411	-1,328

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 €	2020	2019
Expenses for defined benefit plans	430	222
Expenses for defined contribution plans	306	332
Expenses for pension benefits (recognized in income from operations)	736	554
Net interest expense from underfunded pension plans and similar obligations	108	157
Net interest income from overfunded pension plans	0	-2
Expenses for pension benefits (recognized in the financial result)	108	155

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 €	2020	2019
Defined benefit obligation as of January 1	28,423	26,651
Current service cost	419	380
Past service cost	6	-137
Plan settlements	-60	-219
Interest cost	395	542
Benefits paid	-1,095	-1,086
Employee contributions	41	45
Actuarial gains/losses		
for adjustments relating to financial assumptions	2,106	2,777
adjustments relating to demographic assumptions	8	33
experience adjustments	17	-7
Effects from acquisitions and divestitures	54	-802
Other changes	-4	-11
Currency effects	-470	257
Defined benefit obligation as of December 31	29,840	28,423

As of December 31, 2020, the weighted average duration of the defined benefit obligation amounted to 16.6 years (previous year: 16.7 years).

Development of plan assets

Million €	2020	2019
Plan assets as of January 1	20,863	19,280
Standardized return on plan assets	286	389
Deviation between actual and standardized return on plan assets	765	2,128
Employer contributions	615	463
Employee contributions	41	45
Benefits paid	-769	-1,013
Effects from acquisitions and divestitures	2	-442
Past service cost	-	-
Plan settlements	-60	-198
Other changes	-11	-16
Currency effects	-332	227
Plan assets as of December 31	21,400	20,863

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.

Effects from **plan settlements** resulted in 2020 primarily from the transfer of small benefit entitlements and the corresponding assets from the pension plan in Canada to an external insurer.

BASF's **employer contributions** in 2020 totaled €615 million, including special contributions to BASF Pensionstreuhand e.V. in the amount of €401 million and €58 million to American plan assets. Through continuous monitoring of financing requirements of its pension plans, BASF always strives to achieve the necessary yields to fill financing gaps over the course of time. Company contributions for 2021 are currently expected to be around €430 million.

Development of net defined benefit liability

Million €	2020	2019
Net defined benefit liability as of January 1	-7,560	-7,371
Current service cost	-419	-380
Past service cost	-6	137
Plan settlements	0	21
Interest cost	-395	-542
Standardized return on plan assets	286	389
Deviation between actual and standardized return on plan assets	765	2,128
Actuarial gains/losses of the defined benefit obligation	-2,131	-2,803
Benefits paid by unfunded plans	326	73
Employer contributions	615	463
Effects from acquisitions and divestitures	-52	360
Other changes	-7	-5
Currency effects	138	-30
Net defined benefit liability as of December 31	-8,440	-7,560
of which defined benefit assets	126	123
provisions for pensions and similar obligations	8,566	7,683

Regional allocation of defined benefit plans as of December 31

Million €	Pension obligations		Plan assets		Net defined benefit liability	
	2020	2019	2020	2019	2020	2019
Germany	21,535	19,995	14,426	13,879	-7,109	-6,116
United States	3,596	3,777	2,404	2,483	-1,192	-1,294
Switzerland	1,816	1,845	1,851	1,792	35	-53
United Kingdom	1,986	1,911	2,026	1,986	40	75
Other	907	895	693	723	-214	-172
Total	29,840	28,423	21,400	20,863	-8,440	-7,560

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

%	2020	2019
Equities	28	29
Debt instruments	47	47
of which for government debtors	19	17
for other debtors	28	30
Real estate	5	4
Alternative investments	17	18
Cash and cash equivalents	3	2
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 the very high credit ratings, such as the United States, the United Kingdom, Germany and Switzerland. Government bonds from emerging nations 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 €110 million as of December 31, 2020, and €193 million as of December 31, 2019. For such securities, especially those held by domestic pension plans, there is no active market. The capital market compensates for this lack of fungibility

with yield premiums depending on the maturity. With only a few exceptions, there is no active market for plan assets in **real estate** and **alternative investments**.

Plan assets as of the balance sheet date contained securities issued by BASF Group companies with a market value of €1 million in 2020 and €2 million in 2019. The market value of the properties of legally independent pension funds rented to BASF Group companies amounted to €112 million on both December 31, 2020 and on December 31, 2019.

Since 2010, there has been an agreement between BASF SE and BASF Pensionskasse VVaG on the granting of profit participation capital with a nominal value of €80 million, which is used to strengthen the financing of the BASF Pensionskasse VVaG. Beyond this, there were no material transactions between the legally independent pension funds and BASF Group companies in 2020 or 2019.

The funding of the plans was as follows:

Current funding situation of the pension plans as of December 31

Million €				
	2020		2019	
	Defined benefit obligation	Pension assets	Defined benefit obligation	Pension assets
Unfunded pension plans	1,840	–	2,373	–
Funded pension plans	28,000	21,400	26,050	20,863
Total	29,840	21,400	28,423	20,863

Defined contribution plans and government pensions

The contributions to defined contribution plans recognized in income from operations amounted to €306 million in 2020 and €332 million in 2019.

Contributions to government pension plans were €557 million in 2020 and €627 million in 2019.

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. Provisions for long-service and 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, claims 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 290

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 (2020: 1.5%; 2019: 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, 2020		December 31, 2019	
		Of which current		Of which current
Restoration obligations	148	21	77	–
Environmental protection and remediation costs	693	114	654	110
Employee obligations	1,174	754	1,653	1,257
Obligations from sales and purchase contracts	1,134	1,114	1,165	1,161
Restructuring measures	414	371	141	116
Litigation, damage claims, warranties and similar obligations	205	161	126	74
Other	541	290	462	220
Total	4,309	2,825	4,278	2,938

The decrease in provisions for **employee obligations** was mainly attributable to lower accruals for variable compensation components.

The decrease in provisions for **obligations from sales and purchase contracts** resulted from lower accruals for rebate programs.

Other includes interest on noncurrent tax provisions. The rise in the remaining other provisions as of December 31, 2020, is primarily due to the rise in provisions for licenses.

The following table shows the development of other provisions by category. Other changes include reclassifications to disposal groups, changes in the scope of consolidation, 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 2020

Million €

	January 1, 2020	Additions	Unwinding of discount	Utilization	Releases	Other changes	December 31, 2020
Restoration obligations	77	81	3	–3	–3	–7	148
Environmental protection and remediation costs	654	124	3	–66	–4	–18	693
Employee obligations	1,653	821	1	–1,209	–39	–53	1,174
Obligations from sales and purchase contracts	1,165	1,120	–	–862	–101	–188	1,134
Restructuring measures	141	376	–	–73	–20	–10	414
Litigation, damage claims, warranties and similar obligations	126	116	–	–8	–9	–20	205
Other	462	253	1	–125	–39	–11	541
Total	4,278	2,891	8	–2,346	–215	–307	4,309

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 is expected for 2021. BASF Corporation established a provision covering BASF's currently estimated share of the remediation costs.

Between November 2014 and March 2015, a putative class action lawsuit and several additional lawsuits were filed in the United States District Court for the Southern District of New York against BASF Metals Limited (BML), based in the United Kingdom, along with other defendants, alleging violations of antitrust and commodities laws stemming from the price discovery process for platinum and palladium. The lawsuits were consolidated and dismissed on jurisdictional grounds in March 2017. In May 2017, the plaintiffs filed an amended Complaint that renews allegations against defendants and BML. On March 29, 2020, all claims against all defendants were dismissed. On April 27, 2020, plaintiffs filed a notice of appeal to the United States Court of Appeals for the Second Circuit, where the matter is still pending. A pro se complaint filed in September 2015 that was not consolidated into the consolidated class action was ultimately dismissed as of November 18, 2019.

On February 14/15, 2020, a jury in the United States District Court for the Eastern District of Missouri awarded \$15 million in compensatory damages and \$250 million in punitive damages against defendants Monsanto Company and BASF Corporation. The verdict relates to alleged yield losses of a peach farmer in connection with the use of the dicamba herbicide. BASF and Monsanto filed post-trial motions to challenge the jury's verdict. On November 25, 2020, the trial court ruled on the post-trial motions, and the punitive damages award was reduced from \$250 million to \$60 million. The court did not grant any other relief related to the jury's verdict. BASF and Monsanto filed notices of appeal on December 18, 2020.

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 polyfluoroalkyl 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 638 suits as of January 2021 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 judicial, arbitrational 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, 2020	Dec. 31, 2019
Bills of exchange	2	6
Guarantees	347	447
Warranties	79	65
Collateral granted on behalf of third-party liabilities	–	1
Initiated investment projects	3,921	4,331
of which purchase commitments	1,052	1,093
for the purchase of intangible assets	15	25
Payment and loan commitments and other financial obligations	75	80

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. In addition, BASF SE provides guarantees for restoration obligations of Wintershall Dea Norge AS related to various oil and gas facilities acquired from Equinor. The guarantees do not stipulate a maximum amount. The risk of a claim being exercised against the guarantees is classified as low.

The decline in liabilities from **initiated investment projects** is mainly attributable to the completion of various large-scale projects in 2020.

Obligations arising from purchase contracts

Obligations arising from purchase contracts resulted primarily from long-term purchase obligations for raw materials. Firm purchase obligations as of December 31, 2020, were as follows:

Obligations arising from purchase contracts

Million €

2021	8,003
2022	5,347
2023	3,419
2024	1,317
2025	1,238
2026 and maturities beyond this year	4,165
Total	23,489

26 Supplementary information on financial instruments

26.1 Accounting policies

Financial instruments

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. 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.

Except for financial assets measured at fair value through profit or loss, IFRS 9 requires the recognition of impairments for expected credit losses, independent of the existence of any actual default events and individual impairments if evidence of a permanent need for impairment exists. If this evidence no longer exists, the impairment is reversed in the statement of income up to the carrying amount of the asset had the default event not occurred. Impairments are generally recognized in separate accounts.

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. 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. In addition, an impairment must be recognized when the contractual conditions that form the basis for the receivable are changed through renegotiation in such a way that the present value of the future cash flows decreases.

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. The significance of the increase in the credit risk is not reviewed for trade accounts receivable or lease receivables. Furthermore, 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 classified as debt instruments 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 nominal value 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 to 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 €203 million as of December 31, 2020. 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 €390 million. A 5% appreciation of the respective functional currency resulted in an effect on BASF's income in the amount of –€187 million as of December 31, 2019 (–€356 million with a 10% appreciation). The effect from the items designated under hedge accounting would have increased shareholders' equity before income taxes by €36 million applying a 5% increase to the functional currency and by €78 million applying a 10% increase to the functional currency as of December 31, 2020 (2019: increase of €19 million applying a 5%

increase to the functional currency and increase of €40 million applying a 10% increase to the functional currency). This only refers to transactions in U.S. dollars.

Exposure and sensitivity by currency

Million €	December 31, 2020			December 31, 2019		
	Exposure	Sensitivity		Exposure	Sensitivity	
		+5%	+10%		+5%	+10%
USD	1,965	–101	–190	1,977	–111	–209
Other	1,117	–66	–123	1,037	–56	–106
Total	3,082	–167	–313	3,014	–167	–315

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 –€1,659 million as of December 31, 2020 (2019: –€1,414 million). 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 in all relevant interest rates by one percentage point would have lowered income before income taxes by €10 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 €3 million as of December 31, 2019 (an

increase of one percentage point would have lowered income before income taxes by €6 million). Because no interest derivatives were designated to hedge accounting relationships as of December 31, 2020, a change in interest rates would not have had an effect on shareholders' equity. If the relevant interest rates had changed by one half of a percentage point, the before-tax effect from items designated under hedge accounting would have been an immaterial increase in shareholders' equity as of December 31, 2019 (increase of €1 million applying a 1% change in interest rates).

Carrying amount of nonderivative interest-bearing financial instruments

Million €	December 31, 2020		December 31, 2019	
	Fixed interest rate	Variable interest rate	Fixed interest rate	Variable interest rate
Loans	75	115	156	255
Securities	51	206	89	490
Financial indebtedness	17,742	1,472	15,848	2,529

Nominal and fair values of interest rate swaps and combined interest rate and currency swaps

Million €

	December 31, 2020		December 31, 2019	
	Nominal value	Fair value	Nominal value	Fair value
Interest rate swaps	–	–	300	–4
of which payer swaps	–	–	300	–4
Combined interest rate and currency swaps	4,183	–163	4,183	60
of which fixed rate	4,183	–163	4,183	60

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 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 to commodity derivatives

Million €

	December 31, 2020		December 31, 2019	
	Exposure	Value at risk	Exposure	Value at risk
Crude oil, oil products and natural gas	56	5	87	3
Precious metals	88	1	112	2
Agricultural commodities	37	0	163	0

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 158 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 275 onward

Liquidity risks

BASF promptly recognizes any risks from cash flow fluctuations as part of liquidity planning. BASF has ready access to ample 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, 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

Maturities of contractual cash flows from financial liabilities as of December 31, 2019

Million €

	Bonds and other liabilities to the capital market	Liabilities to credit institutions	Accounts payable, trade	Derivative liabilities	Miscellaneous liabilities	Total
2020	2,483	1,149	5,087	404	969	10,092
2021	1,252	89	–	146	334	1,821
2022	2,244	212	–	52	209	2,717
2023	1,239	221	–	31	139	1,630
2024	683	776	–	–	101	1,560
2025 and thereafter	9,541	888	–	101	493	11,023
Total	17,442	3,335	5,087	734	2,245	28,843

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.

Carrying amounts and fair values of financial instruments as of December 31, 2020

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	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 291 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.

Carrying amounts and fair values of financial instruments as of December 31, 2019

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	501	501	FVTPL	34	22	12	–
Receivables from finance leases	23	23	n/a	23	–	–	–
Accounts receivable, trade	8,755	8,755	AC	8,755	–	–	–
Accounts receivable, trade	338	338	FVTPL	338	–	338	–
Derivatives – no hedge accounting	437	437	FVTPL	437	1	436	–
Derivatives – hedge accounting	162	162	n/a	162	0	162	–
Other receivables and miscellaneous assets ^f	4,192	1,186	AC	1,186	–	–	–
Other receivables and miscellaneous assets ^f	88	88	FVTPL	88	–	88	–
Securities	11	11	AC	11	–	–	–
Securities	4	4	FVTOCI	4	–	4	–
Securities	563	563	FVTPL	563	563	–	–
Cash equivalents	198	198	FVTPL	198	198	–	–
Cash and cash equivalents	2,229	2,229	AC	2,229	–	–	–
Total assets	17,501	14,495		14,028	784	1,040	–
Bonds	14,276	14,276	AC	15,461	–	15,461	–
Commercial paper	861	861	AC	861	–	–	–
Liabilities to credit institutions	3,240	3,240	AC	3,240	–	–	–
Liabilities from leases	1,420	1,420	n/a	1,420	–	–	–
Accounts payable, trade	5,087	5,087	AC	5,087	–	–	–
Derivatives – no hedge accounting	677	677	FVTPL	677	33	644	–
Derivatives – hedge accounting	4	4	n/a	4	0	4	–
Other liabilities ^f	3,004	1,558	AC	1,558	–	–	–
Total liabilities	28,569	27,123		28,308	33	16,109	–

^a In general, only significant shareholdings are measured at fair value. All insignificant shareholdings are measured at cost (carrying amount: €467 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 291 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, 2020

Million €	Offset amounts			Amounts that cannot be offset		
	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

Offsetting of derivative assets and liabilities as of December 31, 2019

Million €	Offset amounts			Amounts that cannot be offset		
	Gross amount	Amount offset	Net amount	Due to global netting agreements	Relating to financial collateral	Potential net amount
Derivatives with positive fair values	452	-70	382	-163	-116	103
Derivatives with negative fair values	424	-70	354	-163	-57	134

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 2020 and 2019 arose from derivatives not subject to any netting agreements as well as from embedded derivatives. These are therefore not included in the table above.

In addition to the offsetting of derivatives presented in the table above, trade accounts receivable in 2020 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 €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 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). In 2019, trade accounts receivable were only offset against the advance payments received on orders included in current other liabilities. Both balance sheet items were reduced by €647 million. Accordingly, the net amount for trade accounts receivable was €9,093 million (gross amount before offsetting: €9,740 million). The resulting net amount for advance payments received on orders was €537 million (gross amount before offsetting: €1,184 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 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 223
For more information, see page 227 of the Statement of Changes in Equity

Net gains and losses from financial instruments 2020

Million €

	Total
Financial assets measured at amortized cost	-282
of which interest result	32
Financial instruments at fair value through profit or loss	691
of which interest result	65
Financial assets at fair value through other comprehensive income	2
of which interest result	1
Financial liabilities measured at amortized cost	-326
of which interest result	-403

Net gains and losses from financial instruments 2019

Million €

	Total
Financial assets measured at amortized cost	256
of which interest result	48
Financial instruments at fair value through profit or loss	-37
of which interest result	68
Financial assets at fair value through other comprehensive income	4
of which interest result	4
Financial liabilities measured at amortized cost	-724
of which interest result	-512

26.5 Derivative financial instruments and hedge accounting

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 is also 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 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 has derivatives that are embedded in other financial instruments. This primarily relates 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.

Fair value of derivative instruments

Million €

	December 31, 2020	December 31, 2019
Foreign currency forward contracts	10	26
Foreign currency options	35	22
Foreign currency derivatives	45	48
of which designated hedging instruments as defined by IFRS 9 (hedge accounting)	35	18
Interest rate swaps	–	–4
of which designated hedging instruments as defined by IFRS 9 (hedge accounting)	–	–4
Combined interest rate and currency swaps	–163	60
of which designated hedging instruments as defined by IFRS 9 (hedge accounting)	90	138
Interest derivatives	–163	56
Commodity derivatives	–321	–186
of which designated hedging instruments as defined by IFRS 9 (hedge accounting)	7	6
Derivative financial instruments	–439	–82

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 2020 and 2019. The average exercise price of the designated options was \$454.45 per metric ton as of December 31, 2020 (December 31, 2019: \$529.53 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 €13.35 per MWh or \$2.7410 per mmBtu as of December 31, 2020. The average exercise price of the designated options was \$2.4539 per mmBtu as of December 31, 2019. 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 2020, a decrease in fair value of €17 million was recognized in equity attributable to

shareholders of BASF SE, and €13 million was initially derecognized against the carrying amount of the inventories procured and then recognized for their use in profit or loss. In 2019, a decrease in fair value of €3 million was recognized in equity attributable to shareholders of BASF SE, and €2 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 as cash flow hedge accounting relationships. The average price hedged using these instruments was \$12.5175 per bushel as of December 31, 2020 (December 31, 2019: \$9.4559 per bushel). Cash flows from these futures and the hedged expected future transactions are generally recognized in profit or loss for the following year.

BASF is exposed to foreign currency risks due to planned sales in U.S. dollars. To some extent, cash flow hedge accounting is applied using currency options. 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 \$1.1583 per euro as of December 31, 2020, and \$1.1105 per euro in the previous year. The impact on earnings from designated transactions in 2020 will be recognized in the following year. The decrease in the options' time value component arising in the amount of €30 million in 2020 was recognized separately in equity as the cost of hedging and resulted in a reduction in equity. Accumulated changes in the options' time values were reclassified to profit or loss due to the maturity of hedged items in the amount of €34 million. In 2019, –€38 million was recognized separately in equity as a change in the options' time value component, and €35 million was reclassified to profit or loss.

The interest rate risk of the variable-rate bonds issued by BASF SE in 2013 was hedged using interest rate swaps, which converted the bonds into fixed-interest rate bonds with a rate of 1.45%. The key terms of the interest rate swap contracts used as hedging instruments generally correspond to the contractual elements of the hedged item. The bond and the interest rate swaps were designated to hedge accounting. The hedge relationship ended in 2020 due to maturity of the hedging transaction and hedged item.

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 2020 and 2019. The hedged foreign exchange rate in both years was \$1.3589 per euro. This hedge was designated as a cash flow hedge.

In 2020, the expected sale price associated with the disposal of the construction chemicals and pigments businesses was partially hedged against exchange rate fluctuations. The occurrence of the hedged transactions was, due to contractual agreements, considered highly probable; and the transactions and derivatives used for hedging were designated to 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. Both cases were transaction-related hedges. The change in the forward rate and the change in the time value component are recognized as hedging costs at a point in time. These costs were recognized in BASF Group equity in the amount of –€18 million. Due to the sale of the construction chemicals business as of September 30, 2020, €11 million was reclassified to profit or loss and included in disposal gains from the discontinued construction chemicals business. There was no ineffectiveness at any time during the year. The average hedged rate was \$1.1964 per euro as of December 31, 2020.

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 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	Ineffective-ness amount	Income statement item
Foreign currency risks	35	–	Other receivables and miscellaneous assets	1,142	27	114	–77	Other operating income/income from discontinued operations	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	–	n/a	5	5	–	n/a
Total	132	0		2,127	37	72	21		122	134	–	

Cash flow hedge accounting effects in 2019

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	Ineffective-ness amount	Income statement item
Foreign currency risks	18	–	Other receivables and miscellaneous assets	733	10	7	0	Other operating income	10	10	–	n/a
Interest risks	–	4	Other liabilities	300	–1	–1	4	Interest income	4	4	–	n/a
Combined interest/foreign currency risks	138	–	Other receivables and miscellaneous assets	920	–37	58	–21	Other financial income	138	149	–	n/a
Commodity price risks	6	0	Other receivables and miscellaneous assets / other liabilities	123	2	4	–	n/a	2	2	–	n/a
Total	162	4		2,076	–26	68	–17		154	165	–	

The occurrence of all forecasted transactions was considered to be highly probable at all times during fiscal years 2019 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 2020, a portion of these precious metal inventories was designated for the first time to 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 2020. The hedged precious metals were sold. Cash flows in connection with the hedging instruments were recognized in profit or loss in 2020. 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 €	2020	2019
Income taxes	-595	-1,280
of which income tax refunds	273	8
income tax payments	-868	-1,288
Interest payments	-341	-480
of which interest received	146	175
interest paid	-487	-655
Dividends received	244	315

In 2020, BASF SE transferred securities in the amount of €401 million (2019: €300 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 flows from investing activities included €1,240 million in payments made for acquisitions for the polyamide business acquired from Solvay (2019: €239 million for various transactions).

In 2020, payments received for divestitures arose in the amount of €2,520 million due to the sale of the construction chemicals business. These included tax payments in the amount of €150 million that were directly associated with the transaction. In 2019, payments received for divestitures recognized in the amount of €2,600 million were mainly due to the merger of the oil and gas businesses of Wintershall and DEA. The effects of the deconsolidation of the Wintershall companies and the simultaneous recognition

of the equity-accounted interest in Wintershall Dea GmbH offset each other. The only effect on cash was the outflow of cash and cash equivalents in the amount of €800 million, as well as the repayment of BASF SE's open finance-related receivables against the Wintershall Dea group and capital decreases at Wintershall Dea GmbH, Kassel/Hamburg, Germany, in the total amount of €3.2 billion. In connection with the transfer of the paper and water chemicals business to the Solenis group in the first quarter of 2019, the majority of the purchase price was settled with the contribution of the interest in Solenis UK International Limited, London, United Kingdom (€590 million). The rest of the purchase price (€178 million) was recognized in cash.

For more information on acquisitions and divestitures, see Note 3 from page 235 onward

Payments made for property, plant and equipment and intangible assets amounted to €3,129 million, €695 million lower than in the previous year.

Cash and cash equivalents consist primarily of cash on hand and bank balances with maturities of less than three months.

Cash and cash equivalents in the amount of €4,335 million reported in the statement of cash flows as of December 31, 2020, consisted of the balance sheet value (€4,330 million) and the value reclassified to the pigments business disposal group (€5 million). Cash and cash equivalents in the amount of €2,455 million reported in the statement of cash flows as of December 31, 2019, 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). At the beginning of the 2019 reporting period, the cash and cash equivalents of the oil and gas business (€219 million) were reclassified to the disposal group.

For more information on the contribution of discontinued operations on BASF's statement of cash flows, see Note 3 from page 235 onward

Reconciliation according to IAS 7 for 2020

Million €

	Dec. 31, 2019 ^a		Non-cash-effective changes					Dec. 31, 2020 ^a
		Cash effective in cash flows from financing activities	Acquisitions/ divestitures/ changes in the scope of consolidation	Currency effects	Additions from lease contracts	Other effects	Changes in fair value	
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; this amounted to €38 million.

^c That includes mainly disposals from lease contracts.

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 changes presented above 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.

Reconciliation according to IAS 7 for 2019

Million €

	Dec. 31, 2018 ^a		Non-cash-effective changes					Dec. 31, 2019 ^a
		Cash effective in cash flows from financing activities	Acquisitions/ divestitures/ changes in the scope of consolidation	Currency effects	Additions from lease contracts	Other effects	Changes in fair value	
Financial indebtedness	21,351	-2,633	-524	146 ^b	-	52 ^b	-	18,392
Loan liabilities	541	122	-140	2	-	1	-	526
Lease liabilities	134	-399 ^c	-107	7	452	1,391 ^d	-	1,478
Other financing-related liabilities	889	-57	-455	1	-	-94	-	284
Financial and similar liabilities	22,915	-2,967	-1,226	156	452	1,350	-	20,680
Assets/liabilities from hedging transactions	65	-375	-	-	-	-	261	-49
Total	22,980	-3,342	-1,226	156	452	1,350	261	20,631

^a Balances as of December 31, 2019 and 2018 also include contributions reclassified to the disposal groups and therefore deviate from balance sheet values.

^b In accordance with IAS 8, other effects were reclassified retroactively to currency effects in the amount of €105 million.

^c Lease payments totaled €441 million in 2019. The principal component in the amount of €399 million is presented in cash flows from financing activities. BASF reports interest payments in cash flows from operating activities; this amounted to €42 million.

^d This included the effect from the initial application of IFRS 16 in the amount of €1,400 million.

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 275 onward

For more information on liabilities, see Note 21 from page 279 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 €34,398 million as of December 31, 2020 (December 31, 2019: €42,350 million); the equity ratio was 42.8% on December 31, 2020 (December 31, 2019: 48.7%).

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 our debt capital financing conditions.

BASF currently has the following ratings, which were most recently confirmed by Fitch on February 12, 2021, Moody's on February 12, 2021 and by Standard & Poor's on December 8, 2020.

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

Ratings as of December 31, 2019

	Noncurrent financial indebtedness	Current financial indebtedness	Outlook
Moody's	A2	P-1	stable
Standard & Poor's	A	A-1	stable

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 pensions and assistance in 2020 totaled €10,576 million (2019: €10,924 million). This amount included proportional personnel expenses for 2020 from the disposal group for the construction chemicals business in the amount of €291 million. In 2019, personnel expenses from the disposal groups for the construction chemicals business and proportionally for the oil and gas business totaled €557 million. The decrease in personnel expenses was primarily due to lower bonus provisions and the lower average number of employees which resulted, in particular, from the divestiture of the construction chemicals business. A higher wage and salary level as well as higher pension expenses because of increased service costs had an offsetting effect.

Personnel expenses

Million €	2020	2019
Wages and salaries	8,416	8,825
Social security contributions and assistance expenses	1,424	1,545
Pension expenses	736	554
Personnel expenses	10,576	10,924

Number of employees

As of December 31, 2020, the number of employees decreased to 110,302 employees compared with 117,628 employees as of December 31, 2019. The decrease was due primarily to the sale of the construction chemicals business, which affected around 7,500 employees. An offsetting factor was the acquisition of Solvay's polyamide business due to which the BASF Group's number of employees rose by around 1,200 people – including the employees of the Butachimie SNC and Alsachimie S.A.S. joint operations, both in Chalmépé, France – which were counted on a pro rata basis.

As of December 31, 2020, a total of 1,137 employees (2019: 96 employees) worked at joint operations. The rise was mainly due to additions related to the aforementioned acquisition of Solvay's polyamide business.

The development of the number of employees was distributed over the regions as follows:

Number of employees as of December 31

	2020	2019
Europe	68,849	72,153
of which Germany	51,961	54,028
North America	16,948	19,355
Asia Pacific	17,753	18,634
South America, Africa, Middle East	6,752	7,486
BASF Group	110,302	117,628
of which apprentices and trainees	3,120	3,161
temporary staff	2,128	2,606

The average number of employees was distributed over the regions as follows:

Average number of employees

	2020	2019
Europe	71,329	73,126
of which Germany	53,080	54,722
North America	18,599	19,624
Asia Pacific	18,719	18,843
South America, Africa, Middle East	7,326	7,607
BASF Group	115,973	119,200
of which apprentices and trainees	2,821	2,811
temporary staff	2,518	2,922

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 1,055 employees (2019: 206 employees).

The BASF Group's average number of employees for 2020 included 5,400 employees from the disposal group for the construction chemicals business (2019: 6,801 employees).

29 Share price-based compensation programs and BASF incentive share program

Share price-based compensation programs

The BASF Group offered its share price-based compensation program (the long-term incentive (LTI) program) known as BOP (BASF Option Program), which started in 1999, for the last time in 2020. Effective retroactively as of January 1, 2020, a new LTI program – known as Strive! – was also introduced in the form of a performance share plan. Generally, members of the Board of Executive Directors and all senior executives are entitled to participate in the LTI programs.

BASF Option Program (BOP)

This program grants virtual option rights. When exercised, the option rights are settled in cash.

In accordance with the program's deadline requirement, approximately 1,100 people, in particular members of the Board of Executive Directors and senior executives, were eligible to participate in the BOP program as of April 1, 2020. Around 90% of those eligible participated.

Participation in BOP is voluntary. In order to take part in the program, a participant must make a personal investment: Participants are 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 is determined by the amount of variable compensation and the volume-weighted average market price of BASF shares on the first trading day after the Annual Shareholders' Meeting, which was €51.26 on June 19, 2020.

Participants receive 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. If the cumulative percentage performance of BASF shares exceeds the percentage performance of the MSCI World Chemicals IndexSM (MSCI Chemicals), right B may be exercised (relative threshold). 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. From the 2013 BOP program onward, right B may only be exercised if the price of the BASF share equals at least the base price. The options granted as of July 1, 2020 may be exercised between July 1, 2022, and June 30, 2028, following a two-year vesting 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. This means that one of the thresholds must be exceeded. If the other threshold is not exceeded and the option is exercised, the other option right lapses. A participant's maximum gain from exercising an option is limited to five times the original individual investment starting with the 2013 BOP program. 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 is significantly strengthened compared with the conditions applying to the other participants. Members of the Board of Executive Directors are 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 2013 to 2019 programs are similar in structure to the 2020 BOP program.

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 are determined using the binomial model.

**Fair value of options and parameters used
as of December 31, 2020**

		BOP program of the year	
		2020	2019
Fair value	€	27.95	17.48
Dividend yield	%	5.10	5.10
Risk-free interest rate	%	-0.67	-0.70
Volatility BASF share	%	28.22	29.32
Volatility MSCI Chemicals	%	17.87	18.71
Correlation BASF share price – MSCI Chemicals	%	79.66	80.05

The stated fair values and the valuation parameters relate to the 2020 and 2019 BOP programs. The fair value calculation was based on the assumption that options will be exercised in a manner dependent on their potential gains. For the programs from preceding years, corresponding fair values and valuation parameters were determined/used.

Volatility was determined on the basis of the monthly closing prices over a historical period corresponding to the remaining term of the options.

The number of options granted amounted to 1,693,748 in 2020 (2019: 2,099,028).

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 2013 to 2020 programs were valued at fair value as of December 31, 2020. A proportionate provision is recognized for programs in the vesting period. The LTI provision for BOP increased from €90 million as of December 31, 2019 to €115 million as of December 31, 2020, due to higher fair values of the outstanding option rights. No utilization of provisions was recognized in 2019 or 2020. The expense from the addition of provisions totaled €25 million in 2020 and €34 million in 2019. Of this amount, €1 million was attributable to the disposal group for the discontinued pigments business in 2020 and €1 million for the discontinued construction chemicals business in 2019.

The exercisable options had no intrinsic value as of December 31, 2020 or as of December 31, 2019.

Strive!

In 2020, a new LTI program – known as Strive! – was established in the form of a performance share plan for senior executives and members of the Board of Executive Directors. The new LTI plan is based on achievement of strategic targets and takes into account BASF's share price and dividend performance (total shareholder return) over a four-year period. Participation in Strive! is voluntary and is linked to a share ownership obligation. Approximately 700 people were eligible to participate in Strive! in 2020. In contrast to the BOP program, Strive! offers rolling eligibility, without a deadline for participation. Members of the Board of Executive Directors as well as about 90 % of eligible senior executives participated.

A Strive! plan includes a four-year performance period with a fixed disbursement date. A target amount is determined at the beginning of a 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 period 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 (CO₂ 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 Strive!2020 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).

Like BOP, a personal investment in BASF shares is a 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 2020 ends on December 31, 2023.

Fair value of PSUs and parameters used as of December 31, 2020

	Strive! program of the year	
	2020	2019
Number of PSUs granted	767,308	–
Number of PSUs vested	191,827	–
Fair value / PSU	€ 55.04	–
Weighted target achievement	% 92.50	–
Base price	€ 64.72	–
Dividend	€ 3.30	–

The number of PSUs granted amounted to 767,308 in 2020. PSUs vested by the deadline totaled 191,827 and were recognized at fair value in the amount of €55.04 in 2020. Fair value is determined using the BASF share price of €64.72 on the balance sheet date and the dividend payment of €3.30 in 2020, plus expected dividend payments during the term of the program. The weighted target achievement degree of 92.50 % in 2020 is also taken into account. A fluctuation rate of 4 % is assumed in the fair value calculation.

The resulting LTI provision for Strive! totaled €11 million as of December 31, 2020. As Strive! was offered for the first time in 2020, it represents an addition to provisions. No provisions were allocated to the disposal group.

The same plan conditions generally apply to members of the Board of Executive Directors. Unlike for senior executives, share ownership obligation is not voluntary for the Board of Executive Directors and is outlined in their service contracts.

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	2020	2019
As of January 1	3,025,462	2,927,843
Newly acquired entitlements	942,685	758,255
Bonus shares issued	–490,050	–527,170
Lapsed entitlements	–226,521	–133,466
As of December 31	3,251,576	3,025,462

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 €45.30 for the 2020 program, and €68.21 for the 2019 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 €28 million in 2020 and €33 million in 2019.

30 Compensation of the Board of Executive Directors and Supervisory Board

Compensation of the Board of Executive Directors and Supervisory Board

Million €

	2020	2019
Non-performance-related and performance-related cash compensation of the Board of Executive Directors	9.7	13.3
Fair value of options and performance share units granted to the Board of Executive Directors in the fiscal year as of grant date ^a	12.1	3.2
Total compensation of the Board of Executive Directors	21.8	16.5
Service costs for members of the Board of Executive Directors	3.7	3.7
Compensation of the Supervisory Board	2.9	3.3
Total compensation of former members of the Board of Executive Directors and their surviving dependents	12.5	11.5
Pension provisions for former members of the Board of Executive Directors and their surviving dependents	209.0	198.2
Guarantees assumed for members of the Board of Executive Directors and the Supervisory Board	–	–

^a The Board of Executive Directors was granted the new LTI performance share plan for the first 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 ROCE for 2020 is lower than the threshold according to the bonus curve. In this case, the compensation system stipulates that the ROCE factor be determined by a special resolution of the Supervisory Board. The Supervisory Board has determined an ROCE factor of 0.3.

The members of the Board of Executive Directors were granted 166,272 option rights under the previous long-term incentive (LTI) program for the last time in 2020.

Market valuation of the option rights of active and former members of the Board of Executive Directors resulted in an expense totaling

€1.1 million in 2020. In 2019, option rights led to an expense in the amount of €3.0 million.

In 2020, members of the Board of Executive Directors were granted 151,247 performance share units for the first time in connection with the new LTI performance share plan, which led to an expense of €2.9 million in 2020.

[For more information on the compensation of members of the Board of Executive Directors, see the Compensation Report from page 183 onward](#)

[For more information on the members of the Supervisory Board and Board of Executive Directors, including their memberships on other boards, see page 180 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 decline in other receivables from nonconsolidated subsidiaries resulted primarily from other finance-related receivables; and the decline in other liabilities to associated companies was due mainly to other finance-related and contract liabilities.

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 rose from €23 million as of December 31, 2019 to €105 million as of December 31, 2020. Of this amount, €32 million was recognized as an expense.

Sales to related parties

Million €

	Services rendered		Services received	
	December 31, 2020	December 31, 2019	December 31, 2020	December 31, 2019
Nonconsolidated subsidiaries	691	636	295	233
Joint ventures	921	617	935	785
Associated companies	432	583	586	811

Trade accounts receivable from / trade accounts payable to related parties

Million €

	Accounts receivable, trade		Accounts payable, trade	
	December 31, 2020	December 31, 2019	December 31, 2020	December 31, 2019
Nonconsolidated subsidiaries	213	193	98	136
Joint ventures	149	80	136	122
Associated companies	64	129	43	54

Other receivables from / liabilities to related parties

Million €

	Other receivables		Other liabilities	
	December 31, 2020	December 31, 2019	December 31, 2020	December 31, 2019
Nonconsolidated subsidiaries	192	285	198	219
Joint ventures	47	80	62	92
Associated companies	55	57	240	345

The balance of valuation allowances on trade accounts receivable from nonconsolidated subsidiaries rose from €2 million as of December 31, 2019 to €3 million as of December 31, 2020.

BASF had obligations from guarantees and other financial obligations in favor of nonconsolidated subsidiaries in the amount of €8 million as of December 31, 2020 (December 31, 2019: €10 mil-

lion), and in favor of associated companies in the amount of €28 million as of December 31, 2020 (December 31, 2019: €36 million).

For more information on off-balance sheet financial obligations in connection with joint ventures, see Note 25 on page 291

Obligations arising from purchase contracts with joint ventures amounted to €6 million as of December 31, 2020, and €4 million as of December 31, 2019.

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 €6 million.

BASF SE had other finance-related receivables from BASF Pensionskasse VVaG in the amount of €3 million as of December 31, 2020.

Prof. Dr. Thomas Carell, member of BASF SE's Supervisory Board, has a minor business relationship with the BASF Group in the form of a shareholding in two start-up companies in the biochemicals business, specifically DNA and RNA technologies. He holds 10.04% in baseclick GmbH, in which BASF SE holds an indirect share through its subsidiary, BASF Venture Capital GmbH, of 67.23%, and 4.2% in baseclick Vaccine GmbH, in which BASF SE holds an indirect share of 51.4%. Additionally, as its shareholder, Prof. Dr. Thomas Carell granted baseclick GmbH a loan in the amount of €30,000.

There were no further reportable related party transactions with members of the Board of Executive Directors or the Supervisory Board and their related parties in 2020.

For more information on subsidiaries, joint ventures and associated companies, see the 2020 BASF Group list of shares held on page 241

For more information about defined benefit plants, the division of risk between Group companies, see Provisions for pensions and similar obligations from page 282 onward

For more information on the members of the Board of Executive Directors and the Supervisory Board, see Management and Supervisory Boards and Compensation Report from page 180 onward

32 Services provided by the external auditor

BASF Group companies used the following services from KPMG:

Services provided by the external auditor

Million €	2020	2019
Annual audit	19.6	19.7
of which domestic	7.1	6.8
Audit-related services	1.0	0.7
of which domestic	0.8	0.5
Tax consultation services	0.2	0.2
of which domestic	0	–
Other services	–	–
of which domestic	–	–
Total	20.8	20.6

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 voluntary audit of subgroups. Fees for other 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 2020 and is published online.

For more information, see basf.com/en/corporategovernance



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Overviews



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Ten-Year Summary

Million €

	2011	2012 ^a	2013 ^b	2014	2015	2016	2017	2018	2019	2020
Statement of income										
Sales	73,497	72,129	73,973	74,326	70,449	57,550	61,223 ^c	60,220 ^d	59,316	59,149
Income from operations (EBIT)	8,586	6,742	7,160	7,626	6,248	6,275	7,587 ^c	5,974 ^d	4,201	-191
Income before income taxes	8,970	5,977	6,600	7,203	5,548	5,395	6,882 ^c	5,233 ^d	3,302	-1,562
Income after taxes from continuing operations	-	-	-	-	-	-	5,592	4,116 ^d	2,546	-1,471
Income after taxes from discontinued operations	-	-	-	-	-	-	760	863 ^d	5,945	396
Income after taxes	6,603	5,067	5,113	5,492	4,301	4,255	6,352	4,979	8,491	-1,075
Net income	6,188	4,819	4,792	5,155	3,987	4,056	6,078	4,707	8,421	-1,060
Income from operations before depreciation and amortization (EBITDA)	11,993	10,009	10,432	11,043	10,649	10,526	10,765 ^c	8,970 ^d	8,185	6,494
EBIT before special items	8,447	6,647	7,077	7,357	6,739	6,309	7,645 ^c	6,281 ^d	4,643	3,560
Capital expenditures, depreciation and amortization										
Additions to property, plant and equipment and intangible assets	3,646	5,263	7,726	7,285	6,013	7,258	4,364	10,735	4,097	4,869
of which property, plant and equipment	3,199	4,084	6,428	6,369	5,742	4,377	4,028	5,040	3,842	4,075
Depreciation and amortization of property, plant and equipment and intangible assets	3,407	3,267	3,272	3,417	4,401	4,251	4,202	3,750 ^d	4,146	6,685
of which property, plant and equipment	2,618	2,594	2,631	2,770	3,600	3,691	3,586	3,155 ^d	3,408	5,189
Number of employees										
At year-end	111,141	110,782	112,206	113,292	112,435	113,830	115,490	122,404	117,628	110,302
Annual average	110,403	109,969	111,844	112,644	113,249	111,975	114,333	118,371	119,200	115,973
Personnel expenses										
	8,576	8,963	9,285	9,224	9,982	10,165	10,610	10,659	10,924	10,576
Research and development expenses										
	1,605	1,732	1,849	1,884	1,953	1,863	1,843 ^c	1,994 ^d	2,158	2,086

^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.

^d Figures for 2018 were restated with the presentation of the construction chemicals activities as discontinued operations.

Million €

		2011	2012 ^a	2013 ^b	2014	2015	2016	2017	2018	2019	2020
Key data											
Earnings per share	€	6.74	5.25	5.22	5.61	4.34	4.42	6.62 ^c	5.12	9.17	-1.15
Adjusted earnings per share	€	6.26	5.64	5.31	5.44	5.00	4.83	6.44 ^c	5.87	4.00	3.21
Cash flows from operating activities		7,105	6,602	8,100	6,958	9,446	7,717	8,785	7,939	7,474	5,413
EBITDA margin	%	16.3	13.9	14.1	14.9	15.1	18.3	17.6 ^c	14.9 ^d	13.8	11.0
Return on assets	%	16.1	11.0	11.5	11.7	8.7	8.2	9.5 ^c	7.1	4.5	-1.2
Return on equity after tax	%	27.5	19.9	19.2	19.7	14.4	13.3	18.9	14.1	21.6	-2.8
Return on capital employed (ROCE)	%	-	-	-	-	-	-	15.4	12.0 ^d	7.7	1.7
Appropriation of profits											
Net income of BASF SE ^e		3,506	2,880	2,826	5,853	2,158	2,808	3,130	2,982	3,899	3,946
Dividend		2,296	2,388	2,480	2,572	2,664	2,755	2,847	2,939	3,031	3,031
Dividend per share	€	2.50	2.60	2.70	2.80	2.90	3.00	3.10	3.20	3.30	3.30
Number of shares as of December 31											
	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.

^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.

^d Figures for 2018 were restated with the presentation of the construction chemicals activities as discontinued operations.

^e Calculated in accordance with German GAAP

Balance sheet (IFRS)

Million €

	2011	2012 ^a	2013 ^b	2014	2015	2016	2017 ^c	2018	2019	2020
Intangible assets	11,919	12,193	12,324	12,967	12,537	15,162	13,594	16,554	14,525	13,145
Property, plant and equipment	17,966	16,610	19,229	23,496	25,260	26,413	25,258	20,780	21,792	19,647
Integral investments accounted for using the equity method	1,852	3,459	4,174	3,245	4,436	4,647	4,715	2,203	1,885	1,878
Non-integral investments accounted for using the equity method	–	–	–	–	–	–	–	–	13,123	10,874
Other financial assets	848	613	643	540	526	605	606	570	636	582
Deferred tax assets	941	1,473	1,006	2,193	1,791	2,513	2,118	2,342	2,887	3,386
Other receivables and miscellaneous assets	561	911	877	1,498	1,720	1,210	1,332	886	1,112	912
Noncurrent assets	34,087	35,259	38,253	43,939	46,270	50,550	47,623	43,335	55,960	50,424
Inventories	10,059	9,581	10,160	11,266	9,693	10,005	10,303	12,166	11,223	10,010
Accounts receivable, trade	10,886	9,506	10,233	10,385	9,516	10,952	10,801	10,665	9,093	9,466
Other receivables and miscellaneous assets	3,781	3,455	3,714	4,032	3,095	3,078	3,494	3,139	3,790	4,673
Marketable securities	19	14	17	19	21	536	52	344	444	207
Cash and cash equivalents	2,048	1,647	1,827	1,718	2,241	1,375	6,495	2,300	2,427	4,330
Assets of disposal groups	295	3,264	–	–	–	–	–	14,607	4,013	1,182
Current assets	27,088	27,467	25,951	27,420	24,566	25,946	31,145	43,221	30,990	29,868
Assets	61,175	62,726	64,204	71,359	70,836	76,496	78,768	86,556	86,950	80,292

^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 As of January 1, 2018, receivables from bank acceptance drafts are no longer reported under trade accounts receivable, but under the item other receivables and other assets. The 2017 figures have been restated accordingly.

Balance sheet (IFRS)

Million €

	2011	2012 ^a	2013 ^b	2014	2015	2016	2017	2018	2019	2020
Subscribed capital	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176
Capital reserves	3,203	3,188	3,165	3,143	3,141	3,130	3,117	3,118	3,115	3,115
Retained earnings	19,446	23,708	26,102	28,777	30,120	31,515	34,826	36,699	42,056	37,911
Other comprehensive income	314	-3,461	-3,400	-5,482	-3,521	-4,014	-5,282	-5,939	-4,850	-8,474
Noncontrolling interests	1,246	1,010	630	581	629	761	919	1,055	853	670
Equity	25,385	25,621	27,673	28,195	31,545	32,568	34,756	36,109	42,350	34,398
Provisions for pensions and similar obligations	3,189	5,421	3,727	7,313	6,313	8,209	6,293	7,434	7,683	8,566
Deferred tax liabilities ^c	2,628	2,234	2,894	3,420	3,381	3,317	2,731	1,787	1,764	1,447
Tax provisions ^c	–	–	–	–	–	–	–	559	516	587
Other provisions ^c	3,335	2,925	3,226	3,502	3,369	3,667	3,478	1,301	1,340	1,484
Financial indebtedness	9,019	8,704	11,151	11,839	11,123	12,545	15,535	15,332	15,015	15,819
Other liabilities	1,142	1,111	1,194	1,197	869	873	1,095	705	1,678	1,711
Noncurrent liabilities	19,313	20,395	22,192	27,271	25,055	28,611	29,132	27,118	27,996	29,614
Accounts payable, trade	5,121	4,502	5,153	4,861	4,020	4,610	4,971	5,122	5,087	5,291
Provisions	3,210	2,628	2,670	2,844	2,540	2,802	3,229	3,252	2,938	2,825
Tax liabilities	1,038	870	968	1,079	1,082	1,288	1,119	695	756	988
Financial indebtedness	3,985	4,094	3,256	3,545	4,074	3,767	2,497	5,509	3,362	3,395
Other liabilities	3,036	2,623	2,292	3,564	2,520	2,850	3,064	2,998	3,427	3,440
Liabilities of disposal groups	87	1,993	–	–	–	–	–	5,753	1,034	341
Current liabilities	16,477	16,710	14,339	15,893	14,236	15,317	14,880	23,329	16,604	16,280
Equity and liabilities	61,175	62,726	64,204	71,359	70,836	76,496	78,768	86,556	86,950	80,292

^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 Tax provisions are reported separately as of January 1, 2020. Figures for the years 2018 and 2019 have been restated. In 2017 and earlier, tax provisions are included in other provisions.

Glossary and Trademarks

A

AgBalance®

AgBalance® is a method to measure and assess sustainability in agriculture. BASF developed the method based on its many years of experience with the Eco-Efficiency Analysis and SEEBalance® and in cooperation with customers and experts.

Associated companies

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%.

B

Barrel of oil equivalent (BOE)

A barrel of oil equivalent (BOE) is an international unit of measurement for comparing the energy content of different fuels. It is equal to one barrel of crude oil, or 6,000 cubic feet (169 cubic meters) of natural gas.

Biotechnology

Biotechnology includes all processes and products that make use of living organisms, including plants, bacteria and yeasts, or their cellular constituents, such as enzymes.

C

Capital expenditures (capex)

We define capex as additions to property, plant and equipment excluding additions from acquisitions, IT investments, restoration obligations and right-of-use assets arising from leases.

Carbon management

Carbon management bundles our global activities and a long-term research and development program to reduce our greenhouse gas emissions. The objective is to achieve our climate protection target and set the course for low-carbon chemical production.

CDP

The international nonprofit organization CDP (formerly the Carbon Disclosure Project) analyzes environmental data of companies. The CDP's indexes serve as assessment tools for investors.

Circular economy

The circular economy concept describes the transition away from a linear model of "take-make-dispose" to a system of closed loops powered by renewable energy. The core elements of a circular economy include reusing resources, avoiding waste and optimizing product features with respect to the entire product life cycle.

CO₂ equivalents

CO₂ 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 CO₂ as the reference value.

Commercial paper program

The commercial paper program is a framework agreement between BASF and banks regarding the issuing of debt obligations on the financial market (commercial paper). The commercial paper is issued under a rolling program for which the terms can be determined individually. This requires a good rating.

Competency Model

BASF's Competency Model is derived from our corporate strategy and our values and translates these into specific day-to-day behavioral standards. It is applicable worldwide, creating a common framework for the conduct of all BASF employees and leaders to enable us to reach our shared goals. The eight competencies are: Drive Innovation, Collaborate for Achievement, Embrace Diversity, Communicate Effectively, Drive Sustainable Solutions, Develop Self and Others, Act with Entrepreneurial Drive, Demonstrate Customer Focus.

Compliance

Compliance is an important element of corporate governance. It refers to the company's behavior in accordance with laws, guidelines and voluntary codices.

Customers

We understand customers as all external companies (sold-to parties) that had contracts with the BASF Group in the business year concerned under which sales were generated.

D

Dodd-Frank Act

The Dodd-Frank Act issued in 2010 comprises accounting and disclosure obligations for publicly listed U.S. companies regarding the use of certain raw materials that come from the Democratic Republic of the Congo or its bordering countries. The companies must prove that the materials they use do not come from mines in these conflict areas. The definition of conflict minerals as per the Dodd-Frank Act includes the following materials and their derivatives: columbite-tantalite (coltan), cassiterite, wolframite and gold.

Due diligence

An ongoing risk management process to identify and avoid negative impacts on and by a company (for example, through human rights violations in the supply chain).

E**EBIT**

Earnings before interest and taxes (EBIT): At BASF, EBIT corresponds to income from operations.

EBITDA

Earnings before interest, taxes, depreciation and amortization (EBITDA): At BASF, EBITDA corresponds to income from operations before depreciation and amortization (impairments and reversals of impairments).

EBITDA margin

The EBITDA margin is the margin that we earn on sales from our operating activities before depreciation and amortization as a percentage of EBITDA. It is calculated as income from operations before depreciation, amortization, impairments and reversals of impairments as a percentage of sales.

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.

Emerging markets

We define the emerging markets as Greater China, the ASEAN countries (Brunei, Indonesia, Malaysia, Myanmar, Cambodia, Laos, the Philippines, Singapore, Thailand, Vietnam), India, Pakistan and Bangladesh; Central America including Mexico and South America; eastern Europe; the Middle East, Turkey and Africa.

Equity method

The equity method is used to account for shareholdings in joint ventures and associated companies. Based on the acquisition costs of the shareholding as of the acquisition date, the carrying amount is continuously adjusted to the changes in equity of the company in which the share is held.

European Water Stewardship (EWS) Standard

The European Water Stewardship (EWS) Standard enables businesses and agriculture to assess the sustainability of their water management practices. The criteria are sustainable water abstraction, maintaining good water quality, preserving conservation areas, and ensuring continuous improvement processes. The EWS standard came into force at the end of 2011 and was developed by nongovernmental organizations, governments and businesses under the direction of the independent organization European Water Partnership (EWP).

Exploration

Exploration refers to the search for mineral resources, such as crude oil or natural gas, in the Earth's crust. The exploration process involves using suitable geophysical methods to find structures that may contain oil and gas, then proving a possible discovery by means of exploratory drilling.

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.

Free cash flow

Free cash flow is the cash flows from operating activities less payments made for property, plant and equipment and intangible assets.

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.

Global Product Strategy (GPS)

The Global Product Strategy aims to establish global product stewardship standards and practices for companies. The program aims to improve the safety management of chemical substances and to support governments in the introduction of local chemical regulations.

Global Reporting Initiative (GRI)

The Global Reporting Initiative is a multistakeholder organization. It was established in 1997 with the aim of developing a guideline for companies' and organizations' voluntary reporting on their economic, environmental and social activities.

Greenhouse Gas Protocol (GHG Protocol)

The Greenhouse Gas Protocol, used by many companies in different sectors as well as nongovernmental organizations and governments, is a globally recognized standard to quantify and manage greenhouse gas emissions. The reporting standards and recommendations for implementing projects to reduce emissions are jointly developed by companies, nongovernmental organizations and governments under the guidance of the World Resources Institute and the World Business Council for Sustainable Development.

H**Health Performance Index (HPI)**

The Health Performance Index is an indicator developed by BASF to provide more detailed insight into our approach to health management. It comprises five components: recognized occupational diseases, medical emergency drills, first aid, preventive medicine and health promotion.

I**IAS**

IAS stands for International Accounting Standards.

IFRS

The International Financial Reporting Standards (until 2001: International Accounting Standards, IAS) are developed and published by the International Accounting Standards Board, headquartered in London, United Kingdom. The "IAS Regulation" made the application of IFRSs mandatory for listed companies headquartered in the European Union starting in 2005.

ILO Core Labor Standards

The ILO Core Labor Standards are set out in a declaration of the International Labor Organization (ILO), comprising eight conventions that set minimum requirements for decent working conditions.

ISO 9001

ISO 9001 is an international standard developed by the International Organization for Standardization (ISO) that determines minimum requirements for a quality management system for voluntary certification.

ISO 14001

ISO 14001 is an international standard developed by the International Organization for Standardization (ISO) that determines the general requirements for an environmental management system for voluntary certification.

ISO 19011

ISO 19011 is an international standard developed by the International Organization for Standardization (ISO) that also serves as a guide for auditing management systems, for example for occupational health and safety, energy, quality and environmental management.

ISO 27001

ISO 27001 is an international standard developed by the International Organization for Standardization (ISO) that determines the general requirements for an information security management system for voluntary certification.

ISO 50001

ISO 50001 is an international standard developed by the International Organization for Standardization (ISO) that determines the general requirements for an energy management system for voluntary certification.

J**Joint arrangement**

A joint arrangement refers to joint ventures and joint operations, and describes a jointly controlled arrangement of two or more parties. This arrangement exists if decisions about relevant activities require the unanimous consent of all parties sharing control.

Joint operation

A joint operation is a joint arrangement in which the parties that share control have direct rights to the assets and liabilities relating to the arrangement. For joint operations, the proportional share of assets, liabilities, income and expenses are reported in the BASF Group Consolidated Financial Statements.

Joint venture

A joint venture is a joint arrangement in which the parties that have joint control of a legally independent entity have rights to the net assets of that arrangement. Joint ventures are accounted for using the equity method in the BASF Group Consolidated Financial Statements.

L**Long-term incentive program (LTI)**

The long-term incentive is a share price-based compensation program primarily for senior executives of the BASF Group and members of the Board of Executive Directors. Among other things, the program aims to tie a portion of the participants' annual compensation to the long-term performance of BASF shares by having the senior executives make an individual investment in the company's stock. The introduction of the new LTI also incentivizes the achievement of strategic growth, profitability and sustainability targets.

M**Materiality analysis**

BASF uses a materiality analysis to identify and assess sustainability topics. This considers the expectations and demands of external stakeholders, as well as the expertise of members of the Stakeholder Advisory Council. Assessments prepared by our employees from various units are also taken into account. An analysis of various data sources expands on and verifies these findings.

MDI

MDI stands for diphenylmethane diisocyanate and is one of the most important raw materials for the production of polyurethane. This plastic is used for applications ranging from the soles of high-tech running shoes and shock absorbers for vehicle engines to insulation for refrigerators and buildings.

Million British thermal unit (mmBtu)

The British thermal unit (Btu) is a unit of energy observed in the Anglo-American measuring system. It is used for indicating values such as the energy content of gas. One mmBtu (million British thermal units) is equal to approximately 1,003 cubic feet of gas or 28 cubic meters of gas.

Monitoring system

Monitoring systems and tools serve to measure and ensure the adherence to standards. One area that is monitored is our voluntary commitments, such as the adherence to human rights and internationally recognized labor standards.

MSCI World Chemicals Index

The MSCI World Chemicals Index is a stock index that includes the world's biggest chemical companies. It measures the performance of the companies in the index in their respective national currencies, thus considerably reducing currency effects.

N**Nanomaterials**

The International Organization for Standardization defines nanomaterials as materials with one or more external dimensions on a nanoscale or with internal structure or surface structure on a nanoscale. For regulatory purposes, there are additional definitions for nanomaterials worldwide.

Naphtha

Naphtha is petroleum that is produced during oil refining. Heavy naphtha is the starting point for gasoline production. Light naphtha is the most important feedstock for steam crackers.

NMVOC (nonmethane volatile organic compounds)

VOCs (volatile organic compounds) are organic substances that are present in the air as gas at low temperatures. These include some hydrocarbons, alcohols, aldehydes and organic acids. NMVOCs are VOCs from which methane is excluded.

O**OHSAS 18001**

The Occupational Health and Safety Assessment Series (OHSAS) includes the standard OHSAS 18001, which contains a framework for an occupational safety management system. This system can be integrated into an existing quality and environmental protection management system and certified accordingly.

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 2019 or will be launched on the market by 2029.

Process safety incidents (PSI)

Process safety incidents (PSI) is a worldwide harmonized industry metric used to report events involving the release of a substance or energy where this exceeds defined thresholds. BASF has used the criteria and reporting thresholds developed by the International Council of Chemical Associations (ICCA) since 2018.

Propylene oxide (PO)

Propylene oxide (PO), a very reactive compound, is generated by the oxidation of propylene and is used as basic chemical for further processing in the chemical industry.

R**REACH**

REACH is a European Union regulatory framework for the registration, evaluation, authorization and restriction of chemicals, and was implemented gradually by 2018. Companies are obligated to collect data on the properties and uses of produced and imported substances and to assess any risks.

Renewable resources

Renewable raw materials are products made from biomass such as sugars, starches and vegetable oils that are not used as food or feed, but as feedstock or to generate warmth, electricity or fuels.

Responsible Care®

Responsible Care® refers to a worldwide initiative by the chemical industry to continuously improve its performance in the areas of environmental protection, health and safety.

Retention

Profits generated can be used in two ways: distribution to shareholders or retention within the company.

ROCE

Return on capital employed (ROCE) is a measure of the profitability of our operations. This is calculated as the EBIT generated by the segments as a percentage of the average cost of capital basis. The average cost of capital basis corresponds to the operating assets of the segments plus the customer and supplier financing not included there and is calculated using the month-end figures.

S**SASB**

The Sustainability Accounting Standards Board (SASB) is a U.S.-based nonprofit organization that develops industry-specific sustainability reporting standards. These aim to create transparency around material dimensions of sustainability: economic, environmental and social impact.

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.

Special items

Special items arise from the integration of acquired businesses, restructuring measures, impairments, gains or losses resulting from divestitures and sales of shareholdings, and other expenses and income that arise outside of ordinary business activities.

Spot market (cash market)

A spot market is a market where an agreed-upon deal, including delivery, acceptance and payment, occurs immediately, as opposed to forward contracts, where the delivery, acceptance and payment occurs at a point in time after the conclusion of the deal.

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.

Sustainable Solution Steering

We use Sustainable Solution Steering to review and guide our product portfolio in terms of sustainability. The four categories – Accelerators, Performers, Transitioners and Challenged – indicate how our products and solutions already comply with sustainability requirements and how we can increase their contribution.

T**TCFD**

The Task Force on Climate-related Disclosures (TCFD) established by the G20 Financial Stability Board promotes the disclosure of information and data relevant to climate change by companies, and develops corresponding recommendations. The objective is to improve market participants' understanding of material climate-relevant risks and enable them to better assess the opportunities and risks of climate change. BASF supports the recommendations and is involved in the work of the Task Force.

TDI

TDI stands for toluene diisocyanate and is a raw material for the production of polyurethane. It is used primarily in the automotive industry (for example, in seat cushions and interiors) and the furniture industry (for example, for flexible foams for mattresses or cushioning, or in wood coating).

Tier 1 suppliers

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. Suppliers usually work together with other suppliers, which are categorized as Tier 2, Tier 3, etc. based on their role in the value chain.

Together for Sustainability (TfS)

Global initiative of various companies from the chemical industry for the global standardization of supplier evaluations to improve sustainability in the supply chain.

Traits

Traits are commercial plant characteristics, such as an inherent resistance to certain herbicides or an inherent defense against certain insects.

TUIS

TUIS is a German transport accident information and emergency response system jointly operated by around 130 company fire departments within the chemical industry and specialists. The member companies can be reached by the public authorities at any time and provide assistance over the telephone, expert on-site advice or special technical equipment.

U**U.N. Global Compact (UNGC)**

In the United Nations Global Compact network, nongovernmental organizations, companies, international business and employee representatives, scientists and politicians work on aligning global business with the principles of sustainable development.

U.N. Sustainable Development Goals (U.N. SDGs)

The U.N. officially adopted its Sustainable Development Goals (U.N. SDGs) in September 2015. These replaced the previous Millennium Development Goals. The 17 SDGs provide a framework for bringing together U.N. member states, NGOs, industry associations and employee representatives, academia, politics and business to combat international challenges such as poverty, food and water scarcity, and climate change.

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.

Value to Society

BASF developed the Value to Society approach in cooperation with external experts to measure and assess in monetary terms the economic, ecological, and social impacts of its business activities along the entire value chain.

Verbund

In the BASF Verbund, production facilities and technologies are intelligently networked, with high-output chemical processes that use energy and resources efficiently. 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.

W

Water stress areas

We report on water stress areas as regions in which 40% or more of available water is used. Our assessment is based on Aqueduct 3.0 (WRI, 2019). Our sustainable water management goal also takes into account all sites that we defined prior to 2019 as sites in water stress areas in accordance with Pfister et al. (2009), as well as the Verbund sites.

Water consumption

We calculate the water consumption of the BASF Group as the sum of evaporation in cooling processes, water content in sales products, and other water use at the sites.

Trademarks^a

DRYREF™

Registered trademark of Linde AG

Net Promoter System®

Registered trademark of Bain & Company, Inc.

Responsible Care®

Registered trademark of the European Chemical Industry Council

All other trademarks referred to in the BASF Report are registered trademarks of the BASF Group (identified with the ® symbol), trademarks pending (identified with the ™ symbol), or trademarks used by the BASF Group.

^a Trademarks are not registered/used in all countries.

Quarterly Statement Q1 2021 / Annual Shareholders' Meeting 2021

April 29, 2021

Half-Year Financial Report 2021

July 28, 2021

Quarterly Statement Q3 2021

October 27, 2021

BASF Report 2021

February 25, 2022

Quarterly Statement Q1 2022 / Annual Shareholders' Meeting 2022

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Further information

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BASF supports the chemical industry's global Responsible Care initiative.



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