

# Forecast

We expect the global economic recovery to continue in 2022. As a result, we anticipate global GDP growth of 3.8% (2021: +5.8%). Global growth should be supported by the gradual containment of the coronavirus pandemic. In the advanced economies in particular, demand will increasingly shift from goods to services. However, the bottlenecks in global supply chains will ease only slowly. As order backlogs in industry are high, we expect global industrial production to grow at an above-average rate of 3.8% and chemical production at 3.5%.

In this section:  
Economic Environment 2022  
Outlook 2022  
Opportunities and Risks

## Economic Environment in 2022<sup>1</sup>

### At a glance

- Moderate GDP growth expected in Europe and the United States
- Strong growth assumed in Asia
- Moderate growth in global industrial production
- Fragile recovery in the automotive industry
- Slower but still above-average growth forecast for the chemical industry

For Europe and the United States, we expect a moderate weakening of growth momentum compared with the previous year. For China, however, – which made an earlier start to its economic recovery following the downturn in 2020 – we anticipate much slower but still solid growth. Growth in the other emerging markets in Asia will likely be slightly stronger than in the previous year.

However, uncertainty about future developments remains high. The further course of the coronavirus pandemic could impact demand more severely than expected. Supply difficulties in the global value chains could continue for longer than assumed in our outlook. High

energy prices and higher inflation rates could dampen consumer purchasing power more strongly than expected in our forecast.

### Trends in the global economy in 2022

Overall, we anticipate moderate GDP growth of 3.6% (2021: 5.2%) in the **European Union (E.U.)**. This will be driven in part by the economic upturn in the services sector and the gradual overcoming of supply difficulties that we anticipate for the industrial sector. Growth will also be supported by payments from the European Recovery and Resilience Facility. We expect the differences in growth rates between the E.U. member states to be less pronounced than in the previous year. The dynamic recovery in the western European countries that grew particularly strongly in 2021 (France, Italy) is expected to weaken somewhat, while Germany should see slightly stronger growth. In the eastern E.U. countries, we expect growth rates to converge at a similar level.

We expect the recovery to continue in the **United Kingdom**, although this is subject to considerable uncertainty. In particular, labor shortages in logistics and hospitality may slow further recovery. Overall, we anticipate GDP growth of 3.8% there (2021: 7.5%).

For the **United States**, we are forecasting growth of 3.8% (2021: 5.7%). Growth will be supported by government spending on infrastructure, social and climate programs. A continued revival of the labor market should partially compensate for the phasing out of extended unemployment benefits under the COVID relief package. Delays in the clearance of goods at U.S. ports should gradually become less relevant as growth in demand for goods slows and shifts toward the services sector. In addition, congestion at ports should gradually ease. Labor shortages will prevent a stronger upturn, which will dampen the recovery in the services sector in particular.

We expect growth in the **emerging markets of Asia** to slow overall. In **China**, the real estate sector will cool. In addition, the zero-tolerance policy toward the coronavirus pandemic will likely curb the recovery in private consumption. We also assume that selective measures to contain new coronavirus outbreaks will continue to negatively impact industrial value chains and logistics. Overall, we expect Chinese GDP to grow by 4.5% in 2022 (2021: 8.1%). Economic development in **India** remains uncertain given the still low vaccination rate. We expect growth there to be slightly lower than in the previous year (2022: 7.0%; 2021: 8.1%). This will be driven in particular by a recovery in private consumption. In this

<sup>1</sup> Our assumptions account for current estimates by external institutions, including economic research institutes, banks, multinational organizations and consulting firms.

environment, we expect slightly higher GDP growth of 4.6% (2021: 4.2%) for the other emerging Asian economies. This is anticipated due to positive base effects and a gradual recovery in tourism.

In **Japan**, we expect growth momentum to pick up only slightly in the coming year (+2.5%) after weak growth of just 1.7% in 2021. Growth will be supported by private consumption and investment, while the slowdown in China is expected to have a dampening effect on exports. Government stimulus measures could however accelerate growth more strongly than assumed in our forecast.

In **South America**, growth is expected to weaken significantly in 2022. High net exports of industrial and agricultural commodities will continue to support the Brazilian economy but will no longer provide strong growth impetus. Growth in domestic demand will be curbed by high inflation rates, increased debt and rising interest rates. Overall, we are forecasting growth of only 0.4% for **Brazil** in 2022 (2021: 4.7%). In **Argentina**, too, growth will slow significantly against the backdrop of continued very high inflation and increasing fiscal consolidation requirements (2022: 2.3%; 2021: 9.0%). For the other emerging markets in South America, we expect growth to be slightly higher compared with other countries, but likewise significantly weaker year on year (2022: 3.2%; 2021: 9.5%), as the positive base effects from the previous year also level off in these countries.

### Outlook for gross domestic product 2022

Real change compared with previous year

World	3.8%
European Union	3.6%
United States	3.8%
Emerging markets of Asia	4.8%
Japan	2.5%
South America	1.6%

### Trends in gross domestic product 2022–2024

Average annual real change

World	3.2%
European Union	2.6%
United States	2.8%
Emerging markets of Asia	4.9%
Japan	1.7%
South America	2.0%

### Outlook for key customer industries

Overall, we anticipate growth of 3.8% (2021: 6.5%) in global industrial production. Growth in the advanced economies (2022: 3.4%; 2021: 5.3%) is likely to be weaker than growth in the emerging markets (2022: 4.1%; 2021: 7.4%).

We are forecasting higher growth in the **transportation industry**<sup>1</sup> in 2022 compared with our other customer industries on average. Based on the current, exceptionally low level, we expect production in the automotive industry to return to strong growth. Overall, production volumes will however still remain well below pre-coronavirus pandemic levels. Growth should pick up again in Europe in particular, after automotive production declined by 26% overall in 2020 and 2021. North America also has a lot of ground to make up.

Automotive production there fell by around one-fifth overall in the past two years, compared with around 7% in Asia. Accordingly, we anticipate the strongest catch-up effects in Europe, followed by North America and Asia. However, the supply of precursors, especially semiconductors, will remain a problem and will continue to limit growth.

In the **energy and raw materials** sector, we are forecasting slightly higher production growth than in 2021 due to strong demand and higher raw materials prices. We expect the OPEC+ countries to continue to gradually step up oil production. Oil and gas production in the United States should increase as well.

Growth in the **construction industry** is expected to weaken somewhat. More so than in 2021, commercial construction and infrastructure investment will be a stronger driver than new residential construction. Residential construction activity is expected to cool sharply, especially in China. However, the infrastructure program in the United States, projects under the European Recovery and Resilience Facility, further government programs to support the energetic renovation of existing buildings and still low interest rates will continue to support growth in the construction industry.

**Consumer goods production** is expected to grow slightly faster than global GDP. We expect growth in textiles and consumer durables to decline. Production of care products will presumably likewise grow at a slightly slower rate than in the previous year.

In the **electronics industry**, demand is likely to remain high and benefit from the ongoing trend toward digitalization and automation in many areas of application, both in industry and in private households. Nevertheless, we expect weaker growth compared with the exceptionally strong prior year.

In the **health and nutrition** sector, we are forecasting lower growth compared with 2021, as the exceptionally strong growth in the pharmaceutical industry is expected to level off. Growth in the food

<sup>1</sup> The transportation industry includes the production of motor vehicles, motor vehicle parts and the construction of other vehicles (especially ships and boats, trains, air and spacecraft, and two-wheelers).

industry is also likely to return to its long-term growth path after the gradual reopening of the hospitality sector following the lockdowns in the previous year provided above-average growth in 2021.

Under normal weather conditions, growth in **agricultural production** in 2022 will presumably be similar to the long-term average. Production in industrialized countries will grow only weakly. By contrast, we anticipate solid production growth in emerging markets such as Argentina, China, India and Ukraine.

### Outlook for the chemical industry

Global chemical production (excluding pharmaceuticals) is expected to grow by 3.5% in 2022, slower than in the previous year (2021: 6.1%) but still above the average for the years prior to the coronavirus pandemic. In the advanced economies, we anticipate growth of 3.1% (2021: 3.9%), which is above the average for the pre-crisis years. Growth in the emerging markets is expected to slow at a much stronger rate (2022: +3.7%; 2021: 7.2%). Based on these forecasts, global chemical production at the end of the year will be almost 10% above the 2019 level.

In **China**, the world's largest chemical market, we are forecasting much weaker growth in chemical production of 4.0% as base effects from the previous year level off (2021: 7.7%). Growth in demand for chemicals in the consumer goods industries and from the electronics industry is expected to weaken. We anticipate continued growth in demand from the Chinese automotive industry. In the other emerging markets of Asia, we expect chemical growth to be slightly weaker than in China.

In the **E.U.**, we expect chemical production to increase by 2.8% (2021: 6.0%). We anticipate a significant recovery in the automotive industry, which will strengthen growth in demand for chemicals. For the other customer industries, we are forecasting growth slightly above the long-term average. However, momentum in chemical production already slowed over the course of 2021. As a result, the European chemical industry will presumably grow below the average

for the manufacturing sector. We are assuming growth of 2.0% in the United Kingdom (2021: 2.5%).

For the **United States**, we are forecasting significantly stronger growth in chemical production (2022: 4.5%; 2021: 1.8%) following the weather-related production outages in the previous year. In addition to statistical base effects, we expect growing demand above all from the automotive industry, the energy sector and the consumer goods industry.

In **Japan**, we expect growth in chemical production to track the growth rate for GDP. The strongest growth stimulus will be provided by the electronics industry and the automotive sector (2022: 2.5%; 2021: 3.7%).

Chemical production in **South America** will presumably grow at around the same rate as the economy as a whole (2022: 1.5%; 2021: 4.6%). This will be primarily driven by the significant recovery in automotive production and continued moderate growth in demand from agriculture and the raw materials sector.

### Outlook for chemical production 2022 (excluding pharmaceuticals)

Real change compared with previous year

World	3.5%
European Union	2.8%
United States	4.5%
Emerging markets of Asia	3.9%
Japan	2.5%
South America	1.5%

### Trends in chemical production 2022–2024 (excluding pharmaceuticals)

Average annual real change

World	3.3%
European Union	2.0%
United States	2.7%
Emerging markets of Asia	4.1%
Japan	1.7%
South America	2.1%

## Outlook 2022

**We expect global economic growth to be somewhat more moderate in 2022 following the very strong recovery in 2021. Global growth should be supported by the gradual containment of the coronavirus pandemic. Nevertheless, a full recovery of the market environment is still not yet expected in 2022 as uncertainty remains exceptionally high.**

### At a glance

- Forecast sales of between €74 billion and €77 billion
- Expected EBIT before special items of between €6.6 billion and €7.2 billion
- Projected ROCE of between 11.4% and 12.6%
- Capex of around €4.6 billion planned for 2022

Our forecast assumes moderate growth in the majority of our customer industries, while the automotive industry is expected to see a stronger recovery. Our forecast range takes into account uncertainty resulting in particular from the effects of ongoing supply chain disruptions, the further course of the coronavirus pandemic and the development of energy prices. The global economy is expected to grow by 3.8% in 2022 (2021: 5.8%). As order backlogs in industry are high, we expect global industrial production to grow by 3.8% (2021: 6.5%) and chemical production by 3.5% (2021: 6.1%). We anticipate an average oil price of \$75 for a barrel of Brent crude and an exchange rate of \$1.15 per euro.

Based on these assumptions, we are forecasting sales of between €74 billion and €77 billion (2021: €78.6 billion). The BASF Group's income from operations (EBIT) before special items is expected to be between €6.6 billion and €7.2 billion (2021: €7.8 billion). ROCE should be between 11.4% and 12.6% (2021: 13.5%).

Our CO<sub>2</sub> emissions are expected to be between 19.6 million metric tons and 20.6 million metric tons in 2022 (2021: 20.2 million metric tons). No forecast has been made for the previous Accelerator sales target as we plan to update our portfolio steering target in 2022.

 For more information on our expectations for the economic environment in 2022, see page 145 onward  
For more information on our opportunities and risks, see page 151 onward

### Sales, earnings and ROCE forecast for the BASF Group<sup>1</sup>

The BASF Group is expected to generate sales of between €74 billion and €77 billion in 2022. Contributing factors will include the volume growth expected in all segments and slightly positive portfolio effects from the formation of BASF Shanshan Battery Materials Co., Ltd. We anticipate lower price levels, mainly from lower commodity and precious metal prices, which will lead to a significant decrease in sales in the Surface Technologies and Chemicals segments. We expect slightly lower sales in the Industrial Solutions segment due to negative portfolio effects from the sale of the pigments and kaolin businesses. By contrast, we are forecasting considerable sales growth in the Agricultural Solutions and Nutrition & Care segments following significant price increases. We expect slightly higher sales in the Materials segment and in Other.

The BASF Group's EBIT before special items is expected to decline to between €6.6 billion and €7.2 billion. We anticipate significantly lower contributions from the Chemicals and Materials segments and from Other. We are forecasting slightly lower EBIT before special items in

the Industrial Solutions and Surface Technologies segments. The Agricultural Solutions and Nutrition & Care segments plan to considerably increase EBIT before special items.

Based on the forecast for global economic development and expected business development in the BASF Group in 2022, we expect a ROCE of between 11.4% and 12.6%. Compared with the previous year, we anticipate a considerable decrease in ROCE in the Chemicals, Materials and Surface Technologies segments. The Agricultural Solutions and Nutrition & Care segments are expected to considerably increase ROCE, while the Industrial Solutions segment will see a slight increase.

### CO<sub>2</sub> emissions forecast for the BASF Group

CO<sub>2</sub> emissions are expected to be between 19.6 million metric tons and 20.6 million metric tons in 2022. We will take specific emission reduction measures to limit the additional emissions from moderate growth and the expected higher capacity utilization of the ammonia plants following low capacity utilization in 2021. These include measures to increase energy efficiency and process optimization, as well as the continued shift to renewable energy. In addition, the reductions in emissions from divestitures, including the agreed sale of the kaolin business, will slightly more than compensate for the additional emissions from the formation of BASF Shanshan Battery Materials Co., Ltd. in 2022.

<sup>1</sup> For sales, "slight" represents a change of 0.1%–5.0%, while "considerable" applies to changes of 5.1% and higher. "At prior-year level" indicates no change (+/-0.0%). For earnings, "slight" means a change of 0.1%–10.0%, while "considerable" is used for changes of 10.1% and higher. "At prior-year level" indicates no change (+/-0.0%). At a cost of capital percentage of 9% for 2022, we define a change in ROCE of 0.1 to 1.0 percentage points as "slight," a change of more than 1.0 percentage points as "considerable" and no change (+/-0.0 percentage points) as "at prior-year level."

Forecast by segment<sup>a</sup>

Million €

	Sales		EBIT before special items		ROCE	
	2021	Forecast 2022	2021	Forecast 2022	2021	Forecast 2022
Chemicals	13,579	↓	2,974	↓	32.9%	↓
Materials	15,214	↗	2,418	↓	22.8%	↓
Industrial Solutions	8,876	↘	1,006	↘	15.2%	↗
Surface Technologies	22,659	↓	800	↘	5.6%	↓
Nutrition & Care	6,442	↑	497	↑	8.2%	↑
Agricultural Solutions	8,162	↑	715	↑	4.5%	↑
Other	3,666	↗	-643	↓	-	-
<b>BASF Group</b>	<b>78,598</b>	<b>€74 billion–€77 billion</b>	<b>7,768</b>	<b>€6.6 billion–€7.2 billion</b>	<b>13.5%</b>	<b>11.4%–12.6%</b>

→ At prior-year level: no change (+/-0.0%)

↗ ↘ Slight increase/decrease: "slight" represents a change of 0.1%–5.0% for sales; 0.1%–10.0% for earnings; 0.1 to 1.0 percentage points for ROCE

↑ ↓ Considerable increase/decrease: "considerable" represents a change of 5.1% or higher for sales; 10.1% or higher for earnings; more than 1.0 percentage points for ROCE.

a For sales, "slight" represents a change of 0.1%–5.0%, while "considerable" applies to changes of 5.1% and higher. "At prior-year level" indicates no change (+/-0.0%). For earnings, "slight" means a change of 0.1%–10.0%, while "considerable" is used for changes of 10.1% and higher. "At prior-year level" indicates no change (+/-0.0%). At a cost of capital percentage of 9% for 2022, we define a change in ROCE of 0.1 to 1.0 percentage points as "slight," a change of more than 1.0 percentage points as "considerable" and no change (+/-0.0 percentage points) as "at prior-year level."

The material opportunities and risks that could affect our forecast are described under Opportunities and Risks on pages 151 to 160.

## Sales and earnings forecast for the segments

For the **Chemicals** segment in 2022, we expect sales to decline considerably following very high prices in 2021 due to supply shortages in the market. The decrease in 2022 will be driven by considerably lower sales in the Petrochemicals division. We expect a normalization of the market situation, particularly in the United States, following the supply disruption caused by Winter Storm Uri in January 2021. In the Intermediates division, we anticipate higher sales volumes driven mainly by amines and polyalcohols. Prices in the segment are expected to decline to a lower level while higher raw materials prices will put pressure on margins. For both divisions, we therefore anticipate a considerable decline in EBIT before special items.

For the **Materials** segment, we are forecasting slight sales growth in 2022. Despite the strong recovery in 2021, this will be largely attributable to further volume growth in both divisions. Increased inflationary pressures will be offset by efficiency gains. We anticipate lower prices due to a normalization of the market environment. EBIT before special items in the Monomers division is expected to decrease considerably after strong margins in 2021 as a result of lower price levels and higher raw materials prices. In the Performance Materials division, by contrast, we anticipate a considerable increase in EBIT before special items due to the positive development of sales volumes. However, this will only be able to partly compensate for the decline in the Monomers division.

We expect sales in the **Industrial Solutions** segment to be slightly below the prior-year level. Higher volumes and continuing high price levels in both operating divisions will presumably not be able to completely offset the negative portfolio effects from the divestiture of the global pigments business as of June 30, 2021. We are

forecasting a slight decline in the segment's EBIT before special items compared with 2021. This will primarily result from the decrease in the Dispersions & Resins division, largely due to the divestiture of the pigments business. The Performance Chemicals division will likely see significant growth in EBIT before special items mainly as a result of higher sales volumes and stronger margins. However, this will not be able to fully compensate for lower earnings in the Dispersions & Resins division.

In the **Surface Technologies** segment, we are forecasting considerably lower sales in 2022, primarily as a result of lower precious metal prices in the Catalysts division. This will be partly offset by higher volumes in both divisions. The segment's EBIT before special items is expected to decline slightly. We anticipate considerably higher EBIT before special items in the Coatings division but a considerable year-on-year decrease in EBIT before special items in the Catalysts division due to lower contributions from precious metal trading.

For the **Nutrition & Care** segment, we expect considerable sales growth compared with 2021. We anticipate higher volumes in both divisions and higher price levels overall, primarily due to the passing on of higher raw materials prices and logistics and energy costs. This will be partly offset by portfolio effects from the sale of the production site in Kankakee, Illinois. The segment's EBIT before special items should be significantly above the prior-year level. We expect significantly higher earnings contributions from both divisions, mainly due to higher margins on the back of strong volume growth.

We are forecasting considerable sales growth in the **Agricultural Solutions** segment. We will raise our sales prices and volumes in a continued challenging market environment, characterized by supply bottlenecks and high energy and raw materials prices. Based on the positive development of sales, we anticipate a strong improvement in EBIT before special items. In 2022, we will continue to invest in research and development and digitalization at a high level.

Sales in **Other** are expected to be slightly above the 2021 level in 2022. This will be mainly attributable to sales growth in commodity

trading. Despite lower corporate research expenses, we anticipate considerably lower EBIT before special items for 2022 compared with the previous year.

### Capital expenditures (capex)

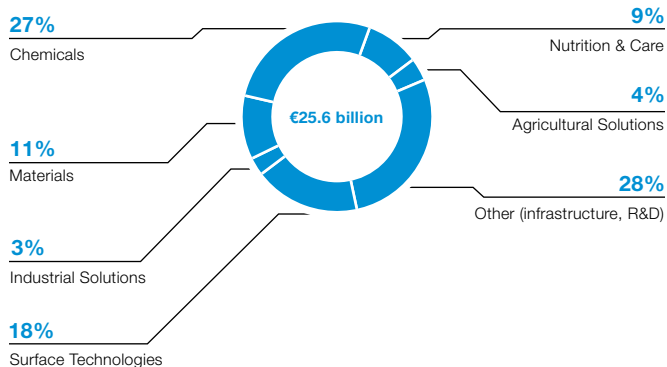
We are planning capital expenditures (additions to property, plant and equipment excluding acquisitions, IT investments, restoration obligations and right-of-use assets arising from leases) of around €4.6 billion for the BASF Group in 2022. For the period from 2022 to 2026, we have planned capital expenditures totaling €25.6 billion, including €12.9 billion for our major growth projects. The investment volume in the next five years will thus be above that of the planning period 2021 to 2025 (€22.9 billion). Focus areas will be our investment project in Zhanjiang, China, to expand our businesses in Asia, as well as investments in battery materials.

Projects currently being planned or underway include:

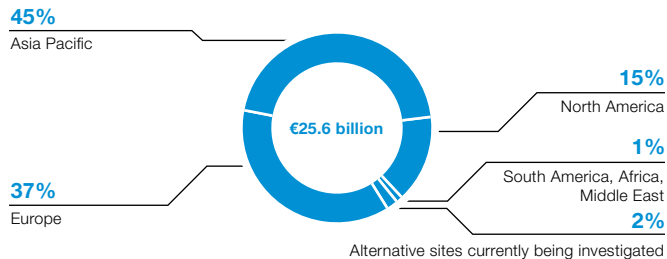
#### Capex: selected projects

Location	Project
Antwerp, Belgium	Capacity expansion: integrated ethylene oxide complex Gradual capacity expansion: alkoxylates
Chalampé, France	Construction: production plant for hexamethylenediamine
Geismar, Louisiana	Capacity expansion: MDI plant
Harjavalta, Finland, and Schwarzheide, Germany	Investment: battery materials
Zhanjiang, China	Planned construction: integrated Verbund site

#### Capex by segment 2022–2026



#### Capex by region 2022–2026



### Dividend

We have an ambitious dividend policy and offer our shareholders an attractive dividend yield. We aim to increase our per-share dividend each year.

Information on the proposed dividend can be found on page 13

### Financing

In 2022, we expect cash outflows in the equivalent amount of around €2.0 billion from the scheduled repayment of bonds. To refinance maturing bonds and to optimize our maturity profile, we continue to have medium to long-term corporate bonds and our global commercial paper program at our disposal.

Information on our financing policies can be found on page 64

### Events after the reporting period

On January 4, 2022, the Board of Executive Directors resolved on a share buyback program with a volume of up to €3 billion, which shall be concluded by December 31, 2023, at the latest.<sup>1</sup> The share buyback program started on January 11, 2022.

<sup>1</sup> Subject to a renewed authorization to purchase own shares by the Annual Shareholders' Meeting on April 29, 2022.

## Opportunities and Risks

GRI 102, 201

**The goal of BASF's risk management is to identify and evaluate opportunities and risks as early as possible and to take appropriate measures in order to seize opportunities and limit risks. The aim is to avoid risks that pose a threat to BASF's continued existence and to make improved managerial decisions to create value. We define opportunities as potential successes that exceed our defined goals. We understand risk to be any event that can negatively impact the achievement of our short-term operational or long-term strategic goals.**

### At a glance

- Integrated process for opportunity and risk identification, assessment and reporting
- Decentralized management of specific opportunities and risks: aggregate reporting at Group level
- Material opportunities and risks for 2022 arise from overall economic developments and margin volatility

In order to effectively measure and manage identified opportunities and risks, we quantify these where appropriate in terms of probability and economic impact in the event they occur. Where possible, we use statistical methods to aggregate opportunities and risks into risk factors. In addition, we use a qualitative evaluation scale for opportunities and risks if quantification is not possible. This enables us to not only evaluate economic impact but sustainability-related aspects as well. In this way, we achieve an overall view of opportunities and risks allowing us to aggregate risks at Group level and take effective risk management measures.

### Overall assessment

For 2022, we expect the overall economic recovery to continue and the coronavirus pandemic to weaken as the population becomes increasingly immunized. General economic uncertainty will nevertheless remain high. The course of the pandemic is difficult to predict; in particular, mutations of the coronavirus may lead to further waves of infection. This can result in production stoppages and supply chain disruptions in our customer industries, with our suppliers and in our own production plants. Moreover, restricted economic activity resulting from further lockdowns can have a significant negative impact on aggregate demand. In addition, an ongoing low supply of energy and raw materials and the resulting high prices could cause inflation rates to rise further. This could dampen the production of energy-intensive products and consumer demand beyond our assumed level of slowed growth.

An escalation of geopolitical conflicts as well as the ongoing trade conflicts between the United States and China and the associated slowdown of the economy also pose significant risks.

Opportunities will arise from stronger demand growth, in particular from a greater reduction in pandemic-related risks than assumed by our forecasts. Rapidly increasing global vaccination rates and the approval of effective antiviral drugs against COVID-19 could be contributing factors.

In addition to the uncertainties surrounding market growth and the development of key customer industries, material opportunities and risks for our earnings arise from margin volatility.

According to our assessment, there continue to be no significant individual risks that pose a threat to the continued existence of the BASF Group. The same applies to the sum of individual risks, even in the case of a global economic crisis like the coronavirus crisis.

Ultimately, however, residual risks (net risks) remain in all entrepreneurial activities that cannot be ruled out, even by comprehensive risk management.

As a non-integral shareholding, income from Wintershall Dea is reported in net income from shareholdings. The opportunities and risks resulting from the shareholding in Wintershall Dea are therefore not included in the outlook for the EBIT of the BASF Group. Opportunities and risks that have an impact on net income from shareholdings and cash flow from the shares in Wintershall Dea are monitored and tracked through BASF's involvement in the relevant governing bodies.



### Potential short-term effects on EBIT of key opportunity and risk factors subsequent to measures taken<sup>a</sup>

Possible variations related to:	Outlook – 2022 +	
<b>Business environment and sector</b>		
Market growth	□□□□□□	■□□□□□
Margins	■□□□□□	■□□□□□
Competition	□□□□□□	■□□□□□
Regulation/policy	□□□□□□	■□□□□□
<b>Company-specific opportunities and risks</b>		
Procurement	□□□□□□	■□□□□□
Supply chain	□□□□□□	□□□□□□
Investments/production	□□□□□□	□□□□□□
Personnel	□□□□□□	□□□□□□
Acquisitions/divestitures/cooperations	□□□□□□	■□□□□□
Information technology	□□□□□□	□□□□□□
Compliance/legal	□□□□□□	■□□□□□
Tax	□□□□□□	□□□□□□
<b>Financial</b>		
Exchange rate volatility	□□□□□□	■□□□□□
Other financial opportunities and risks	□□□□□□	■□□□□□

□□□□□□	< €100 million
□□□□□□	≥ €100 million < €500 million
□□□□□□	≥ €500 million < €1,000 million
□□□□□□	≥ €1,000 million < €1,500 million
□□□□□□	≥ €1,500 million < €2,000 million
■□□□□□	≥ €2,000 million

<sup>a</sup> Using a 95% confidence interval per risk factor based on planned values; summation is not permissible

### Risk management process

The BASF Group's risk management process is based on the international risk management standard, COSO II Enterprise Risk Management – Integrated Framework, and has the following key features:

#### Organization and responsibilities

- Risk management is the responsibility of the Board of Executive Directors, which also determines the processes for approving investments, acquisitions and divestitures.
- The Board of Executive Directors is supported by the Corporate Center. Corporate Finance and Corporate Development, which are units within the Corporate Center, and the Chief Compliance Officer coordinate the risk management process at a Group level, examine financial and sustainability-related opportunities and risks, and provide the structure and appropriate methodology. Opportunity and risk management is thus integrated into the strategy, planning and budgeting processes.
- BASF's risk committee reviews the BASF Group's risk portfolio at least twice a year to evaluate any adjustments to risk-management measures and informs the Board of Executive Directors of these. Members of the risk committee are the president of Corporate Finance, the president of Corporate Development, the president of Corporate Legal, Compliance & Insurance and the heads of the Corporate Audit, Corporate Environmental Protection, Health & Safety, Corporate Treasury, and Group Reporting & Performance Management units.
- The management of specific opportunities and risks is largely delegated to the divisions, the service and research units and the regions, and is steered at a regional or local level. This also applies to sustainability-related topics relevant to BASF including the impact of climate change on BASF. A network of risk managers in the divisions, service and research units as well as in the regions advances the implementation of appropriate risk management practices in daily operations. Financial risks are an exception. The management of liquidity, currency and interest rate risks is conducted in the Corporate Finance department. The management

of commodity price risks takes place in the Global Procurement unit or in authorized Group companies.

- The BASF Group's management is informed of short-term operational opportunities and risks that fall within an observation period of up to one year in the monthly management report produced by Corporate Finance. In addition, Corporate Finance provides information twice a year on the aggregated opportunity/risk exposure of the BASF Group. Furthermore, any arising individual risks which have an impact of more than €10 million on earnings or risks qualitatively evaluated to have a material impact, for example, reputational risks, must be reported immediately.
- As part of strategy development, the Corporate Development unit additionally conducts strategic opportunity/risk analyses with a 10-year assessment period. These analyses are annually reviewed as part of strategic controlling and are adapted if necessary. Scenarios were also developed to map possible developments beyond the ten-year horizon.
- BASF's Chief Compliance Officer (CCO) manages the implementation of our Compliance Management System, supported by additional compliance officers worldwide. The CCO regularly reports to the Board of Executive Directors on the status of implementation as well as on any significant results and provides a status report to the Supervisory Board's Audit Committee at least once a year, including any major developments. The Board of Executive Directors immediately informs the Audit Committee about significant incidents.
- The internal audit unit (Corporate Audit) is responsible for regularly auditing the risk management system established by the Board of Executive Directors in accordance with section 91(2) of the German Stock Corporation Act. Furthermore, as part of its monitoring of the Board of Executive Directors, the Supervisory Board considers the effectiveness of the risk management system. The suitability of the early detection system we set up for risks is evaluated by our external auditor.

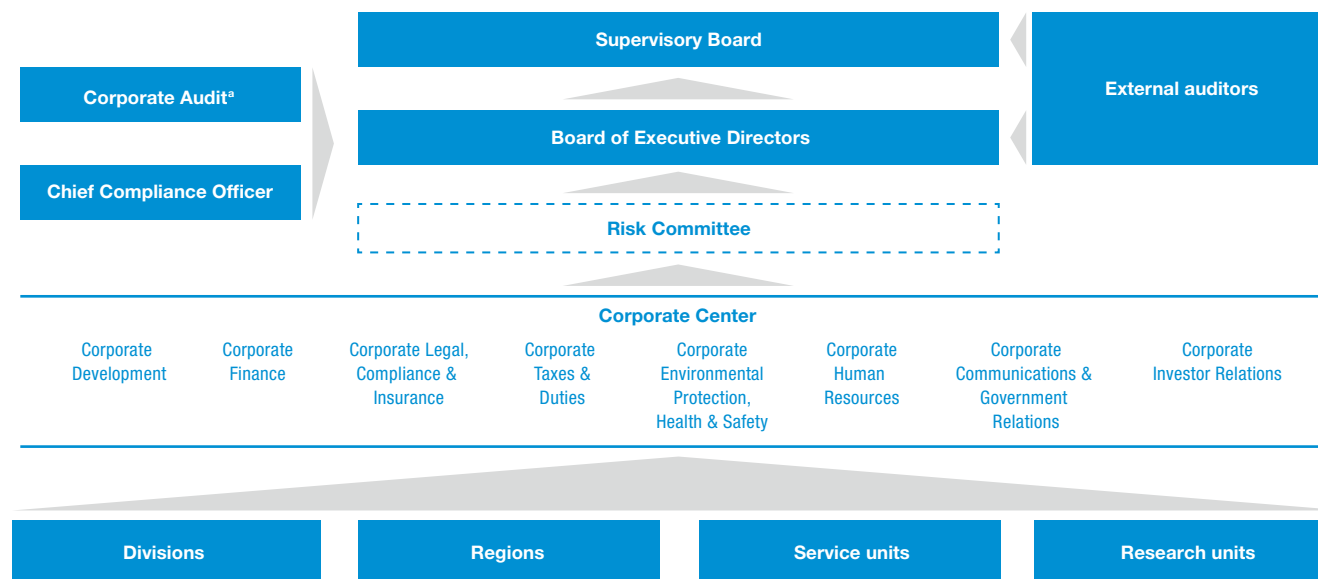


## Tools

- The Governance, Risk Management, Compliance (GRC) Policy, applicable throughout the Group, forms the framework for risk management and is implemented by the operating divisions, the service and research units and the regions according to their specific business conditions.
- A catalog of opportunity and risk categories helps to identify all relevant financial and sustainability-related opportunities and risks as comprehensively as possible. We also systematically assess opportunities and risks with effects that cannot yet be measured in monetary terms, such as reputational and climate risks. To reflect these, risks for companies in connection with the transition to a low-carbon economy (transition risks) as well as physical risks as defined by the Task Force on Climate-related Financial Disclosures (TCFD), among others, were added to the catalog.
- Because global climate policy ambitions and the implementation of the relevant measures play a decisive role in the ongoing growth of the chemical industry and its customer industries, global long-term scenarios (up to 2050) with various global warming paths were defined. To assess the impact of different global climate policy approaches on our business units, the scenarios were discussed by the business units in workshops. Their feedback will be incorporated into the further development of scenario assumptions and outcomes. A dataset of scenario-specific macroeconomic parameters will be provided to test the economic feasibility of investments and business strategies.
- We use standardized evaluation and reporting tools for the identification and assessment of risks. The aggregation of opportunities, risks and sensitivities at division and Group level using a Monte Carlo simulation helps us to identify effects and trends across the Group. We also aggregate qualitatively assessed risks at Group level using a risk portfolio.
- Our Group-wide Compliance Program aims to ensure adherence to legal regulations and the company's internal guidelines. Our global employee Code of Conduct firmly embeds these mandatory standards into everyday business. Members of the Board of

For more information on our sustainability management processes, see page 45 onward

## Organization of BASF Group's risk management



<sup>a</sup> The Corporate Audit unit is part of the Corporate Center.

Executive Directors are also expressly obligated to follow these principles.

For more information on our Group-wide Compliance Program, see page 171 onward

## Significant features of the internal control and risk management system with regard to the Group financial reporting process

The Consolidated Financial Statements are prepared by a unit in the Corporate Finance department. The Consolidated Financial Statements are derived from the separate financial statements of the subsidiaries and joint operations, taking into account the relevant data for the joint ventures and associated companies accounted for using the equity method. The BASF Group's accounting process is based on a uniform accounting guideline that, alongside accounting policies based on the International Financial Reporting Standards

applicable in the European Union, defines the significant processes and deadlines for the Group. There are binding directives for the internal reconciliations and other accounting operations within the Group. Standard software is used to carry out the accounting processes for the preparation of the individual financial statements as well as for the Consolidated Financial Statements. There are clear rules for the access rights of each participant in these processes.

Employees involved in the accounting and reporting process meet the qualitative requirements and participate in training on a regular basis. There is a clear assignment of responsibilities between the specialist units, companies and service units involved. We strictly adhere to the principles of segregation of duties and dual control, or the "four-eyes principle." Complex actuarial reports and evaluations are produced by specialized service providers or specially qualified employees.

An internal control system for financial reporting continuously monitors these principles. To this end, methods are provided to ensure that evaluation of the internal control system in financial reporting is structured and uniform across the BASF Group. They also work in accordance with the international risk management standard, COSO II Enterprise Risk Management – Integrated Framework.

Material risks for the BASF Group regarding a reliable control environment for proper financial reporting are reviewed and updated on an annual basis. Risks are compiled into a central risk catalog.

Moreover, a centralized selection process identifies companies that are exposed to particular risks, that are material to the Consolidated Financial Statements of the BASF Group, or that provide service processes. The selection process is conducted annually. Persons responsible for implementing the requirements for an effective control system in financial reporting are appointed at the relevant companies.

The process for identifying, evaluating, managing and controlling risks related to preparing the Consolidated Financial Statements as well as monitoring these processes in the selected companies comprises the following steps:

– **Evaluation of the control environment**

Adherence to internal and external guidelines that are relevant to the maintenance of a reliable control environment is checked by means of a standardized questionnaire.

– **Identification and documentation of control activities**

In order to mitigate the risks to the financial reporting processes listed in our central risk catalog, critical processes and control activities are documented.

– **Assessment of control activities**

After documentation, a review is performed to verify whether the described controls are capable of adequately covering the risks. In the subsequent test phase, spot checks are carried out to test whether, in practice, the controls were executed as described and effective.

– **Monitoring of control weaknesses**

The responsible managers receive reports on any control weaknesses identified and their resolution; and an interdisciplinary committee investigates their relevance to the BASF Group. The Board of Executive Directors and the Audit Committee are informed if control weaknesses with a considerable impact on financial reporting are identified. Only after material control weaknesses have been resolved does the company's managing director confirm the effectiveness of the internal control system.

– **Internal confirmation of the internal control system**

All managing directors and chief financial officers of each consolidated Group company must confirm to the Board of Executive Directors of BASF SE every half-year and at the end of the annual cycle, in writing, that the internal control system is effective with regard to accounting and reporting.

## Operational opportunities and risks

### Market growth

The development of our sales markets is one of the strongest sources of opportunities and risks. For more details on our assumptions regarding short-term growth rates for the global economy, regions and key customer industries, such as the chemicals, automotive and construction sectors, see Economic Environment in 2022 on pages 145 to 147.

We also consider opportunities and risks caused by deviations in assumptions. Stronger demand resulting from faster eradication of the coronavirus pandemic, for example through sustained efficacy and growing acceptance of coronavirus vaccines and drugs, will give rise to macroeconomic opportunities. A significant macroeconomic risk arises from the possibility that measures to contain the coronavirus are kept in place for a longer period of time or augmented, and, as a result, negatively affect global supply chains and slow global economic growth. Further increases in energy prices, caused, for example by an escalation of the conflict between Russia and Ukraine, and the resulting higher inflation rates for manufacturer and consumer prices also pose a risk to the economy. Additional

macroeconomic risks result from the escalation of other geopolitical conflicts and a renewed intensification of the trade conflict between the United States and China. Both can have a considerable impact on global demand for intermediate goods for industrial production and demand for investment goods.

Weather-related influences can result in positive or negative effects on our business, particularly in the Agricultural Solutions segment.

### Margins

Opportunities and risks for the BASF Group primarily result from higher or lower margins in the Chemicals and Materials segments. Opportunities arise here if the positive margin trend continues for longer than expected. However, further increases in energy and raw materials prices in particular, new capacities and raw materials shortages could increase margin pressure on a number of products and value chains. This would have a negative effect on our EBIT.

Moreover, if oil and gas prices rise, Wintershall Dea does not have a compensating effect on the BASF Group's EBIT because this shareholding is no longer reported in EBIT, but in net income from shareholdings.

The year's average oil price for Brent crude was \$71 per barrel in 2021, compared with \$42 per barrel in the previous year. For 2022, we anticipate an average oil price of \$75 per barrel. We therefore expect price levels for the raw materials and petrochemical basic products that are important to our business to rise.

### Competition

We continuously enhance our products and solutions in order to maintain competitive ability. We monitor the market and the competition, and try to take targeted advantage of opportunities and counter emerging risks with suitable measures. Aside from innovation, key components of our competitiveness are our ongoing cost management and continuous process optimization.

### Regulation/policy

Risks for us can arise from intensified geopolitical tensions, new trade sanctions, stricter emissions limits for plants, and energy and climate laws. In addition, changes in chemical regulations can affect both the BASF Group's product portfolio and that of our customers, for example, on the use or registration of agrochemicals.

Political measures could also give rise to opportunities. For example, we view measures around the world to increase energy efficiency and reduce greenhouse gas emissions as an opportunity for increased demand for our products, such as our insulation foams for buildings, catalysts, battery materials for electromobility, or our solutions for wind turbines. Our broad product portfolio enables us to, in some cases, offer alternatives if new chemicals have to be developed as a result of restrictions in connection with the REACH chemicals regulation or new standards in our customers' industries.

### Procurement and supply chain

We minimize procurement risks through our broad portfolio, global purchasing activities and the purchase of raw materials on spot markets. If possible, we avoid procuring raw materials from a single supplier. When this cannot be avoided, we try to foster competition or we knowingly enter into this relationship and assess the consequences of potential nondelivery. We continuously monitor the credit risk of important business partners.

Around the world, the frequency and intensity of extreme weather conditions (such as high/low water levels on rivers, heat/cold waves and hurricanes) are increasing as a result of climate change. We address the risk of supply interruptions on the procurement and sales side caused by extreme weather conditions by switching to alternative logistics carriers and the possibility of falling back on unaffected sites within our global Verbund.

We implemented a package of climate resilience measures for our Verbund site in Ludwigshafen, Germany, to address low water levels on the Rhine River: We developed an early warning system for low water, created multimodal transportation concepts, chartered more ships that can navigate low water levels and, in cooperation with

partners, developed a special type of ship designed for extreme low-water situations. These measures are already making longer periods of low water on the Rhine River more manageable.

### Investments and production

We try to prevent unscheduled plant shutdowns by adhering to high technical standards and by continuously improving our plants. We reduce the effects of an unscheduled shutdown on the supply of intermediate and end products through diversification within our global production Verbund.

In the event of a production outage – caused by an accident, for example – our global, regional or local emergency response plans and crisis management structures are engaged, depending on the impact scope. Every region has crisis management teams on a local and regional level. They not only coordinate the necessary emergency response measures, they also initiate immediate measures for damage control and resumption of normal operations as quickly as possible.

Crisis management also includes dealing with extreme weather conditions such as hurricanes (for example, at the sites on the Gulf of Mexico in Freeport, Texas, and Geismar, Louisiana) or significantly elevated water temperatures in rivers due to extended heat waves, which limit the available cooling capacity (for example, at the Ludwigshafen site in Germany). Appropriate precautions are taken at the sites in the case of a potential change in risk in connection with climate change. For example, over the past few years, the Verbund site in Ludwigshafen, Germany, has implemented several measures to increase cooling capacity, including expanding and optimizing the central recooling plants and optimizing cooling water flows. These are capable of preventing production outages due to extreme heatwaves.

Short-term risks from investments can result from, for example, technical malfunctions or schedule and budget overruns. We counter these risks with highly experienced project management and controlling.

### Acquisitions, divestitures and cooperations

We constantly monitor the market in order to identify possible acquisition targets and develop our portfolio appropriately. In addition, we collaborate with customers and partners to jointly develop new, competitive products and applications.

Opportunities and risks arise in connection with acquisitions and divestitures from the conclusion of a transaction, or it being completed earlier or later than expected. They relate to the regular earnings contributions gained or lost as well as the realization of gains or losses from divestitures if these deviate from our planning assumptions.

 For more information on opportunities and risks from agreed transactions, see page 41

### Personnel

Due to BASF's worldwide compensation principles, the development of personnel expenses is partly dependent on the amount of variable compensation, which is linked to the company's success, among other factors. The correlation between variable compensation and the success of the company has the effect of minimizing risk. Another factor is the development of interest rates for discounting pension obligations. Furthermore, changes to the legal environment of a particular country can have an impact on the development of personnel expenses for the BASF Group. For countries in which BASF is active, relevant developments are therefore constantly monitored in order to recognize risks at an early stage and enable BASF to carry out suitable measures.

 For more information on our compensation system, see page 102

For more information on risks from pension obligations, see page 157

### Information technology risks

BASF employs on a large number of IT systems. We use technologies such as big data and the Internet of Things to develop new business models, corporate concepts and strategies and to respond appropriately to changing customer behavior. IT system downtime, confidentiality breaches and the manipulation of data stored in critical IT systems and applications can all have a direct impact on production and logistics processes. The threat environment has changed in recent years, as attackers have become better

organized, use more sophisticated technology, and have far more resources available. If data are lost or manipulated, this can, for example, negatively affect plant availability, delivery quality or the accuracy of our financial reporting. Unauthorized access to sensitive data, such as personnel records or customer data, competition-related information or research results, can result in legal consequences or jeopardize our competitive position. This would also be accompanied by the associated loss of reputation.

To minimize such risks, BASF uses globally uniform processes and systems to ensure IT availability and IT security. These include stable and redundantly designed IT systems, backup processes, virus and access protection, encryption systems as well as integrated, Group-wide standardized IT infrastructure and applications. The systems used for information security are constantly tested, continuously updated, and expanded if necessary. In addition, our employees receive regular training on information and data protection. IT-related risk management is conducted using Group-wide regulations for organization and application, as well as an internal control system based on these regulations.

The Cyber Defense Center was established in 2015 and is continuously being expanded in line with the growth in current requirements. BASF is also a member of Cyber Security Sharing and Analytics e.V. (CSSA) and a founding member of the German Cybersecurity Organization (DCSO) together with Allianz SE, Bayer AG and Volkswagen AG. BASF has also established an information security management system and is internationally certified according to IDIN EN ISO/IEC 27001:2017.

### Legal disputes and proceedings

We constantly monitor current and potential legal disputes and proceedings, and regularly report on these to the Board of Executive Directors and Supervisory Board. In order to assess the risks from current legal disputes and proceedings and any potential need to recognize provisions, we prepare our own analyses and assessments of the circumstances and claims considered. In addition, in individual cases, we consider the results of comparable proceedings and, if needed, independent legal opinions. Risk assessment is

particularly based on estimates as to the probability of occurrence and the range of possible claims. These estimates are the result of close cooperation between the relevant operating and service units together with Corporate Finance and Corporate Legal. If sufficient probability of occurrence is identified, a provision is recognized accordingly for each proceeding. Should a provision be unnecessary, general risk management continues to assess whether these litigations nevertheless represent a risk for the BASF Group's EBIT.

We use our internal control system to limit risks from potential infringements of rights or laws. For example, we try to avoid patent and licensing disputes whenever possible through extensive clearance research. As part of our Group-wide Compliance Program, our employees receive regular training.

### Tax

The recognized tax-related opportunities and risks only concern taxes that impact the BASF Group's EBIT in the short term. These arise when BASF has taken a position that differs from the opinion of a competent administrative authority. If a tax payment has already been made and could be reclaimed, this is presented as an opportunity. If, on the other hand, a potential payment is outstanding in accordance with the administrative opinion, this is a risk. We primarily evaluate opportunities and risks with regard to their probability of occurrence and, if necessary, set up a provision for the relevant risk. If a provision is not necessary, this is taken into account in determining EBIT-relevant risks of the BASF Group.

### Financial opportunities and risks

Detailed guidelines and procedures exist for dealing with financial risks. Among other things, they provide for the segregation of financial instrument trading and back office functions.

As a part of risk management, activities in countries with transfer restrictions are continuously monitored. This includes, for example, regular analysis of the macroeconomic and legal environment, shareholders' equity and the business models of the operating units.

The chief aim is the management of counterparty, transfer and currency risks for the BASF Group.

### Exchange rate volatility

Our competitiveness on global markets is influenced by fluctuations in exchange rates. For BASF's sales, opportunities and risks arise in particular when the U.S. dollar exchange rate fluctuates. A full-year appreciation of the U.S. dollar against the euro by \$0.01, which could result from a macroeconomic slowdown, would increase the BASF Group's EBIT by around €30 million, assuming other conditions remain the same. On the production side, we counter exchange rate risks by producing in the respective currency zones.

Financial currency risks result from the translation of receivables, liabilities and other monetary items in accordance with IAS 21 at the closing rate into the functional currency of the respective Group company. In addition, we incorporate planned purchase and sales transactions in foreign currencies into our financial foreign currency risk management. These risks are hedged using derivative instruments, if necessary.

### Interest rate risks

Interest rate risks result from potential changes in prevailing market interest rates. These can cause a change in the fair value of fixed-rate instruments and fluctuations in the interest payments for variable-rate financial instruments, which would positively or negatively affect earnings. To hedge these risks, interest rate swaps and combined interest rate and currency derivatives are used in individual cases.

In addition to market interest rates, BASF's financing costs are determined by the credit risk premiums to be paid. These are mainly influenced by our credit rating and the market conditions at the time of issue. In the short to medium term, BASF is largely protected from the possible effects on its interest result thanks to the balanced maturity profile of its financial indebtedness.

### Risks from metal and raw materials trading

In the catalysts business, BASF employs commodity derivatives for precious metals and trades precious metals on behalf of third parties and on its own account. Appropriate commodity derivatives are also traded to optimize BASF's supply of refinery products, gas and other petrochemical raw materials. To address specific risks associated with these non-operating trades, we set and continuously monitor limits with regard to the type and volume of the deals concluded.

### Liquidity risks

Risks from fluctuating cash flows are recognized in a timely manner as part of our liquidity planning. We have access to extensive liquidity at any time thanks to our good ratings, our unrestricted access to the commercial paper market and committed bank credit lines. In the short to medium term, BASF is largely protected against potential refinancing risks by the balanced maturity profile of its financial indebtedness as well as through diversification in various financial markets.

### Risk of asset losses

We limit country-specific risks with measures based on internally determined country ratings, which are continuously updated to reflect changing environment conditions. We selectively use investment guarantees to limit specific country-related risks. We lower credit risks for our financial investments by engaging in transactions only with banks with good credit ratings and by adhering to fixed limits. Creditworthiness is continuously monitored and the limits are adjusted accordingly. We reduce the risk of default on receivables by continuously monitoring the creditworthiness and payment behavior of our customers and by setting appropriate credit limits. Risks are also limited through the use of credit insurance and individual hedging strategies, such as guarantees. Due to the global activities and diversified customer structure of the BASF Group, there are no major concentrations of credit default risk.

### Impairment risks

Asset impairment risk arises if the assumed interest rate in an impairment test increases, the predicted cash flows decline, or investment

projects are suspended. Following the impairments recognized in the third quarter of 2020, we currently consider the risk of further impairment for assets such as property, plant and equipment, goodwill, technologies and trademarks to be immaterial. The same applies to investments accounted for using the equity method, with the exception of Wintershall Dea, which was remeasured at fair value in 2019. As the value of the shareholding is dependent on expected oil and gas price developments, impairments of the shareholding and of the assets held by the company are possible.

### Long-term incentive program for senior executives

Since 2020, BASF has offered its leaders the opportunity to participate in a long-term incentive program (LTI program) in the form of a performance share plan. The LTI plan incentivizes the achievement of strategic growth, profitability and sustainability targets and takes into account the development of the BASF share price and the dividend. The need for provisions for this program varies according to assumptions on the degree of strategic target achievement, the development of the BASF share price and the dividend. This leads to a corresponding increase or decrease in personnel costs.

Until 2020, BASF offered leaders the opportunity to participate in a share price-based compensation program. The need for provisions for this program varies according to the development of the BASF share price and the MSCI World Chemicals Index; this leads to a corresponding increase or decrease in personnel costs.

### Risks from pension obligations

Most employees are granted company pension benefits from either defined contribution or defined benefit plans. We predominantly finance company pension obligations externally through separate plan assets. This particularly includes BASF Pensionskasse VVaG and BASF Pensionstreuhand e.V. in Germany, in addition to the large pension plans of our Group companies in North America, the United Kingdom and Switzerland. To address the risk of underfunding due to market-related fluctuations in plan assets, we have investment strategies that align return and risk optimization to the structure of the pension obligations. Stress scenarios are also simulated regularly by means of portfolio analyses. An adjustment to the

interest rates used in discounting pension obligations leads immediately to changes in equity. To limit the risks of changing financial market conditions as well as demographic developments, employees have, for a number of years now, been almost exclusively offered defined contribution plans for future years of service. Some of these contribution plans include minimum interest guarantees. If the pension fund cannot generate this, it must be provided by the employer. A permanent continuation of the low interest rate environment could make it necessary to recognize pension obligations and plan assets for these plans as well.

## Strategic opportunities and risks

### Long-term demand development

We assume that growth in chemical production (excluding pharmaceuticals) will be about as strong as that of the global gross domestic product over the next five years and stronger than the five-year average prior to the coronavirus pandemic. Through our market-oriented and broad portfolio, which we will continue to strengthen in the years ahead through investments in new production capacities, research and development activities and acquisitions, we aim to achieve volume growth that slightly exceeds this market growth. Should global economic growth see unexpected, considerable deceleration because of prolonged restrictions due to the coronavirus pandemic, an ongoing weak period in the emerging markets, protectionist tendencies or geopolitical crises, the expected growth rates could prove too ambitious.

 For more information on the corporate strategy, see page 26 onward

### Development of competitive and customer landscape

We expect competitors from Asia and the Middle East in particular to gain increasing significance in the years ahead. Furthermore, we predict that many producers in countries rich in raw materials will expand their value chains in consumer-oriented sectors. In addition, the proliferation of large-scale digital marketplaces for chemicals could impact existing customer and supplier relationships.

We expect a continuous rise in customer demand for sustainable solutions, for example, products with a low carbon footprint, made from recycled, circular, or bio-based raw materials that are bio-degradable, or products with other measurable sustainability benefits. We are therefore addressing these topics in research and investment programs for the sustainable transformation of BASF. Companies with a proven track record of providing more sustainable solutions will be able to achieve higher growth and profitability as a result. The expansion of sharing economy business models could have a long-term impact on demand in individual customer industries. At the same time, higher demands on product features can also create opportunities for innovation.

To maintain our competitiveness, we are continuously improving our production processes, streamlining our administration and simplifying workflows and processes as part of our excellence programs. Our research and business focus is on highly innovative businesses and differentiation through sustainability advantages to make our customers and BASF more successful.

 For more information on the Excellence Program, see page 21

### Regulation/policy

We expect to achieve continued regulatory and societal pressure, climate-neutral energy production, climate-neutral energy consumption, and a climate-neutral resource and raw material base. The political approaches to address these issues will vary greatly from region to region. However, based on Europe in particular, we expect measures with a high level of regulation and detail that will have the potential to significantly impact the competitiveness of BASF's operations and product portfolio.

Furthermore, we see the risk of the current geopolitical shift in balance of power leading to the establishment of uncoordinated or divergent global legislative standards and regulatory systems, not just in relation to chemicals, but also to environmental, social and corporate governance criteria and the regulatory framework for digitalization.

We counter these risks as part of our corporate strategy. We explain our strategy in meetings with political decision-makers and social stakeholders. In doing so, we also inform ourselves of the changes we must undergo and advocate for a favorable and stable regulatory framework at both the national and international level. We consider BASF to be in a strong position to contribute solutions toward achieving U.N. development goals, particularly regarding climate neutrality, through new technologies, innovative products and processes and our broad product portfolio.

### Innovation

We expect the trend toward increased sustainability requirements in our customer industries to continue. Our aim is to leverage the resulting opportunities in a growing market with even more sustainable innovations. The key areas are products with a lower or even net zero carbon footprint, circular economy solutions, and safe and sustainable products. To be successful in these fields, we have launched specific research and investment programs for the sustainable transformation of BASF. Furthermore, we began applying the Sustainable Solution Steering method to the evaluation of innovation projects and integrated it at an early stage of our research and development processes. In this way, we are steering our innovation portfolio toward increased sustainability, which leads to higher profitability while reducing reputational and financial risks as well.

There are technical and commercial risks of failure associated with every single research and development project. We also address this by maintaining a balanced and comprehensive project portfolio as well as through professional, milestone-based project management.

Further risks may arise from increasing state protectionism and the demand for localization of intellectual property in order to achieve technological independence. Through our Know-how Verbund in research and development, we ensure that critical intellectual property is generated and protected in countries with high intellectual-property standards.

We expect that the digital disruption of established processes will lead to a sharp increase in efficiency and effectiveness in some fields. BASF is therefore committed to taking a leading role in the digital transformation of the chemical industry. Possible applications of digital technologies and solutions are evaluated along the entire value chain and implemented throughout the company, for example, in production, logistics, research and development, business models and corporate governance.

 For more information on innovation, see page 49 onward

### Procurement, supply chain and infrastructure

Supply security for raw materials, energy and services is increasingly affected by trade disputes, protectionism and geopolitical conflict. In addition, supply chains are increasingly threatened by disruptions such as suppliers' production bottlenecks, interrupted logistics chains, extreme weather events, and longer-lasting effects from the coronavirus pandemic. Climate change and extreme weather events are impacting the availability of renewable resources.

These risks, as well as the introduction of new environmental regulations (for example, carbon fees), can have an impact on purchasing prices. Transportation costs are significantly affected by capacity constraints (for example, a lack of truck drivers, traffic jams due to inadequate logistics infrastructure).

We are seeing an ongoing expansion of the regulatory framework affecting us and our suppliers. Potential non-compliance by our suppliers may lead to a reduced supplier base. Moreover, the availability of renewable energies depends largely on favorable prices and framework conditions.

These risks are continuously analyzed and appropriate strategies and measures developed to minimize the impact on BASF.

To assess the changing risks for our sites from climate change, climate data based on the latest scenarios of the Intergovernmental Panel on Climate Change (IPCC) were compiled for our sites in cooperation with an external partner. This enables the sites to



assess the potential impact of climate change in the coming decades. Here, we focus on a climate protection scenario, supplemented by two scenarios with medium and high levels of global warming.<sup>1</sup> The most common potential impact is an increase in heat and drought. The findings can be considered in the development of site strategies.

The availability of our infrastructure, production plants and supply chains can be negatively affected by system downtime, confidentiality breaches, or manipulation of data in critical IT systems and applications. The threat environment has changed in recent years, as attackers have become better organized, use more sophisticated technology, and have far more resources available.

### Portfolio development through investments

We expect growth in chemical production in emerging markets to remain above the global average in the years to come. This will create opportunities that we want to exploit by expanding our local presence. In addition, regional value chains help mitigate risks from trade conflicts and barriers that pose a challenge to global markets and supply chains.

Decisions on the type, scope and location of our investment projects are made on the basis of established comprehensive assessment processes. They take into account long-term forecasts for market, margin and cost development, raw material availability as well as country, currency, sustainability and technology risks. Opportunities and risks arise from potential deviations in actual developments from our assumptions.

Investments in more sustainable technologies represent a long-term opportunity, even though they may not be competitive or profitable in the short term, depending on the market and the prevailing regulatory framework.

 For more information on our investment projects, see page 150 onward

### Acquisitions, divestitures and cooperations

In the future, we will continue to expand and refine our portfolio through acquisitions that promise above-average profitable growth, are innovation-driven or offer a technological differentiation and help achieve a relevant market position, and make new, sustainable business models possible.

The evaluation of opportunities and risks plays a significant role during the assessment of acquisition targets. A detailed analysis and quantification is conducted as part of due diligence. Examples of risks include increased staff turnover, delayed realization of synergies, or the assumption of obligations that were not precisely quantifiable in advance. If our expectations in this regard are not met, risks could arise, such as the need to impair intangible assets; however, there could also be opportunities, for example, from additional synergies.

Divestitures also play a key role in the development of our portfolio. Risks could arise from divestitures as a result of potential warranty claims or other contractual obligations, such as long-term supply agreements.

 For more information on our acquisitions and divestitures, see page 41

### Recruitment and long-term retention of qualified employees

BASF anticipates growing challenges in attracting qualified employees in the medium and long term due to demographic change, especially in North America and Europe. As a result, there is an increased risk that job vacancies may not be filled, or only after a delay. We address these risks with measures to integrate diversity, employee and leadership development, and intensified employer branding. At local level, demographic management includes succession planning, knowledge management and offerings to improve the balance between personal and professional life, and promote healthy living. This increases BASF's appeal as an employer and retains our employees in the long term.

 For more information on individual initiatives and our targets, see page 97 onward

### Sustainability

Opportunities and risks that could arise from material sustainability topics can only rarely be measured in specific financial terms and have an impact on business activities, especially in the medium to long term.

We reduce potential risks in the areas of environmental protection, safety and security, health protection, product stewardship, compliance, supplier relationships and labor and social standards by setting ourselves globally uniform requirements. These sometimes go beyond local legal requirements. Our globally applicable Code of Conduct defines a binding framework for the activities of all BASF employees, leaders and members of the Board of Executive Directors. To ensure compliance with our internal standards, we have global management systems in place and monitor their implementation internally by means such as global surveys and audits. Expectations of suppliers are laid down in our global Supplier Code of Conduct. We have suppliers with a high potential sustainability risk evaluated by third parties, either through sustainability evaluations or on-site audits. The monitoring systems are complemented by grievance mechanisms such as our compliance hotlines.

Furthermore, ongoing climate change poses both opportunities and risks for BASF. As an energy-intensive company, climate-related risks arise particularly from regulatory changes, such as in carbon prices through emissions trading systems, taxes or energy legislation. In addition, BASF's emissions footprint and intensity could lead to a negative perception and reduced appeal among external stakeholders such as customers or investors. We counter these risks with our carbon management measures and by transparently disclosing our positions on and contributions to climate protection (such as political demands, progress in the implementation of our climate strategy and how our products help to protect the environment) in publicly accessible sources (such as this annual report or on the BASF website) and in direct dialog with external stakeholders.

<sup>1</sup> The assessment model was based on the IPCC climate change scenario SSP1-2.6, supplemented by SSP2-4.5 (medium global warming scenario) and SSP5-8.5 (high global warming scenario).



In addition to climate-related risks, there are also opportunities. Our broad product portfolio includes, among other things, solutions for the circular economy and climate protection (such as insulation foams for buildings, materials for electromobility and bio-based products). Increased social awareness offers additional market opportunities for these products. We are working with numerous scientific and public organizations and initiatives on solutions for sustainable agriculture that meet economic, environmental, and social demands over the long term.

Our decentralized specialists use a central decision tree to document reportable sustainability risks within the meaning of section 289b et seq. of the German Commercial Code. No reportable residual net risks within the meaning of section 289b et seq. of the German Commercial Code were identified for 2021.

 For more information on sustainability management, see page 45 onward

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

For more information on opportunities and risks from energy policies, see page 155

 For more information on our positions on and contributions to climate protection, see [basf.com/en/sustainable-solution-steering](https://basf.com/en/sustainable-solution-steering)